

Contrail Service Orchestration Release Notes

Release 5.0.1
28 August 2019
Revision 2

These Release Notes accompany Release 5.0.1 of Juniper Networks® Contrail Service Orchestration (CSO). These Release Notes describe new and changed features, limitations, and known and resolved issues in the software.

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Introduction

Contrail Service Orchestration (CSO) Release 5.0.1 is a Juniper Networks-hosted public cloud-based Software as a Service (SaaS) solution. CSO Release 5.0.1 supports two types of accounts:

- OpCo accounts (for multitenant, managed service providers): OpCo (operating company) administrators can add tenants to the OpCo network and manage profiles and policies for traffic, SLA, breakout, and firewall management.
- Tenant account (for enterprise customers that want to use CSO for managing their sites): Tenant administrators can add sites and enable services such as SD-WAN, LAN, and next-generation firewall to their networks; configure SLA policies, firewall policies, and breakout policies; and apply the policies to the sites.

The following are the highlights of the features available in Release 5.0.1:

- Provider hub support for operating companies
- Support for a unified firewall policy
- Automatic assignment of OAM loopback IP address
- Support for adding an EX Series switch behind an NFX250 CPE
- Support for remotely accessing a device CLI
- Image management support for EX Series switches

Software Support

- [Software Downloads](#)
- [Software Installation Requirements for NFX Series Network Services Platform](#)

Software Downloads

Table 1 on page 3 displays the supported versions and download links for software components associated with CSO Release 5.0.1.



NOTE: Before you onboard devices, ensure that the device is running the software version that is recommended in this release notes.

Table 1: Software Components Associated with CSO Release 5.0.1

Product	Supported Version	Download Link
Juniper Identity Management Service (JIMS)	1.1.5R1	Pre-bundled with CSO.

Table 1: Software Components Associated with CSO Release 5.0.1 (continued)

Product	Supported Version	Download Link
EX Series switches	Junos OS Release 18.3R1.9	<ul style="list-style-type: none"> EX2300: https://webdownload.juniper.net/swdl/dl/secure/site/1/record/81637.html?pf=EX2300 EX3400: https://webdownload.juniper.net/swdl/dl/secure/site/1/record/81637.html?pf=EX3400 EX4300: https://webdownload.juniper.net/swdl/dl/secure/site/1/record/81599.html?pf=EX4300
NFX150 CPE device	Junos OS Release 18.2X85-D12	<ul style="list-style-type: none"> Install Media: https://webdownload.juniper.net/swdl/dl/secure/site/1/record/94797.html Install Package: https://webdownload.juniper.net/swdl/dl/secure/site/1/record/94794.html
NFX250 CPE device	Junos OS Release 15.1X53-D497	<ul style="list-style-type: none"> Install Media: https://webdownload.juniper.net/swdl/dl/secure/site/1/record/92335.html Install Package: https://webdownload.juniper.net/swdl/dl/secure/site/1/record/92333.html
SRX Series CPE device	Junos OS Release 15.1X49-D172	<ul style="list-style-type: none"> SRX300, SRX320, SRX340, SRX345, and SRX550 High Memory Services Gateway (SRX550M) (as spoke devices): https://webdownload.juniper.net/swdl/dl/secure/site/1/record/92321.html SRX1500 (as a hub device): https://webdownload.juniper.net/swdl/dl/secure/site/1/record/92323.html SRX1500 (USB) (as a hub device): https://webdownload.juniper.net/swdl/dl/secure/site/1/record/92325.html SRX1500 (PXE) (as a hub device): https://webdownload.juniper.net/swdl/dl/secure/site/1/record/92326.html SRX4100, SRX4200 (as hub devices and spoke devices): https://webdownload.juniper.net/swdl/dl/secure/site/1/record/92322.html SRX4100, SRX4200 (USB) (as hub devices and spoke devices): https://webdownload.juniper.net/swdl/dl/secure/site/1/record/92324.html SRX4100, SRX4200 (PXE) (as hub devices and spoke devices): https://webdownload.juniper.net/swdl/dl/secure/site/1/record/92327.html

