

Junos OS Release 18.1R1 for cSRX Release Notes

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Revision 1

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Introduction

This release note accompanies Junos OS Release 18.1R1 for the cSRX Container Firewall, a containerized version of the SRX Series Services Gateway. It describes the new features, known behavior, and known and resolved problems in the software.

New and Changed Features

This section describes new features as well as enhancements to existing features in Junos OS Release 18.1R1 for cSRX support.

- [New Features in Junos OS Release 18.1R1 for cSRX on page 2](#)
- [cSRX Architecture Illustration on page 3](#)
- [Supported Features on page 4](#)
- [Changes in Behavior and Syntax on page 10](#)

New Features in Junos OS Release 18.1R1 for cSRX

cSRX Container Firewall

- **cSRX deployment in bare-metal Linux server**—Starting in Junos OS Release 18.1R1, the cSRX Container Firewall is a containerized version of the SRX Series Services Gateway with a low memory footprint. cSRX runs as a single container on a Linux bare-metal server. It uses a Linux bare-metal server as the hosting platform for the Docker container environment. The cSRX container packages all of the dependent processes (daemons) and libraries to support the different Linux host distribution methods (Ubuntu, Red Hat Enterprise Linux, or CentOS). You use standard Docker commands to manage the cSRX container. cSRX provides advanced security services, including content security, AppSecure, and unified threat management in a container form factor.

[See [cSRX Deployment Guide for Bare-Metal Linux Server.](#)]

- **cSRX deployment in Contrail**—Starting in Junos OS Release 18.1R1, the cSRX Container Firewall can be deployed on a Docker Engine compute node as a dedicated firewall in the Contrail Networking cloud environment to provide differentiated Layer 4 through 7 security services for multiple tenants as part of a service chain. With the Contrail orchestrator, cSRX is deployed as a large scale security service, and is configured to steer traffic from vRouter with vRouter interface (VIF). Traffic and health statistics are monitored by the Contrail service orchestrator. cSRX provides advanced security services, including content security, AppSecure, and unified threat management in a container form factor.

[See [cSRX Deployment Guide for Contrail.](#)]

- **cSRX: UTM support**—Starting in Junos OS Release 18.1R1, the Junos OS SRX Series software provides support for all UTM functionality on the cSRX platform. This functionality includes features such as:
 - Antispam
 - Sophos Antivirus

- Web filtering
- Content filtering

[See [UTM Feature Guide for Security Devices](#) .]

- **cSRX: User Firewall support**—Starting in Junos OS Release 18.1R1, the Junos OS SRX Series software provides support for the user firewall functionality on the cSRX platform. This functionality includes features such as:
 - Policy enforcement with matching source identity criteria
 - Logging with source identity information
 - Integrated user firewall with active directory
 - Local authentication

[See [Authentication and Integrated User Firewalls Feature Guide for Security Devices](#).]

- **cSRX: NAT Support** —Starting in Junos OS Release 18.1R1, the Junos OS SRX Series software provides support for all NAT functionality on the cSRX platform. This functionality includes features such as:
 - Source NAT
 - Destination NAT
 - Static NAT
 - Persistent NAT and NAT64
 - NAT hairpinning
 - NAT for multicast flows

[See [Network Address Translation Feature Guide for Security Devices](#).]

cSRX Architecture Illustration

cSRX Architecture

[Figure 1 on page 4](#) is a high-level illustration of the cSRX architecture and [Figure 2 on page 4](#) is a high-level illustration of a cSRX compute node in a Contrail Networking cloud environment.

For details about the cSRX architecture, see the *Overview* topic in [cSRX Deployment Guide for Bare-Metal Linux Server](#) and [cSRX Deployment Guide for Contrail](#).

