

SRC PE Software Release Notes

Release 4.2.0
June 2013
Revision 2

These release notes cover Release 4.2.0 of the Juniper Networks Session and Resource Control (SRC) portfolio. The SRC software runs on C Series Controllers. If the information in these release notes differs from the information found in the published documentation set, follow these release notes.

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Release Overview

If the information in your current release notes differs from the information found in the other documentation sources, follow the *SRC PE Release Notes*.

Before You Start

Before you use your new software, read these *Release Notes* in their entirety, especially the section *Known Problems and Limitations*. You need the following documentation to fully understand all the features available in Release 4.2.0:

- These *SRC 4.2.0 Release Notes*, which describe the changes between Releases 4.2.0 and 4.2.0.
- The 4.2.0 SRC Policy Engine (SRC PE) software documentation set, which provides detailed information about features available in Release 4.2.x.

If the information in your current release notes differs from the information found in the other documentation sources, follow the *Release Notes*.

Documentation

The 4.2.x SRC PE core documentation set consists of several manuals and is available only in electronic format. Refer to the following table to help you decide which document to use.

Task	Related Documentation
Install the C Series Controller.	<i>C Series Controllers C3000 and C5000 Hardware Guide</i> <i>C Series Controllers C2000 and C4000 Hardware Guide</i>
Get up and running quickly.	<i>C3000 and C5000 Quick Start Guide</i> <i>C2000 and C4000 Quick Start Guide</i>
Learn about the general operation of the SRC software.	<i>SRC PE Getting Started Guide</i>
Perform basic configuration of a C Series Controller.	<i>SRC PE Getting Started Guide</i>
Use the SRC CLI.	<i>SRC PE CLI User Guide</i>
Use the License Manager and directory events.	<i>SRC PE Getting Started Guide</i>
Use the SAE, Juniper Networks routers, NIC, ACP, SSR, and SIC.	<i>SRC PE Network Guide</i>
Use the SNMP agent and logging utilities.	<i>SRC PE Monitoring and Troubleshooting Guide</i>
Integrate external network devices into the SRC network.	<i>SRC PE Network Guide</i>

Task	Related Documentation
Work with SRC services and policies.	<i>SRC PE Services and Policies Guide</i>
Work with SRC subscribers and subscriptions.	<i>SRC PE Subscribers and Subscriptions Guide</i>
Use the enterprise portals.	<i>SRC Sample Applications Guide</i>
Use the residential portal.	<i>SRC Sample Applications Guide</i>
Use the C-Web interface to configure the SRC software.	<i>SRC PE C-Web Interface Configuration Guide</i>
Get specific information about commands and statements for: <ul style="list-style-type: none"> • CLI and system • Juniper Networks database • SAE • Network Information Collector (NIC) • Session State Registrar (SSR) • Subscriber Information Collector (SIC) • SNMP agent • SRC Admission Control Plug-In (SRC ACP) • Volume Tracking Application (VTA) • SRC License Management • COS Naming Service 	<i>SRC PE CLI Command Reference, Volume 1</i>
Get specific information about commands and statements for: <ul style="list-style-type: none"> • Services • Policies • Subscribers • Redirect server • External Subscriber Monitor • Application Server • Dynamic Service Activator • IP Multimedia Subsystem (IMS) • Diameter application • Juniper Policy Server (JPS) 	<i>SRC PE CLI Command Reference, Volume 2</i>

The entire documentation set, including the release notes, in PDF format is available on the Juniper Networks Web site:

<http://www.juniper.net/techpubs/software/management/src/>

SRC Software

The SRC software for C Series Controllers is preinstalled on the device and available on the USB storage device supplied with the platform.

You can also download the SRC software and the product release notes from the Juniper Networks Web site at:

<https://www.juniper.net/support/csc/swdist-erx/src.html>

Release Highlights

Highlights include the following product enhancements:



NOTE: The SRC software runs on the C Series Controllers—a range of hardware platforms. The SRC 4.2.0 software contains the features found in the SRC 4.2.0 release plus the features listed in this section. The SRC 4.2.0 software may contain references to Release 7.6.0, which refers to the SAE version.

Aggregate Services

- Aggregate service is improved by propagating attributes to its fragments while activating or modifying an aggregate service session. While activating a service session, it is possible to set different activation attributes. In the case of an aggregate service session, some of the activation attributes are propagated to its fragments.

SAE Support for Dual Stack

- JunosE supports configuration of Internet Protocol versions—IPv4 and IPv6—on a single interface. This creates two IP layer interfaces (IPv4 and IPv6), known as dual-stack, that run and report independently.

To support dual-stack configuration, the functionality of the SAE is configured to create a single subscriber session for a set of IP interfaces. All services activated for a subscriber session impacts the related interfaces. For example, when both IPv4 and IPv6 interfaces exist for a subscriber session, a service activation installs policies on both the interfaces.