Table 1: Software Components Associated with CSO Release 5.0.1 (continued)

Product	Supported Version	Download Link
SRX Series Next-Generation Firewall Devices	Junos OS Release 18.4R1	<p data-bbox="836 384 1144 415">Junos OS Release 15.1X49-D172</p> <ul data-bbox="836 436 1421 982" style="list-style-type: none"> <li data-bbox="836 436 1421 548">• SRX300, SRX320, SRX340, SRX345, and SRX550 High Memory Services Gateway (SRX550M): https://webdownload.juniper.net/swdl/dl/secure/site/1/record/92321.html <li data-bbox="836 558 1421 611">• SRX1500 : https://webdownload.juniper.net/swdl/dl/secure/site/1/record/92323.html <li data-bbox="836 621 1421 674">• SRX1500 (USB) : https://webdownload.juniper.net/swdl/dl/secure/site/1/record/92325.html <li data-bbox="836 684 1421 737">• SRX1500 (PXE) : https://webdownload.juniper.net/swdl/dl/secure/site/1/record/92326.html <li data-bbox="836 747 1421 800">• SRX4100, SRX4200 : https://webdownload.juniper.net/swdl/dl/secure/site/1/record/92322.html <li data-bbox="836 810 1421 894">• SRX4100, SRX4200 (USB) : https://webdownload.juniper.net/swdl/dl/secure/site/1/record/92324.html <li data-bbox="836 905 1421 982">• SRX4100, SRX4200 (PXE) : https://webdownload.juniper.net/swdl/dl/secure/site/1/record/92327.html <p data-bbox="836 1003 1079 1035">Junos OS Release 18.4R1</p> <ul data-bbox="836 1056 1421 1293" style="list-style-type: none"> <li data-bbox="836 1056 1421 1167">• SRX300, SRX320, SRX340, SRX345, and SRX550 High Memory Services Gateway (SRX550M): https://webdownload.juniper.net/swdl/dl/secure/site/1/record/85904.html?pf=SRX300 <li data-bbox="836 1178 1421 1230">• SRX1500 : https://webdownload.juniper.net/swdl/dl/secure/site/1/record/85903.html?pf=SRX1500 <li data-bbox="836 1241 1421 1293">• SRX4100, SRX4200 : https://webdownload.juniper.net/swdl/dl/secure/site/1/record/92322.html

Table 1: Software Components Associated with CSO Release 5.0.1 (continued)

Product	Supported Version	Download Link
vSRX	<p>Junos OS Release 15.1X49-D172</p> <p>Junos OS Release 18.4R1</p>	<p>For hub devices and spoke devices:</p> <ul style="list-style-type: none"> vSRX (Compressed tar file (TGZ) for upgrade): https://webdownload.juniper.net/swdl/dl/secure/site/1/record/92328.html vSRX (KVM appliance): https://webdownload.juniper.net/swdl/dl/secure/site/1/record/92331.html vSRX (Hyper-V image): https://webdownload.juniper.net/swdl/dl/secure/site/1/record/92332.html vSRX (VMware appliance with SCSI virtual disk (.ova)): https://webdownload.juniper.net/swdl/dl/secure/site/1/record/92330.html vSRX (VMware appliance with IDE virtual disk (.ova)): https://webdownload.juniper.net/swdl/dl/secure/site/1/record/92329.html <p>For next-generation firewall devices:</p> <ul style="list-style-type: none"> vSRX (KVM appliance): https://webdownload.juniper.net/swdl/dl/secure/site/1/record/86042.html?pf=vSRX vSRX (Hyper-V image): https://webdownload.juniper.net/swdl/dl/secure/site/1/record/86041.html?pf=vSRX vSRX (VMware appliance with SCSI virtual disk (.ova)): https://webdownload.juniper.net/swdl/dl/secure/site/1/record/86044.html?pf=vSRX vSRX (VMware appliance with IDE virtual disk (.ova)): https://webdownload.juniper.net/swdl/dl/secure/site/1/record/86043.html?pf=vSRX

Software Installation Requirements for NFX Series Network Services Platform

When you set up a distributed deployment with an NFX150 or an NFX250 device, you must use Administration Portal or the CSO API to:

1. Upload the software image to CSO.
2. Specify this image as the boot image when you configure activation data.

For more information, see https://www.juniper.net/documentation/en_US/release-independent/junos/information-products/pathway-pages/nfx-series/product/.