Figure 1: cSRX Architecture

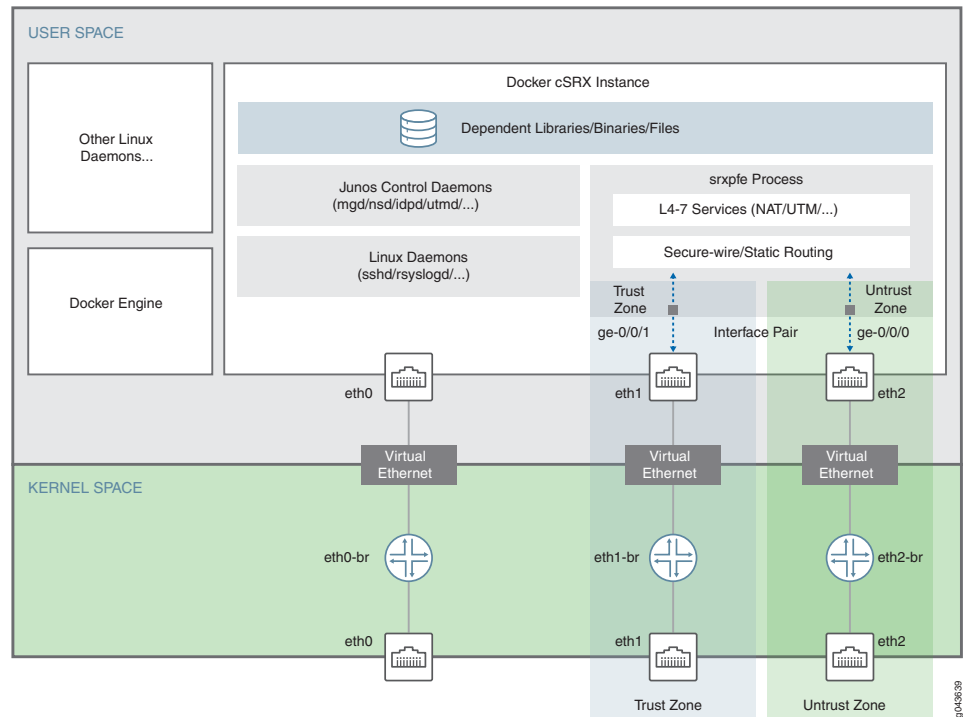
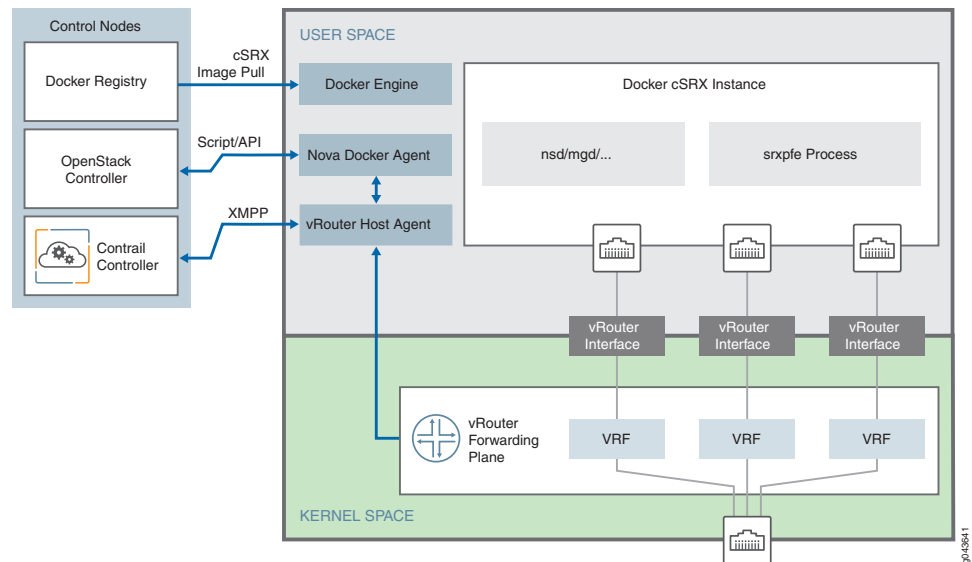


Figure 2: cSRX Architecture in Contrail



Supported Features

The cSRX Container Firewall inherits many of the branch SRX Series Junos OS features. This topic outlines the SRX series features supported by cSRX along with the features that are not applicable in a containerized environment.

SRX Series Features Supported on cSRX

Table 1 on page 5 provides a high-level summary of the feature categories supported on cSRX and any feature considerations.

To determine the Junos OS features supported on cSRX, use the Juniper Networks Feature Explorer, a Web-based application that helps you to explore and compare Junos OS feature information to find the right software release and hardware platform for your network. See [Feature Explorer](#).