Subscriber Attributes to Support IPv6 Prefix

- The attributes `framedIpv6Prefix` and `delegatedIpv6Prefix` are added to the Subscriber object and can be queried through the SAEAccess API module.
 - The `framedIpv6Prefix` attribute contains the IPv6 prefix for the subscriber. Framed-IPv6-Prefix is available for JunosE (COPS-PR), Junos OS (JSRC), as well as AAA (COA).
 - The NAS can receive a set of IPv6 prefixes that are delegated to subscribers using the Delegated-IPv6-Prefix attribute. Delegated-IPv6-Prefix is available for Junos OS (JSRC) and AAA (COA).



NOTE: IPv6 Prefix is only supported for early field trials.

OnePopPrefixIp NIC Configuration Scenario to Support IPv6 Prefix

- The OnePopPrefixIp NIC scenario supports the IPv6 feature. This NIC scenario enables applications to identify subscribers based on their IP addresses and obtain a reference to the SAE managing these subscribers.

The OnePopPrefixIp NIC scenario is similar to the OnePop scenario. In the OnePopPrefixIp scenario, the IP pool information is provided by the SAE (through NIC SAE plug-in agents) instead of being read from the directory.

DMI

- Using the SRC Device Management Interface (DMI) driver and Junos Space, the SRC software can manage DMI devices connected to routers running Junos software. The SRC software communicates with Junos Space using the representational state transfer (REST) over HTTP(S), and Junos Space manages the router running Junos software over the DMI. The SRC software recognizes and receives notifications for changes to DMI devices connected to the router, allowing you to offer dynamic services on those devices. In addition, you can define and automatically provision policies for DMI devices, provide per-subscriber accounting for services on DMI devices, and develop script services for service sessions residing on DMI-managed devices. This feature is supported only for demonstration purposes.



NOTE: This feature is supported only for demonstration purposes.

Change of Authorization (COA) and Disconnect Message Using the SIC

- The SIC can dynamically manage services on RADIUS-enabled devices. The RADIUS capabilities of the SIC allow the SRC software to be aware of the subscriber activity and make dynamic RADIUS requests using the following RADIUS features:
 - Authentication, authorization, and accounting (AAA)
 - Change of Authorization (COA) message
 - Disconnect Message (DM)

The SIC uses RADIUS AAA messages to communicate with the RADIUS server and the network access server (NAS). The SIC converts Diameter messages to RADIUS messages and vice versa. The SIC also performs conversion between Diameter attribute-value pairs (AVPs) and RADIUS attributes.

The SIC can provide:

- Device abstraction and shared secrets for the NAS device
- Accounting and authentication support for subscriber sessions and service sessions

- COA and DM support
- Service parameter changes

SAE-New Operational Commands

- View Subscriber Session Count by Managed Router

You can now view the number of subscriber sessions used by a managed router. The operational command **show sae statistics device name *name* terse** displays the number of subscriber sessions used for both managed and unmanaged subscribers. (Unmanaged subscribers are users who do not have volume-based billing.) This command also displays the device type.

- View the number of active service sessions

You can now view the number of currently active service sessions that exist for a given service, service attribute, scope, and virtual router by using the **show sae number-service-sessions service-name *service-name* service-attribute-name *service-attribute-name* scope *scope* virtual-router *virtual-router*** command.

Support of PTSP When the Access Node is Managed by the SRC Software

- In a PTSP deployment scenario where the SRC manages the edge access device, sessions initiated on the access device are written directly to the SSR database—for example, when the PTSP scenario uses a Juniper Networks E Series Broadband Services Router or MX Series Ethernet Services Router (JSRC) as the access device.

An SAE user-tracking plug-in publishes subscriber session information to the SSR after the subscriber has successfully logged in through the access node. The SSR writer plug-in is a user-tracking plug-in that creates a user session record and writes it into the SSR. The SSR writer plug-in specifies which SAE plug-in attributes are written to the SSR and the SSR maps the SAE plug-in attributes to SSR attributes. The SSR writer plug-in configuration specifies the association between the SAE plug-in attributes, which are used in the SAE access session and carried in the user-tracking event, and the respective SAE plug-in attributes configured in the SSR association. Plug-in attributes associated with the SSR can be mapped either to the plug-in attributes used to identify the access session or to literal values.

System Logging Enhancement

- You can now specify the port used for the system logging facility.

VTA

- The SRC Volume-Tracking Application (SRC VTA) is ported to the SRC 4.2 software and configured with the SRC CLI.

The SRC VTA allows service providers to track and control the network usage of subscribers and services. You can control volume and time usage on a per-subscriber or per-service basis. This level of control means that service providers can offer tiered services that use volume as a metric, while also controlling abusive subscribers and applications.

When a subscriber or service exceeds bandwidth limits (or quotas), the SRC VTA can take actions, including directing the subscriber to a portal to activate additional services or purchase additional bandwidth, imposing rate limits on traffic, sending an e-mail notification, or charging extra for additional bandwidth consumed.

The SRC 4.2 software supports multiple VTAs.



NOTE: With the inclusion of the VTA in the SRC software package that runs on the C-Series Controller, there is no longer a separate application library package. If you wish to continue running your VTA on a Solaris host, use the SRC 4.1 Application Library package. The SRC 4.1 VTA is compatible with SRC 4.2.