New and Changed Features in Contrail Service Orchestration Release 5.0.1

This section describes the new features or enhancements to existing features in Contrail Service Orchestration (CSO) Release 5.0.1.

- **Support for adding an EX Series switch behind NFX250**— From CSO Release 5.0.1 onward, you can add WAN and LAN capabilities to an on-premise spoke site by either:
 - Configuring the site with the NFX250 device as the CPE and an EX Series switch connected to the NFX250 device.
 - Adding an EX Series switch to a site that has the NFX250 device configured as the CPE.
- **Support for a unified firewall policy**— From CSO 5.0.1 onward, next-generation firewall or CPE devices running Junos OS Release 18.2R1 or later support dynamic applications as match criteria within the unified firewall policy definition. This support makes the application firewall configuration obsolete. Therefore, you do not need a separate application firewall configuration on the devices. However, in devices running Junos OS releases earlier than Release 18.2R1, you need to continue configuring application firewall for blocking or permitting dynamic-applications traffic.

You can configure the following default settings for the unified firewall policy in the customer portal:

- UTM policy
- SSL profile
- A reason for denying access to a resource or blocking a traffic
- A URL for redirecting traffic



NOTE: The default settings are applied only if the next-generation firewall or CPE devices are running Junos OS Release 18.2 R1 or later.

- **Provider hub support for operating companies**— From CSO Release 5.0.1 onward, an operating company (OpCo) administrator can onboard a provider hub device with data capability. A secure connection is established between the provider hub with data capability and the provider hub with OAM capability. The Juniper Networks team that hosts the cloud-based CSO owns and manages the provider hub with OAM capability.
- **Automatic assignment of OAM loopback IP address**—From CSO Release 5.0.1 onward, if you do not specify an OAM loopback IP address for a CPE device or a provider hub device that is managed by CSO, then CSO automatically assigns an OAM loopback IP address from the carrier-grade NAT reserved pool subnet range 100.124.0.0/14 to the CPE device.
- **Image management support for EX Series switches**—From CSO Release 5.0.1 onward, you can view, upload, stage, and deploy Junos OS images for EX2300, EX3400, and EX4300 switches.
- **Support for remotely accessing a device CLI**—From CSO Release 5.0.1 onward, you can remotely access the CLI of a CPE device and an EX Series switch (EX2300, EX3400, and EX4300) to run **show** operational commands. Following are the supported CPE devices:
 - NFX150 and NFX250

- SRX Series (SRX300, SRX320, SRX340, SRX345, SRX550 High Memory (SRX550M), SRX1500, SRX4100, SRX4200, and vSRX on an x86 server)

VNFs Supported

CSO supports the Juniper Networks VNFs listed in [Table 2 on page 8](#).

Table 2: VNFs Supported by Contrail Service Orchestration

VNF Name	Version	Network Functions Supported	Deployment Model Support	Element Management System Support
Juniper Networks vSRX	For Hybrid WAN and SD-WAN deployments: vSRX KVM Appliance 15.1X49-D172	<ul style="list-style-type: none"> • Network Address Translation (NAT) • Demonstration version of Deep Packet Inspection (DPI) • Firewall • Unified threat management (UTM) 	Hybrid WAN and SD-WAN deployments supports NAT, firewall, and UTM.	Element Management System (EMS) microservice, which is included with CSO

Licensing

You need to purchase licenses to manage devices in CSO. As part of the activation process, you must provide the information required for creating your CSO account. When the account is activated, you receive an e-mail with the URL information and access credentials for logging in to the CSO portal.

Accessing the CSO GUIs



NOTE: We recommend that you use Google Chrome Version 60 or later to access the CSO GUIs.