Table 1: SRX Series Features Supported on cSRX

Feature	Considerations
Application Firewall (AppFW)	Application Firewall Overview
Application Identification (AppID)	Understanding Application Identification Techniques
Application Tracking (AppTrack)	Understanding AppTrack
Basic firewall policy	Understanding Security Basics
Brute force attack mitigation	
Central management	CLI only. No J-Web support.
DDoS protection	DoS Attack Overview
DoS protection	DoS Attack Overview
Interfaces	Two revenue network interfaces (eth1, and eth2). Network Interfaces
Intrusion Detection and Prevention (IDP)	For SRX Series IPS configuration details, see: Understanding Intrusion Detection and Prevention for SRX Series
IPv4 and IPv6	Understanding IPv4 Addressing Understanding IPv6 Address Space
Jumbo frames	Understanding Jumbo Frames Support for Ethernet Interfaces
Malformed packet protection	
Network Address Translation (NAT)	For SRX Series NAT configuration details, see: Introduction to NAT

Table 1: SRX Series Features Supported on cSRX (continued)

Feature	Considerations
Routing	Basic Layer 3 forwarding with VLANs. Layer 2 through 3 forwarding functions: secure-wire forwarding or static routing forwarding
SYN cookie protection	Understanding SYN Cookie Protection
User Firewall	For SRX Series user firewall configuration details, see: Overview of Integrated User Firewall
Unified Threat Management (UTM)	For SRX Series UTM configuration details, see: Unified Threat Management Overview For SRX Series UTM antispam configuration details, see: Antispam Filtering Overview
Zones and zone-based IP spoofing	Understanding IP Spoofing

SRX Series Features Not Supported on cSRX

Table 2 on page 6 lists SRX Series features that are not applicable in a containerized environment, that are not currently supported, or that have qualified support on cSRX.

Table 2: SRX Series Features Not Supported on cSRX

	SRX Series Feature
Application Layer Gateways	Avaya H.323
Authentication with IC Series Devices	Layer 2 enforcement in UAC deployments NOTE: UAC-IDP and UAC-UTM also are not supported.
Class of Service	High-priority queue on SPC Tunnels
Data Plane Security Log Messages (Stream Mode)	TLS protocol
Diagnostics Tools	

Table 2: SRX Series Features Not Supported on cSRX (continued)

	SRX Series Feature
	Flow monitoring cflowd version 9
	Ping Ethernet (CFM)
	Traceroute Ethernet (CFM)
DNS Proxy	Dynamic DNS
Ethernet Link Aggregation	LACP in standalone or chassis cluster mode
	Layer 3 LAG on routed ports
	Static LAG in standalone or chassis cluster mode
Ethernet Link Fault Management	Physical interface (encapsulations)
	ethernet-ccc ethernet-tcc
	extended-vlan-ccc extended-vlan-tcc
	Interface family
	ccc, tcc
	ethernet-switching
Flow-Based and Packet-Based Processing	End-to-end packet debugging
	Network processor bundling
	Services offloading
Interfaces	Aggregated Ethernet interface
	IEEE 802.1X dynamic VLAN assignment
	IEEE 802.1X MAC bypass

Table 2: SRX Series Features Not Supported on cSRX (continued)

	SRX Series Feature
	IEEE 802.1X port-based authentication control with multisuppliant support
	Interleaving using MLFR
	PoE
	PPP interface
	PPPoE-based radio-to-router protocol
	PPPoE interface
	Promiscuous mode on interfaces
IP Security and VPNs	
	Acadia - Clientless VPN
	DVPN
	Hardware IPsec (bulk crypto) Cavium/RMI
	IPsec tunnel termination in routing instances
	Multicast for AutoVPN
	Suite B implementation for IPsec VPN
IPv6 Support	
	DS-Lite concentrator (also known as AFTR)
	DS-Lite initiator (also known as B4)
Log File Formats for System (Control Plane) Logs	
	Binary format (binary)
	WELF
Miscellaneous	
	AppQoS
	Chassis cluster
	GPRS
	Hardware acceleration

Table 2: SRX Series Features Not Supported on cSRX (continued)