System Software Recovery on a C Series Controller

You can now recover system software by using the USB storage device supplied with

the C Series Controller. For more information about recovering or installing system software on a C Series Controller by using the USB storage device supplied by Juniper Networks, see *Recovering or Installing System Software on a C Series Controller by Using the USB Storage Device Supplied by Juniper Networks* (available only with SRC Release 4.5 and later).



NOTE:

- Using the read-only USB storage device supplied by Juniper Networks, you can only recover the system software; whereas, by using the read/write USB storage device, you can create an installation medium and back up the system configuration.
 - To determine whether the USB storage device you received from Juniper Networks is a read-only or read/write device, contact Juniper Networks Technical Assistance Center (JTAC).
-

Features Not Fully Qualified

The SRC Release 4.2.x documentation set describes some features that are present in the code but that have not yet been fully qualified by Juniper Networks. These features will be fully tested and supported in a future release. We expect these features to operate as documented; however, if you use any of these features before they have been fully qualified, it is your responsibility to ensure that the feature operates correctly in your targeted configuration.

The following features are present but not fully qualified in this release.

JPS

- Juniper Policy Server (JPS)

JPS acts as a policy decision point (PDP) and policy enforcement point (PEP) that manages the relationships between application managers and CMTS devices in a PCMM environment.

Contact the Juniper Networks Technical Assistance Center (JTAC) for information about qualification of this feature.

Reference: TIC 13313

DMI

- Using the SRC Device Management Interface (DMI) driver and Junos Space, the SRC software can manage DMI devices connected to routers running Junos software. This feature is supported only for demonstration purposes.

Upgrading the System Software

To upgrade the system software to Release 4.2.0 from a release earlier than Release 3.2.0, you must resize the disk to support additional components and the Juniper Networks database before upgrading the software.

To upgrade the software:

1. Enter the **request system install package IPMupgrade url *url*** command, where *url* is the path to the image file.

This command resizes the disk of the C Series Controller and requires the C Series Controller to reboot twice.

2. Enter the **request system upgrade url *url*** command to upgrade the system software.

Recovering Passwords for the Juniper Networks Database

The documentation does not disclose the default passwords that the Juniper Networks database uses. If you need access to these passwords or need to recover a password, contact Juniper Networks Technical Assistance Center (JTAC) for assistance.

Migrating SDX Data to a Juniper Networks Database

If you have an existing SDX installation and want to migrate your data from the directory storing the SDX data to the Juniper Networks database on an SRC platform, contact Juniper Networks Professional Services.

Migrating Solaris-Based VTAs to the SRC VTA Running on the C Series Controller

To run both Solaris-based VTAs and SRC VTAs in SRC Release 4.2 software, the Solaris-based VTAs must be running a minimum of SRC Release 4.1 software.

If you have Solaris-based VTAs running and want to migrate to the SRC 4.2 VTA, contact Juniper Networks Professional Services for assistance in the migration.

Known Behavior

This section describes certain SRC software behaviors and related issues to emphasize how the system works.

ACP

- ANCP update information from two routers might conflict.

ACP uses the NasPortId as a unique identifier for ANCP update information stored in the remote update database. However, the NasPortId is only unique within a router so ANCP update information from two routers can conflict with each other and cause one update to overwrite the other.

Reference: TIC 16592

Aggregate Services

- If you use aggregate services and specify a primary username for a subscriber reference expression, note that the configuration scenarios provided with the NIC do not provide a mapping from a primary username to the managing SAE. Consider using the login name instead. If you want to use the primary username as the subscriber reference expression for a fragment service, contact Juniper Networks Professional Services for assistance with setting up the NIC configuration to resolve the primary username to locate the managing SAE.

Reference: None

Configuration Backups

- Save configurations in XML format for proper loading.

You must save configurations in XML format using the **save** command. Other formats, such as configurations saved in text format or the output of the **display set** command, may not load properly.

Reference: TIC 16244

Configuration Updates

- When you use the **load merge**, **load override**, or **load replace** command at any hierarchy level, the command loads all the configuration in the specified file.

If you want to load the configuration for a specified hierarchy level:

- Ensure that the file contains the **sdx:current=true** text to identify the level at which the configuration is to be loaded.
- Run a **load** command with the **relative** option at the level at which you want to update the configuration.

If a file contains configuration statements other than those at and below the level identified by **sdx:current=true**, the command disregards the other statements.

If you enter a **load** command with the **relative** option and the file does not contain the text **sdx:current=true**, you receive a message indicating that the configuration cannot be loaded.

Reference: None

Console Authentication

- Logging in after entering the wrong password the first time.

If you enter the wrong username/password combination when you log into the console, you are prompted for the LDAP password. This request is for the same password that you should have entered on your first try.

Reference: TIC 14193

Juniper Networks Database

- Recommendations for use of multiple primary Juniper Networks databases.

We recommend that you configure two to four Juniper Networks databases as primary databases in a community. If you plan to use more than two Juniper Networks databases in a primary role and expect to have frequent updates to the Juniper Networks database, we recommend that you test your application scenario with a projected traffic load. For assistance testing your application scenario, contact Juniper Networks Professional Services or JTAC.