For more information, see *Contrail Services Orchestration (CSO) GUIs* topic in the *CSO Deployment Guide*.

Known Behavior

This section lists known behavior, system maximums, and limitations in hardware and software in Juniper Networks CSO Release 5.0.1.

- [Device Management](#)
- [Dynamic VPN \(DVPN\)](#)
- [Policy Deployment](#)
- [SD-WAN](#)
- [Security Management](#)

- [Site and Tenant Workflow](#)
- [Topology](#)
- [User Interface](#)
- [General](#)

Device Management

- CSO does not support cluster-level Return Material Authorization (RMA) for SRX Dual CPE devices. Only cluster node-level RMA is supported.
- The SRX4100 and SRX4200 devices support all existing SD-WAN features, except the following:
 - Phone-home client (PHC)—The CPE devices must be manually activated by copying the stage-1 configuration from the CSO portal, pasting it to the console of the SRX4100 and SRX4200 devices, and then committing the stage-1 configuration.
 - LTE and xDSL interfaces.
 - Service chaining.
- CSO supports PHC for EX2300, EX3400, and EX4300 switches with only Junos OS Release 18.4R2 and later. The CSO release is qualified for Junos OS Release 18.3R1, and the PHC capability is currently not supported for EX Series switches that are onboarded with Junos OS Release 18.3R1.

You must manually copy the stage-1 configuration from the CSO portal and paste it to the device console to commit the stage-1 configuration when you create a LAN site or activate an EX Series switch.

- Do not zeroize EX2300 and EX3400 devices as doing so might result in unexpected behavior.
- To activate an NFX150 device, you must configure the phone-home server to contact the CSO instance running on AWS. Contact the Juniper team for more information.

Dynamic VPN (DVPN)

- Creation and deletion of DVPN tunnels based on the DVPN create and delete thresholds are governed by the **MAX_DVPN_TUNNELS** and **MIN_TUNNELS_TO_START_DVPN_DEACTIVATE** parameters, respectively. However, **MAX_DVPN_TUNNELS** and **MIN_TUNNELS_TO_START_DVPN_DEACTIVATE** are not honored when DVPNs are created or deleted from the CSO UI. This might cause the total active DVPN tunnels count on the **Site > WAN** tab to show a greater value than the **MAX_DVPN_TUNNELS** value configured for that site.
- DVPN create and delete thresholds are based on the **APPTRACK_SESSION_CLOSE** messages. When **APPTRACK_SESSION_CLOSE** messages reach the specified threshold, an alarm is generated for creating or deleting a DVPN tunnel. However, the alarms are not cleared until the **APPTRACK_SESSION_CLOSE** message count goes below the threshold (for create alarms) or above the threshold (for delete alarms) to trigger a fresh cycle. This causes the create and delete alarms to remain active and prevent further alarms and to, thus, slow down the creation or deletion of tunnels.

- Passive probes created by an SD-WAN policy time out because of inactivity in 60 seconds. This causes CSO to close the corresponding sessions and trigger **APPTRACK_SESSION_CLOSE** messages. The **APPTRACK_SESSION_CLOSE** messages are tracked by CAN, and are added to the number of sessions closed. The sessions closed count is used to calculate the DVPN delete threshold.
- Site-to-site DVPN tunnels are not created if the WAN interface of the CPE is behind a NAT device.

Policy Deployment

- The job log message **No update of SD-WAN policy configuration on device with ID *deviceID* due to missing required information** does not indicate an error even though it appears in red. The message only indicates that there is no SD-WAN policy applicable for the site.
- An SD-WAN policy deployment is successful even if there is no matching WAN link meeting the SLA. This is expected behavior and it ensures that when a WAN link matching the SLA becomes available, traffic is routed through that link.
- The policy intents defined for a firewall or an SD-WAN policy must not have conflicts with other policy intents in that policy because such conflicts lead to inconsistent behavior. For example:
 - You cannot define an SD-WAN policy with one policy intent for application X and SLA profile S-1 and another policy intent for application X and SLA profile S-2.
 - You cannot define two firewall policy intents with the same source and destination endpoints but one with action Allow and another with action Deny.