	SRX Series Feature
	High availability
	J-Web
	Logical systems
	MPLS
	Outbound SSH
	Remote instance access
	RESTCONF
	Sky ATP
	SNMP
	Spotlight Secure integration
	USB modem
	Wireless LAN
MPLS	
	CCC and TCC
	Layer 2 VPNs for Ethernet connections
Network Address Translation	
	Maximize persistent NAT bindings
Packet Capture	
	Packet capture
	NOTE: Only supported on physical interfaces and tunnel interfaces, such as <i>gr</i> , <i>ip</i> , and <i>st0</i> . Packet capture is not supported on a redundant Ethernet interface (<i>reth</i>).
Routing	
	BGP extensions for IPv6
	BGP Flowspec
	BGP route reflector

Table 2: SRX Series Features Not Supported on cSRX (continued)

	SRX Series Feature
	Bidirectional Forwarding Detection (BFD) for BGP
	C RTP
Switching	
	Layer 3 Q-in-Q VLAN tagging
Transparent Mode	
	UTM
Unified Threat Management	
	Express AV
	Kaspersky AV
Upgrading and Rebooting	
	Autorecovery
	Boot instance configuration
	Boot instance recovery
	Dual-root partitioning
	OS rollback
User Interfaces	
	NSM
	SRC application
	Junos Space Virtual Director

Changes in Behavior and Syntax

This section lists the changes in behavior of cSRX features and changes in the syntax of Junos OS statements and commands in Junos OS Release 18.1 for cSRX.

For the most complete and latest information about changes in command behavior and syntax applicable to all SRX Series platforms in Junos OS Release 18.1R1, see [Changes in Behavior and Syntax for SRX](#).

Known Behavior

This section contains the known behaviors and limitations in Junos OS Release 18.1R1 for cSRX.

cSRX in Contrail

- Web console does not support a cSRX container in the OpenStack Dashboard. This is an expected limitation since cSRX is a container deployed in the OpenStack environment and is not a Virtual Machine (VM) deployed in a hypervisor. [PR1308835](#)
- The Docker node may run out of space due to a terminated container's cache not being properly cleaned, which will result in a failure to deploy the cSRX container. If you perform a cleanup of the Docker cache the Docker node returns to normal operation. [PR1315154](#)

Known Issues

This section lists the known issues in Junos OS Release 18.1R1 for cSRX.



NOTE: For the most complete and latest information about known Junos OS defects, use the Juniper Networks online [Junos Problem Report Search](#) application.

cSRX in Contrail

- When configuring cSRX in Contrail, there is a limitation with the use of an Openstack user data file and XML tag names. For, example, if you use an Openstack user data file that includes `<size><small | middle | large></size>` in the file, the cSRX flavor will remain at the small default setting. You must pass configuration settings by using Openstack metadata and the available cSRX environment variables. You can, however, use an Openstack user data file to pass a Junos configuration in `<conf></conf/>` and `<boot_script></script>` for cSRX boot-time configuration, but excluding the cSRX-specific XML tags. [PR1310158](#)

Workaround: To change a configuration setting for the cSRX container, pass the configuration setting by including the `-meta` option in the `nova boot` command. See the [cSRX Deployment Guide for Contrail](#) for details.

- When configuring cSRX in a Contrail service chain, the service chain does not support traffic forwarding in secure-wire mode. [PR1323762](#)

Workaround: The cSRX uses routing as the default environment variable for traffic forwarding mode. Do not change the traffic forwarding mode of the cSRX container to secure-wire mode. See the [cSRX Deployment Guide for Contrail](#) for details.

- You cannot configure pre-defined IDP policies from policy templates for a cSRX instance. The issue occurs because the `set system scripts commit file templates.xsl` command to load the pre-defined policy templates in cSRX is not available. [PR1338101](#)

Resolved Issues

Ordinarily this section would list issues from previous releases that have been fixed in this release. As 18.1R1 is the first cSRX Container Firewall release using the new architecture, there are no resolved issues to report.

For the most complete and latest information about known Junos OS defects, use the Juniper Networks online [Junos Problem Report Search](#) application.

System Requirements by Environment

The topics below provide detailed system requirement specifications for each supported environment for a cSRX deployment.