Reference: None

- Juniper Networks databases in community mode require hostname configuration.

If you run Juniper Networks databases in community mode, all C Series Controllers that have a Juniper Networks database configured to be part of a community require hostname configuration.

You can either configure Domain Name System (DNS) and enter the controller names into DNS or configure the controller names as static hostnames in all C Series Controllers.

To configure each C Series Controller to use DNS:

1. Navigate to the **[edit system]** hierarchy level.

```
[edit]
user@host# edit system
```

2. Specify the name of a name server.

```
[edit system]
user@host# set name-server name-server
```

where **name-server** is the IP address of a DNS name server.

To configure static hostnames for each C Series Controller:

1. Navigate to the **[edit system]** hierarchy level.

```
[edit]
user@host# edit system
```

2. Specify the name of a C Series Controller as the static hostname.

```
[edit system]
user@host# set static-host-mapping host-name
```

where ***host-name*** is the fully qualified name.

- Deleting statements on platforms running a secondary Juniper Networks database.

When you delete statements from the CLI for a Juniper Networks database assigned a secondary role, you can receive a message for **ContextNotEmptyException** such as:

```
[edit]
root@golem# commit
javax.naming.ContextNotEmptyException:
ou=local,retailerName=ldapcommret1,o=users,o=UMC cannot be deleted
commit completed with the above exception(s).
commit complete.
```

Workaround: Enter the commands to delete the same statements from a Juniper Networks database assigned a primary role. Whenever you delete statements for a Juniper Networks database, do so from a Juniper Networks database assigned a primary role.

Reference: TIC 13376

Policies

- Do not disable the Juniper Networks database (jdb component) while configuring policies with the Policies, Services, and Subscribers Editor.

Workaround: Enable the Juniper Networks database and restart the CLI.

Reference: TIC 15573

- Deleting policies that are being used can cause problems.

Do not delete policies, especially default policies, that are in use.

Reference: TIC 15153

Policy Management

- Use care when modifying configurations with other policy management tools for interfaces on JunosE routers that are managed by the SRC software.

When applying policies to interfaces on JunosE routers that are managed by the SRC software, carefully consider using other policy management tools, such as CLI, RADIUS, CoA, or Service Manager. Policies that are applied to the interface before SRC management begins, such as at access-accept time, are properly replaced. However,

if other policy managers change existing policies while SRC management is active, problems can occur.

- If you have a preconfigured policy through CLI or RADIUS as part of subscriber PVC/VLAN provisioning, the existing policy becomes inactive and the SAE manages the subscriber interface. When the SAE stops managing the interface, the preconfigured policy becomes active. However, if you change the policy on the interface using CLI or CoA, problems can occur.
- If you have a policy in Access-Accept, the existing policy becomes inactive and the SAE manages the interface.

SAE

- When using VPN ID to identify subscriber sessions for MX Series routers that support the packet-triggered subscribers and policy control (PTSP) feature, the NIC and Dynamic Service Activator are not supported.

Reference: TIC 16565

- When specifying the name of a device at the **[edit shared network device]** hierarchy level, you must use lowercase characters.

Reference: TIC 14568

- SAE shared properties cannot be created until local SAE properties are edited for the configuration group.

If you want to use the configuration group for the SAE, edit the SAE shared properties at the **[edit slot 0 sae]** hierarchy level, then the group properties.

Workaround: Configure a group within the SAE. To do so:

1. At the **[edit slot 0 sae]** hierarchy level, specify a group name.

```
[edit slot 0 sae]
user@host# set shared /SAE/<group name>
user@host# commit
commit complete.
```

2. Review the local properties.

```
user@host# show
real-portal-address 10.10.4.24;
shared /SAE/<group name>
initial {
  directory-connection {
    url ldap://127.0.0.1:389/;
    principal cn=ssp,ou=Components,o=Operators,<base>;
    credentials *****;
    blacklist;
  }
  directory-eventing {
    eventing;
    polling-interval 30;
  }
}
```

```
radius {
  local-address 10.10.4.24;
  local-nas-id SAE.myCseries;
}
```

3. Change properties as needed (you must change at least one value to create the group) and commit the configuration.
4. Configure the group within a shared SAE configuration.

```
[edit]
user@host# edit shared sae group <group name>
```

Reference: TIC 12487

- Output for **show sae slot 0 statistics process** command.

If you run the **show sae slot 0 statistics process** command shortly after you start the SAE, the CLI may become inoperative.

Workaround: Wait for several minutes after you start the SAE before you run the **show sae slot 0 statistics process** command. If the CLI becomes inoperative, press Ctrl+c, wait a few seconds, and enter the command again.

Reference: TIC 13387

- During synchronization in COPS-PR mode, the JunosE router can send delete request state (DRQ) messages for interfaces for which a request (REQ) message has not been received. In this case, the SAE logs an error message similar to the following:

```
11:30:33.140 EDT 26.08.2005 [CopsHandler-15/0xAC001FCE]
[UnsolicitedMessage] [50] Unable to handle message for
unknown context: {Message type: 3,
ClientType: 24754, Handle: Handle(C-Num=1,C-Type=1,handle=0xAC001FCE)}
```

You can ignore messages similar to the one above.