SD-WAN

- If WAN link endpoints are not of similar type but overlay tunnels are created based on matching mesh tags, the static policy for site-to-site or central Internet breakout traffic gives preference to the remote link type.
- Advanced SLA configurations, such as CoS rate limiting, are not supported during local breakout if no specific application is selected; that is, if Application is set to ANY. Choose specific applications if you want to enable advanced SLA configurations, such as CoS rate limiting.
- If two or more SD-WAN policy rules are configured for the same application with different levels of granularity, such as all, sites, and departments, then CSO applies the CoS rate limiter in the same order in which you have created the intents.
- On the WAN tab of the *Site-Name* page, the link metrics graph displays aggregated data. Therefore, in cases where the aggregation interval overlaps between source and destination link data, the link metrics graph displays incorrect data.
- If the SD-WAN mode is **Real-Time Optimized** and a path switch is triggered because a link goes down, sometimes the link switch event displayed in the CSO GUI does not contain the SLA violation metric details.

- On the SD-WAN Events page, when you hover the mouse over the **Reason** field of link switch events, sometimes **Above Target** is displayed instead of the absolute SLA metric value for very large values (for example, for an SLA metric value that is 100 times the target value).
- When an SD-WAN policy is deployed and a high rate of traffic flows through the CPE device, this might lead to network congestion and introduce delays or cause traffic loss. However, even though an SLA violation is reported, the traffic does not switch to a different link.
- In device redundancy mode, when you reboot a node, the device fails to generate a few system logs. Because a few system logs are not generated, the link switch event in CSO displays the same interface as the source interface and the destination interface.
- Sometimes duplicate link switch events are displayed on the Link Switch Events page.

Security Management

- UTM Web filtering is not supported in an active-active SRX Series cluster device.
- Intrusion prevention system (IPS) is not supported. Therefore, in the IPS report, the attack name from the IPS signatures is displayed as UNKNOWN.
- SSL Proxy is not supported on SRX300 and SRX320 series devices.

Site and Tenant Workflow

- When tenants are created, ensure that the tenant name is unique across the CSO instance; that is, the same tenant name should not be present in any of the OpCo networks on the CSO instance.
- In the Add Site workflow, use IP addresses instead of hostnames for the NTP server configuration. If you are using hostnames instead of IP addresses, ensure that the hostname is DNS-resolvable; if the hostname is not DNS-resolvable, ZTP for the device fails.
- CSO uses RSA-key-based authentication when establishing an SSH connection to a managed CPE device. The authentication process requires that the device has a configured root password, and you can use Administration Portal to specify the root password in the device template.

To specify a root password for the device:

1. Log in to Administration Portal.
2. Select **Resources > Device Templates**.
3. Select the device template and click **Edit**.
4. Specify the plain text root password in the **ENC_ROOT_PASSWORD** field.
5. Click **Save**.

- When you try to deploy a LAN segment on an SRX Series spoke device, the CSO GUI allows you to select more than one port for a LAN segment. However, for SRX Series devices, only one port for a LAN segment can be deployed; multiple ports in a LAN segment can be deployed only on NFX Series devices.
- On a site with an NFX Series device, if you deploy a LAN segment without the VLAN ID specified, CSO uses an internal VLAN ID meant for internal operations and this VLAN ID is displayed in the LAN section of the Site Detail View page. There is no impact on the functionality.
- Do not create departments that have names starting with **default**, **default-reverse**, **mpls**, **internet**, or **default-hub** because CSO uses the following departments for internal use:
 - *Default-vpn_name*
 - *Default-reverse-vpn_name*
 - *mpls-vpn_name*
 - *internet-vpn_name*
 - *Default-hub-vpn_name*

Topology

- DHCP configuration on WAN links on a SD-WAN hub is not supported.