- For a bare-metal Linux server deployment, see the [Host Requirements](#) topic in the [cSRX Deployment Guide for Bare-Metal Linux Server](#).
- For a Contrail deployment, see the [Platform and Server Requirements](#) topic in the [cSRX Deployment Guide for Contrail](#).

Accessing the cSRX Image

The cSRX image is available as a cSRX Docker file from the Juniper Internal Docker registry. You login to the Juniper Internal Docker registry using the login name and password that you received as part of the sales fulfillment process when ordering cSRX.

For the procedure on loading the cSRX image, including how to browse the existing images from the Juniper Internal Docker registry for a cSRX image, see the following cSRX documentation:

- For a cSRX on bare-metal Linux server deployment, see the [Loading the cSRX Image](#) topic in the [cSRX Deployment Guide for Bare-Metal Linux Server](#).
- For a cSRX on Contrail deployment, see the [Importing the cSRX Image](#) topic in the [cSRX Deployment Guide for Contrail](#).

Finding More Information

For the latest, most complete information about known and resolved issues with the Junos OS, see Juniper Networks Problem Report Search application at:

<https://prsearch.juniper.net>

Juniper Networks Feature Explorer is a Web-based application that helps you to explore and compare Junos OS feature information to find the correct software release and hardware platform for your network. Find Feature Explorer at:

<https://pathfinder.juniper.net/feature-explorer/>

Juniper Networks Content Explorer is a Web-based application that helps you explore Juniper Networks technical documentation by product, task, and software release, and download documentation in PDF format. Find Content Explorer at:

<https://www.juniper.net/documentation/content-applications/content-explorer/>

Documentation Feedback

We encourage you to provide feedback, comments, and suggestions so that we can improve the documentation. You can provide feedback by using either of the following methods:

- Online feedback rating system—On any page of the Juniper Networks TechLibrary site at <https://www.juniper.net/documentation/index.html>, simply click the stars to rate the content, and use the pop-up form to provide us with information about your experience. Alternately, you can use the online feedback form at <https://www.juniper.net/documentation/feedback/>.
- E-mail—Send your comments to techpubs-comments@juniper.net. Include the document or topic name, URL or page number, and software version (if applicable).

Requesting Technical Support

Technical product support is available through the Juniper Networks Technical Assistance Center (JTAC). If you are a customer with an active J-Care or Partner Support Service support contract, or are covered under warranty, and need post-sales technical support, you can access our tools and resources online or open a case with JTAC.

- JTAC policies—For a complete understanding of our JTAC procedures and policies, review the *JTAC User Guide* located at <https://www.juniper.net/us/en/local/pdf/resource-guides/7100059-en.pdf>.
- Product warranties—For product warranty information, visit <https://www.juniper.net/support/warranty/>.
- JTAC hours of operation—The JTAC centers have resources available 24 hours a day, 7 days a week, 365 days a year.

Self-Help Online Tools and Resources

For quick and easy problem resolution, Juniper Networks has designed an online self-service portal called the Customer Support Center (CSC) that provides you with the following features:

- Find CSC offerings: <https://www.juniper.net/customers/support/>
- Search for known bugs: <https://prsearch.juniper.net/>
- Find product documentation: <https://www.juniper.net/documentation/>
- Find solutions and answer questions using our Knowledge Base: <https://kb.juniper.net/>

- Download the latest versions of software and review release notes:
<https://www.juniper.net/customers/csc/software/>
- Search technical bulletins for relevant hardware and software notifications:
<https://kb.juniper.net/InfoCenter/>
- Join and participate in the Juniper Networks Community Forum:
<https://www.juniper.net/company/communities/>
- Open a case online in the CSC Case Management tool: <https://www.juniper.net/cm/>

To verify service entitlement by product serial number, use our Serial Number Entitlement (SNE) Tool: <https://entitlementsearch.juniper.net/entitlementsearch/>

Opening a Case with JTAC

You can open a case with JTAC on the Web or by telephone.

- Use the Case Management tool in the CSC at <https://www.juniper.net/cm/>.
- Call 1-888-314-JTAC (1-888-314-5822 toll-free in the USA, Canada, and Mexico).

For international or direct-dial options in countries without toll-free numbers, see <https://www.juniper.net/support/requesting-support.html>.

Revision History

27 March 2018 —Revision 1— Junos OS 18.1R1 – cSRX.

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