Reference: TIC 10927

- The SAE sometimes prints a stack trace when a Blocks Extensible Exchange Protocol (BEEP) session is being taken down during an administrative change of address of the interface that the Junos OS uses to connect to the SAE. No data is lost in this procedure. You can safely ignore this exception.

Reference: TIC 9612

- During shutdown, the SAE sometimes logs the following stack trace to stderr. This message is harmless and can safely be ignored.

```
2004-12-24 11:35:25| java.io.InterruptedIOException
2004-12-24 11:35:29| at java.io.FileOutputStream.write(Native Method)
2004-12-24 11:35:29| at java.io.FilterOutputStream.write
(FilterOutputStream.java:60)
2004-12-24 11:35:29| at java.io.FilterOutputStream.write
(FilterOutputStream.java:108)
2004-12-24 11:35:29| at org.mortbay.util.ByteArrayISO8859Writer.writeTo
(ByteArrayISO8859Writer.java:95)
2004-12-24 11:35:29| at org.mortbay.util.OutputStreamLogSink.log
(OutputStreamLogSink.java:467)
```

```
2004-12-24 11:35:29| at org.mortbay.util.OutputStreamLogSink.log
(OutputStreamLogSink.java:445)
2004-12-24 11:35:29| at org.mortbay.util.Log.message(Log.java:297)
2004-12-24 11:35:29| at org.mortbay.util.Log.message(Log.java:232)
2004-12-24 11:35:29| at org.mortbay.util.Log.event(Log.java:248)
2004-12-24 11:35:29| at org.mortbay.util.ThreadedServer$Acceptor.run
(ThreadedServer.java:543)
```

Reference: TIC 9506

Services

- Service names are case-preserving.

Do not mix cases in service names. Make sure you use the same names when specifying the service and subscription.

Reference: TIC 14932

- Runtime parameters are not resolved when activating sample AAA policies.

Do not use the `user_ipMask` and `user_ipAddress` runtime parameters for activate-on-login services.

Reference: TIC 15181

Upgrade

- If the Java Web server is not enabled during upgrade from Release 2.1.0 to Release 3.0.0, an exception message might appear.

During the upgrade procedure, the following message sometimes appears when the Java Web server (www component) is not enabled. This message can safely be ignored.

```
Stopping WWW: done
Jul 15, 2008 11:32:53 AM org.apache.catalina.startup.Catalina stopServer
SEVERE: Catalina.stop:
java.net.ConnectException: Connection refused
    at java.net.PlainSocketImpl.socketConnect(Native Method)
    at java.net.PlainSocketImpl.doConnect(PlainSocketImpl.java:333)
    at java.net.PlainSocketImpl.connectToAddress(PlainSocketImpl.java:195)
    at java.net.PlainSocketImpl.connect(PlainSocketImpl.java:182)
    at java.net.SocksSocketImpl.connect(SocksSocketImpl.java:366)
    at java.net.Socket.connect(Socket.java:519)
    at java.net.Socket.connect(Socket.java:469)
    at java.net.Socket.<init>(Socket.java:366)
    at java.net.Socket.<init>(Socket.java:180)
    at org.apache.catalina.startup.Catalina.stopServer(Catalina.java:394)
    at sun.reflect.NativeMethodAccessorImpl.invoke0(Native Method)
    at sun.reflect.NativeMethodAccessorImpl.invoke(NativeMethodAccessorImpl.java:39)
    at
        sun.reflect.DelegatingMethodAccessorImpl.invoke(DelegatingMethodAccessorImpl.java:25)
    at java.lang.reflect.Method.invoke(Method.java:597)
    at org.apache.catalina.startup.Bootstrap.stopServer(Bootstrap.java:320)
    at org.apache.catalina.startup.Bootstrap.main(Bootstrap.java:411)
```

Reference: TIC 15179

VTA

- Previous releases of the SRC VTA provided a public Enterprise Java Bean (EJB)-based API. In the SRC 4.2.0 software release, this API has been deprecated. It may be removed in a future release. In the SRC 4.2.0 software release, the EJB-based API has been replaced with a SOAP API that provides the same functionality.

Known Problems and Limitations

This section identifies known problems and limitations in this release.

CLI

- When you make a change through the SRC CLI and then some other application like a router script also modifies the same configuration in the Juniper Networks database, the SRC CLI can display a timestamp error. For example:

```
[edit shared network device device1 virtual-router default]
host@user# commit
```

```
Detected that data node with name [virtualRouterName=default], modify time [Wed
Jun 22 10:40:27 EDT 2011] and correspondent ldap object with modify time [Wed
Jun 22 12:37:17 EDT 2011] have different timestamp. Will not perform ldap
modify operation. Will remove data node from memory.
```

If this problem occurs, you need to rollback the configuration and reconfigure your changes. To rollback the configuration, execute:

```
[edit]
host@user# rollback

rollback complete
```

Reference: TIC 17429

C-Web Interface

- Modifications to parts of the configuration tree do not appear automatically.