User Interface

- When you use Mozilla Firefox to access the CSO GUIs, a few pages do not work as expected. We recommend that you use Google Chrome version 60 or later to access the CSO GUIs.
- When you copy and paste a stage-1 configuration from Chrome version 71.0.3578.98, insert a new line, as shown in the following example, in the private key text:

```

-----BEGIN RSA PRIVATE KEY-----
Proc-Type: 4, ENCRYPTED
DEK-Info: DES-EDE3-CBC, 1F6A1336016A8239

                                ADD A NEW LINE HERE
2C638z/Lgr/g4Kw7r91ys9XWnUGbGnPpT1cc5jCq1Qbb8Nu286QsVGfrUy7Qh9sU
FJkIQI9bOMNadLL7wk1snwBCVAoAYjX+haizSaZzDphT6XBzph35BN9M0Zmb+Kpn
fH5i5FZx8FJixbnonCmaVrWFGwCwUi+ijUKp/h9NfE5c2W5m2VBdmRjBfjWo9jcH
HV5gkkoG0Gdx7Kv60HKOMD12YkjL4zfAzBS8J8BMmk5x6sY+GqNQ0dgs7m4oXYCH
11o0YS6n910WDZcxXYWWeIN1u6z0SI1ZYVIIdwaE00MDvoA82tzTHFmMy2kA48FHJ
    
```

If you do not insert the new line, the private key fails.

General

- For OpCo accounts created in CSO Release 5.0.0, OpCo administrators must import OAM hubs from the Site Management page before they can create provider hub sites.
- If you choose to purge the audit log with the **Archive and Store in Local Location** option selected, you need to contact Juniper Networks for accessing the locally archived audit logs. We recommend that you use the **Archive and Store in Remote Location** option for easy access to archived logs. When you run an audit log purge with the **Archive and Store in a Remote Location** option selected, ensure that the remote server where you want to archive the purged audit logs is reachable from CSO.
- A LAN segment deploy job is handled in two parts in the following sequence:
 1. LAN segment-related policies are deployed.
 2. Firewall policies are deployed.

However, the deploy job status is updated as soon as the first part is completed. Because of this, a deploy job for a LAN segment is shown as a success even though the associated firewall policy deployment is still in progress.

- When you edit a tenant, changing the deployment plan from Hybrid WAN to SD-WAN or vice versa is not supported, although the field is displayed as editable.
- On an NFX Series device:
 - To activate a virtualized network function (VNF), perform the following steps:
 1. Add the VNF to the device.
 2. Initiate the activation workflow and ensure that the job is 100% completed.
 - To retry the activation of a VNF that failed, perform the following steps:
 1. Deactivate the VNF.
 2. Remove the VNF.
 3. Add the VNF to the device.
 4. Initiate the activation workflow and ensure that the job is 100% completed.
- Class-of-service (CoS) configuration on Layer 2 interfaces (*ge-0/0/port number*) is not supported on NFX150 CPE devices.
- LAN routes are not advertised to the neighbor in case of a data center deployment on a gateway site that uses routing protocols such as BGP or OSPF. In such cases, configure source NAT on the gateway site from the CSO UI or configure reverse routes on the routing device.
- Overlapping LAN segments are not supported across a CSO installation.

Known Issues

This section lists known issues in Juniper Networks CSO Release 5.0.1.

- [SD-WAN](#)
- [Site and Tenant Workflow](#)
- [General](#)

SD-WAN

- When you add or remove any intent on the SD-WAN Policy page, a +0 is added after every element even though you selected only one element.

Workaround: This issue does not have any functional impact. The +0s disappear when you refresh the page.

Bug Tracking Number: CXU-32068

- When frequent link switches happen, the application throughput data displayed on **Monitor > Application SLA Performance** page and **Resources > Site management > Site details > WAN** page might vary.

Workaround: There is no known workaround.

Bug Tracking Number: CXU-33050

- The firewall policy deployment fails if you deploy the Default_FW_policy firewall policy on an SD-WAN site.

Workaround: The Default_FW_policy firewall policy is for only next-generation firewall sites. Create a new policy, add rules that are specific to SD-WAN sites, and then deploy the policy on the SD-WAN site.

Bug Tracking Number: CXU-37567

Site and Tenant Workflow

- During ZTP, the bootstrap job times out if the device takes a long time to connect to CSO.

Workaround: Delete the site and add it again, and then try ZTP.

Bug Tracking Number: CXU-34298

- An SRX Series device remains in the **DEVICE_DETECTED** state for 3 to 4 minutes during ZTP.

Workaround: There is no functional impact. The ZTP continues after the delay of around four minutes.

Bug Tracking Number: CXU-31813

General

- If tenant administrators select an enterprise hub site while adding a static tunnel for a full-mesh topology network by using the + icon on the WAN page, CSO returns the error **Error NoneType object is not iterable**. This problem occurs because static tunnels are already present between the enterprise hub and spoke sites.

Workaround: There is no functionality impact and no known workaround.

Bug Tracking Number: CXU-37758

- Application Visibility functionality for NFX250 and NFX150 hybrid WAN managed Internet CPE might not work as expected because application tracking is not enabled by default.

Workaround: Enable application tracking through device configuration from the CSO UI. Go to **Devices**, select an NFX250 or NFX150 site, and then select **Configuration > Zones > Edit Untrust Zone**. Select the **Application-Tracking** check box and deploy the configuration.

Bug Tracking Number: CXU-37713

- For provider hub devices that are provisioned by an OpCo administrator, the OpCo administrator is unable to access the **Remote Console** option on the **Resources > Cloud Hub Devices** page.

Workaround: There is no known workaround.

Bug Tracking Number: CXU-37706

- The **More** options on the **Site Management** page shows **Reboot** for a provider hub device. However, tenant administrators do not have the permissions to reboot a provider hub device, and the reboot job initiated by a tenant administrator fails.

Workaround: There is no functionality impact and no known workaround.

Bug Tracking Number: CXU-37698

- Over an SD-WAN CPE, traffic flow from the LAN side is not monitored for application quality of experience (AppQoE) passive probes if the destination (UDP or TCP) port for the traffic is set to 36000.

Workaround: There is no known workaround.

Bug Tracking Number: CXU-37413

- When a WAN link that is configured with DHCP is used as a DVPN tunnel endpoint, a change in the DHCP IP address of the WAN link causes the DVPN tunnel to be down.

Workaround: Delete the DVPN tunnel from the **Resources > Resource Name > WAN** tab and create a new tunnel.

Bug Tracking Number: CXU-36761

- The bootstrap job for sites that use SRX Series devices remains in the in-progress state. This problem occurs if only MPLS links are enabled with use for OAM.

Workaround: Copy and paste the stage-1 configuration to the device CLI instead of performing ZTP.

Bug Tracking Number: CXU-36661

- If you deploy multiple firewall policies that have multiple devices, The View Configuration page shows only devices from one of the policies even though the policies have been successfully deployed to all devices.

Workaround: There is no known workaround.

Bug Tracking Number: CXU-36594

- The display name field of the monitor object deleted alarm shows the UUID of deleted sites instead of the name of the site.

Workaround: There is no known workaround.

Bug Tracking Number: CXU-36367

- The bootstrap job for a device remains in the **In Progress** state for a considerable time. This is because, CSO fails to receive the bootstrap completion notification from the device.

Workaround: If the bootstrap job is in the **In Progress** state for more than 10 minutes, add the following configuration to the device:

set system phone-home server https://redirect.juniper.net

Bug Tracking Number: CXU-35450

- When you delete a site and recover the **recovery.conf** file on SRX3XX devices, the Phone-Home Client (PHC) does not automatically restart.

Workaround: After you commit the **recovery.conf** file, you must manually restart the PHC by running the **restart phone-home-client** command, and then perform ZTP.

Bug Tracking Number: CXU-35385

- In next-generation firewall sites with LAN, the recall of EX2300 and EX3400 devices with the zeroize option does not work. This issue occurs because EX2300 and EX3400 do not support the zeroize option.

Workaround: Manually clean up the EX2300 and EX3400 devices.