When editing one part of the configuration tree automatically creates modifications in other parts of the configuration tree, you must click **Refresh** to see the modifications in the other parts of the configuration tree.

Reference: TIC 13881

DMI

- Managing DMI network devices supported for demonstration only.

Using the SRC Device Management Interface (DMI) driver and Junos Space, the SRC software can manage DMI devices connected to routers running Junos software. The SRC software communicates with Junos Space using the representational state transfer (REST) over HTTP(S), and Junos Space manages the router running Junos software over the DMI. The SRC software recognizes and receives notifications for changes to DMI devices connected to the router, allowing you to offer dynamic services on those

devices. In addition, you can define and automatically provision policies for DMI devices, provide per-subscriber accounting for services on DMI devices, and develop script services for service sessions residing on DMI-managed devices. This feature is supported only for demonstration purposes.

- The SAE fails to manage the DMI network device (router).

If the management IP address is not configured under the shared DMI network device before the SAE initializes the device, the SAE is not able to pick up the deviceID from Junos Space, and fails to manage the router.

Workaround: Configure the management IP address and then restart the SAE.

Reference: TIC 17267

SAE

- If you change the mode of the Juniper Networks database from standalone to community, it may cause connection problems with the junos-ise router driver. Restart the SAE to restore the junos-ise router connection.

Reference: TIC 17913

- SAE plug-in failure queues are not processed at a rate faster than 600 events per second. This is slower than the rate new events are created for some applications on the fastest C-Series Controller platforms. If there is a failure in the connection to a plug-in, SAE plug-in failure queues may grow as long as the event input rate is greater than 600 events per second. The system will recover from this situation when the sustained event input rate drops below 600 events per second.

Reference: TIC 17915

- AAA router driver cannot deactivate service session if no accounting request has been received from the service session.

When a service is activated, the AAA router driver stores the service session by correlation id. After the service accounting message is received, the service session is re-indexed by "correlation id:acct-session-id". Subsequently when the service is deactivated, the router driver uses "correlation id:acct-session-id" to locate the service session. If the SRC misses the service start Accounting-Request, the service session is not re-indexed and the service cannot be deactivated.

A related issue is that there cannot be multiple outstanding service activation requests with the same correlation ID. An outstanding service activation request is a service that has been activated but has not yet received a service start Accounting-Request. Because service sessions in this state are indexed by correlation ID, if multiple service sessions have the same correlation ID, some service sessions can be lost. This is not relevant to JunosE devices because the correlation ID for JunosE devices is qualified by service template parameters, so each service session has a unique correlation ID. However, this is a problem for Cisco devices. Support of multiple service sessions with the same correlation ID in the same user session is not supported for Cisco devices. If you do need to activate multiple, concurrent service sessions in the same user session, you need to define multiple service templates in the device model in order to provide unique correlation IDs.

Reference: TIC 17099

SIC

- SIC does not work after upgrade.

Workaround: To correct this problem, modify the sample SIC configuration as follows:

```
database {
  plug-in-attribute {
    login-name {
      request-attribute User-Name;
    }
    property.session-id {
      variable NASAcctSessionId;
    }
    property.session-state {
      variable UserStatusType;
    }
    user-inet-address {
      request-attribute Framed-IP-Address;
    }
    vpn-id {
      literal ";";
    }
  }
}
```

Reference: TIC 17153

VTA

- Under a high lot (1000 events per second range), you may see the message below in the VTA logs. The situation indicated by this message is normal VTA operation. The VTA uses optimistic concurrency for database operations for maximum throughput and occasionally two concurrent database operations conflict. This message indicates that the second database operation failed due to changes made concurrently by the first database operation. The second operation is restarted and succeeds. This message can safely be ignored.

```
13:39:41.981 EST 06.12.2011 [Thread-421
(group:HornetQ-client-global-threads-1553688339)] [QuotaDP] [50] Failed to
update database. The transaction was rolled back. Abandoning unprocessed event.
The original error message is 'Failed to create acct in DB (will rollback and
restart event processing): jane3232569219@virneo-quota.com/PeriodicQuota:
javax.ejb.DuplicateKeyException: Entity with primary key
[.jane3232569219@virneo-quota.com.PeriodicQuota.] already exists'.
```

Reference: TIC 17915

Migration

This section provides information about migrating from earlier SRC software releases to SRC Release 4.2.0.

Migration of Active Sessions

- Migrating active service sessions when upgrading.

Migration of active sessions is not supported when upgrading to SRC Release 4.2.0 from previous releases of the SRC software. This applies to BEEP-to-BEEP upgrades, as well as BEEP-to-DMI upgrades.

Policy Changes

Starting with SRC Release 4.2.0, an action configured for a policy rule no longer requires a name to identify the action. Old configurations with a name are accepted.



NOTE: You cannot have multiple instances of the same action configured for one rule.

Migrating VTA Running on Solaris to SRC VTA Running on the C Series Controller

If you have Solaris-based VTAs running and want to migrate to the SRC 4.2 VTA, which runs on the C Series Controller, contact Juniper Networks Professional Services.

The basic procedure to migrate from Solaris-based VTAs to VTA running on SRC 4.2 C Series Controllers is:

1. Copy your VTA configuration data into the Juniper Networks database (if necessary).
2. Execute a shell script to copy the VTA configuration to a new version compatible with the SRC VTA. This script is specific to your environment. Please contact Juniper Networks Professional Services for assistance.
3. Configure and start the SRC VTA.
4. Shut down the Solaris VTA.
5. Modify the SAE EJB plug-ins to send their events to the SRC VTA.

To run both Solaris-based VTAs and SRC VTAs in SRC Release 4.2 software, the Solaris-based VTAs must be running a minimum of SRC Release 4.1 software.



NOTE: With the inclusion of the VTA in the SRC software package that runs on the C-Series Controller, there is no longer a separate application library package. If you wish to continue running your VTA on a Solaris host, use the SRC 4.1 Application Library package. The SRC 4.1 VTA is compatible with SRC 4.2.

Reference: TIC 17708

Restrictions and Recommendations

CMTS Devices

SRC Release 4.2.0 should be suitable for use with any CMTS device that implements the PacketCable Multimedia Specification (PKT-SP-MM-I02-040930).

Volume Tracking Application

The Volume Tracking Application (VTAs) have been tested with the following databases:

- MySQL version 4.0.13 (<http://www.mysql.com>) •
- Oracle Database version 9i (<http://www.oracle.com>)

RADIUS Server

Juniper Networks SRC Release 4.2.0 was tested with the following RADIUS server products:

- Juniper Networks Steel-Belted Radius/Service Provider Edition (SPE) server

Any RADIUS product compliant with RFC 2865 and RFC 2866 should be suitable for use with SRC Release 4.2.0, including the following products:

- Merit RADIUS 4.2.2
- Interlink Networks RAD-Series RADIUS Server 6.0 and later
- FreeRADIUS Server Project freeRADIUS server
- Open System Consultants Radiator

Known issues exist with Steel-Belted Radius/SPE 4.0.3 and earlier.

Web Browsers

The C-Web interface in SRC Release 4.2.0 was tested with and supports use only with the following Web browsers:

- Firefox 2.0 or later
- Internet Explorer 6.0 or later

Resolved Problems

This section lists known problems that have been resolved in the current release. For more information about resolved problems, contact JTAC.

SIC

- Updated attribute editing rules and provided format conversion for octets format of RADIUS attributes. With this change, we support binary level editing as follows.

1. When a source attribute in a dictionary is of type octets, the value of the attribute is encoded in hexadecimal format with a {hex} prefix. operations including remove-before, remove-after, remove-prefix and remove-suffix for such attributes work on their hex format. The search pattern used by the above operations must also use the hexadecimal format. For example, if the source string contains '@' and you want to remove everything after '@', the search pattern is 40, the ASCII equivalent of @.
2. The remove-before operation on an octets attribute will place the {hex} prefix after the operation. The remove-prefix operation on an octets attribute must include {hex} in the search pattern and the {hex} prefix is not added back after the operation. If you want to keep the {hex} prefix, use the remove-before operation.
3. When converting an octets type attribute to another type, the SRC software first attempts to convert it using target attribute type's binary representation. For example, the ip-address type attribute uses four octets. If the source attribute is four octets, the conversion will be successful.
4. If the binary conversion is not successful, the SRC software attempts to convert it using the printable string representation. For example, the ip-address type printable format is "x.x.x.x".
5. Conversion fails if an octets attribute value does not follow the printable format of the target attribute.

SRC Software Compatibility Matrix

Table 1 on page 22 shows which versions of the SRC software are compatible with specified versions of the Junos Software and JunosE Software.

For the most current information about supported software releases, contact JTAC.

Table 1: SRC Software Compatibility with JunosE Software and Junos Software

SRC Software Release	Tested with JunosE Release	Intended to Be Tested with JunosE Release	Tested with Junos OS Release	Intended to Be Tested with Junos OS Release
2.1.0	9.1.0p0-1		8.3	
3.0.0	9.0, 9.0.1, 9.1.1		9.0, 9.1	
3.1.0	9.2, 9.3, 10.0		9.2R3, 9.3R2, 9.4R1	
3.2.0	10.1.1, 10.2.1	10.3.0	9.4R3.5, 9.5R2.7, 9.6R1.3 ¹	10.0R1
4.0.0R3	10.3, 11.0, 11.1		10.1, 10.2 ²	

¹To use the DPI script service, SRC Release 3.2.0 was tested with Junos OS Release 9.5R4, Release 9.6R3, Release 10.0R3, and Release 10.1B3. It is intended to work with Junos OS Release 10.1R1.

²To support the PTSP feature, use Junos OS Release 10.2R1 and later.