Bug Tracking Number: CXU-35208

- For Hybrid sites that use NFX150 or NFX250 CPE, you cannot use default configuration templates to configure physical interfaces, zones, or routing instances.

Workaround: There is no known workaround.

Bug Tracking Number: CXU-35021

- At times, recall with the recovery configuration fails to revert EX2300 and EX3400 devices to the recovery configuration because some devices do not have the **/var/db/scripts/events** directory.

Workaround: Keep a copy of the recovery configuration and use the **load override recovery filename** command to revert the devices to the required configuration.

Bug Tracking Number: CXU-34430

- If you create an audit log purge with a recurring schedule and select the **Run Now** option, the recurrence fails to get scheduled.

Workaround: When you schedule an audit log purge with a recurring schedule, use the **Schedule at a later time** option instead of the **Run Now** option.

Bug Tracking Number: CXU-32608

- You cannot filter the device ports for SRX Series devices while adding an on-premise spoke site or while adding a switch.

Workaround: There is no known workaround.

Bug Tracking Number: CXU-32826

- UTM Web filtering fails at times even though the Enhanced Web Filtering (EWF) server is up and online.

Workaround: From the device, configure the EWF Server with the IP address 116.50.57.140 as shown in the following example:

```
root@SRX-1# set security utm feature-profile web-filtering juniper-enhanced server host 116.50.57.140
```

Bug Tracking Number: CXU-32731

- After you do an RMA of a spoke, the LAN segment fails to connect to the enterprise hub.

Workaround: Reboot the spoke device.

Bug Tracking Number: CXU-35379

- OpCo administrators (created in CSO Release 5.0.0) are able to delete a data hub even if one of their tenants have sites associated with the data hub or if the tenant imports the data. Because there is no warning, before deleting a data hub the OpCo administrators must ensure that there are no sites associated with the data hub.

Workaround: There is no known workaround.

Bug Tracking Number: CXU-37800

- If you configure a PPPoE-enabled xDSL link for exclusive breakout, it might not work as expected.

Workaround: There is no known workaround.

Bug Tracking Number: CXU-36706

Resolved Issues

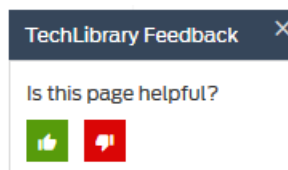
The following issues are resolved in Juniper Networks CSO Release 5.0.1:

- An error occurs when you modify an SD-WAN rule that has a site group as source.
Bug Tracking Number: CXU-36715
- When you create an SD-WAN site with an EX Series switch for the branch network by using a site template, CSO fails to deploy the configuration to the primary enterprise hub if there are more than one enterprise hub sites.
Bug Tracking Number: CXU-36513
- When you create an SD-WAN site with an EX Series switch for the branch network by using a site template that has LAN segments for both the CPE device and the switch, CSO returns a **Select at least one switch port for the CPE LAN Segment** error.
Bug Tracking Number: CX-36474
- NFX 150 SD-WAN CPE is not able to send bootstrap complete message to CSO after Stage-1 configuration commit and because of this, the activation of NFX 150 CPE fails.
Bug Tracking Number: CXU-35415
- The job log for an EX Series switch reboot does not show details of the reboot job.
Bug Tracking Number: CXU-35366
- The status of GRE_IPSEC tunnel between an on-premise spoke site with SRX340 as a CPE device and an enterprise hub is down.
Bug Tracking Number: CXU-35348
- ZTP of SRX Series devices fails because the default CA certificate is not installed on the device.
Bug Tracking Number: CXU-34578

Documentation Feedback

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- Join and participate in the Juniper Networks Community Forum: <https://www.juniper.net/company/communities/>
- Create a service request online: <https://myjuniper.juniper.net>

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- Visit <https://myjuniper.juniper.net>.
- 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://support.juniper.net/support/requesting-support/>.

Revision History

12 August 2019—Revision 1, CSO Release 5.0.1

28 August 2019—Revision 2, CSO Release 5.0.1

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