Table 1: SRC Software Compatibility with JunosE Software and Junos Software (*continued*)

SRC Software Release	Tested with JunosE Release	Intended to Be Tested with JunosE Release	Tested with Junos OS Release	Intended to Be Tested with Junos OS Release
4.0.0R7	10.3.3, 11.3.1, 12.0.0, 12.1.1		10.3R2, 11.1R1.14 ²	
4.1.0	12.0.1, 12.1.1, 12.2.0		10.4R1.9, 11.1R1.14, 11.2 ²	
4.2.0	12.2.1, 12.3.0, 13.0.0		11.1R5.4 - 11.2R2.4 - 11.4R1.9	

¹To use the DPI script service, SRC Release 3.2.0 was tested with Junos OS Release 9.5R4, Release 9.6R3, Release 10.0R3, and Release 10.1B3. It is intended to work with Junos OS Release 10.1R1.

²To support the PTSP feature, use Junos OS Release 10.2R1 and later.

Third-Party Software

This section lists the third-party software that is included with SRC Release 4.2.0. The third-party software is required to work with certain SRC components, and Juniper Networks supports issues associated with this software.

- Apache-Axis 1.4 (<http://ws.apache.org/axis>)
- Apache-Avalon 4.1.4 (<http://avalon.apache.org>)
- Beepcore-java 0.0.08 (<http://www.beepcore.org>)
- BouncyCastle CryptoAPI 1.33 (<http://bouncycastle.org/java.html>)
- Castor 0.9-AA (<http://www.castor.org>)
- Centos 4.9 (<http://centos.org>)
- GNUPROLOG for Java (<http://gnuprologjava.sourceforge.net>)
- ini4j 0.4 (<http://ini4j.sourceforge.net>)
- JacORB 2.3.1 (<http://www.jacorb.org>)
- Jakarta Commons Collections 3.1 (<http://jakarta.apache.org/commons/collections>)
- Jakarta Struts 1.1-Beta3 (<http://jakarta.apache.org/struts/index.html>)
- jax 0.0.15 (<http://www.ibr.cs.tu-bs.de/projects/jasmin/jax.html>)
- JBoss J2EE Server 4.2.1.GA (<http://jboss.org>)
- JDBM 0.12 (<http://jdbm.sourceforge.net>)
- Jersey 1.4 (<http://jersey.java.net>)
- JETTY 4.2.6 (<http://jetty.mortbay.org>)
- Jython 2.2 (<http://www.jython.org>)

- libart_lgpl 2.3.16-3 (http://www.linuxfromscratch.org/blfs/view/svn/general/libart_lgpl.html)
- libpng 1.2.7-3 (<http://www.libpng.org/pub/png/libpng.html>)
- mozilla rhino javascript engine 1.5 (<http://www.mozilla.org/rhino>)
- MySQL Cluster 7.1 (<http://www.mysql.com/products/cluster>)
- NetSNMP 5.4.1 (<http://www.net-snmp.org>)
- OmniORB 4.0.7 (<http://omniorb.sf.net>)
- omniORBpy-2.7 (<http://omniorb.sf.net>)
- OpenJDK 1.6.0 (<http://openjdk.java.net>)
- perl-Config-General 2.38-1 (<http://search.cpan.org/dist/Config-General/General.pm>)
- perl-RRD-Simple 1.44-1 (<http://search.cpan.org/dist/RRD-Simple>)
- perl-rrdtool 1.2.23-1 (<http://rpmfind.net/linux/rpm2html/search.php?query=perl-rrdtool>)
- PYSNMP (<http://pysnmp.sourceforge.net>)
- RRD Tool 1.2.23-3 (<http://oss.oetiker.ch/rrdtool>)
- RRD Bot 0.9 (<http://memberwebs.com/stef/software/rrdbot>)

SRC Documentation and Release Notes

For a list of related SRC documentation, see

http://www.juniper.net/techpubs/en_US/release-independent/src/information-products/pathway-pages/c-series/product/index.html.

If the information in the latest release notes differs from the information in the documentation, follow the *SRC PE Release Notes*.

To obtain the most current version of all Juniper Networks[®] technical documentation, see the product documentation page on the Juniper Networks website at

<http://www.juniper.net/techpubs/>.

Documentation Feedback

We encourage you to provide feedback, comments, and suggestions so that we can improve the documentation. You can send your comments to techpubs-comments@juniper.net, or fill out the documentation feedback form at <https://www.juniper.net/cgi-bin/docbugreport/>. If you are using e-mail, be sure to include the following information with your comments:

- Document or topic name
- URL or page number
- Software release 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 JNASC 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 <http://www.juniper.net/customers/support/downloads/710059.pdf>.
- Product warranties—For product warranty information, visit <http://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: <http://www.juniper.net/customers/support/>
- Search for known bugs: <http://www2.juniper.net/kb/>
- Find product documentation: <http://www.juniper.net/techpubs/>
- Find solutions and answer questions using our Knowledge Base: <http://kb.juniper.net/>
- Download the latest versions of software and review release notes: <http://www.juniper.net/customers/csc/software/>
- Search technical bulletins for relevant hardware and software notifications: <https://www.juniper.net/alerts/>
- Join and participate in the Juniper Networks Community Forum: <http://www.juniper.net/company/communities/>
- Open a case online in the CSC Case Management tool: <http://www.juniper.net/cm/>

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

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 <http://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 <http://www.juniper.net/support/requesting support.html>.

Revision History

December 2011—Revision 1, SRC Release 4.2.0

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