



SRC-PE Software

CLI Command Reference, Volume 1

Release 1.0.x

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About This Guide

This preface provides the following guidelines for using the *SRC-PE Software CLI Command Reference, Volume 1*.

- Objectives on page v
- Audience on page v
- Documentation Conventions on page vi
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Objectives

This guide provides information about the Session and Resource Control (SRC) command-line interface (CLI). It describes commands and configuration statements for the supported SRC components.



NOTE: If the information in the latest *SRC Release Notes* differs from the information in this guide, follow the *SRC Release Notes*.

Audience

This guide is intended for experienced system and network specialists working with JUNOS routers and JUNOS routing platforms in an Internet access environment. We assume that readers know how to use the routing platforms, directories, and RADIUS servers that they will deploy in their SRC networks. For users who deploy the SRC software on a Solaris platform, we also assume that readers are familiar with the Lightweight Directory Access Protocol (LDAP) and the UNIX operating system.

If you are using the SRC software in a cable network environment, we assume that you are familiar with the *PacketCable Multimedia Specification* (PCMM) as defined by Cable Television Laboratories, Inc. (CableLabs) and with the Data-over-Cable Service Interface Specifications (DOCSIS) 1.1 protocol. We also assume that you are familiar with operating a multiple service operator (MSO) multimedia-managed IP network.

Documentation Conventions

Table 1 defines notice icons used in this guide. Table 2 defines text conventions used throughout the documentation.

Table 1: Notice Icons




Icon	Meaning	Description
	Informational note	Indicates important features or instructions.
	Caution	Indicates a situation that might result in loss of data or hardware damage.
	Warning	Alerts you to the risk of personal injury.

Table 2: Text Conventions

Convention	Description	Examples
Bold typeface	<ul style="list-style-type: none"> Represents keywords, scripts, and tools in text. Represents a GUI element that the user selects, clicks, checks, or clears. 	<ul style="list-style-type: none"> Specify the keyword exp-msg. Run the install.sh script. Use the pkgadd tool. To cancel the configuration, click Cancel.
Bold sans serif typeface	Represents text that the user must type.	<code>user@host# set cache-entry-age cache-entry-age</code>
Monospace sans serif typeface	Represents information as displayed on your terminal's screen, such as CLI commands in output displays.	<pre>nic-locators { login { resolution { resolver-name /realms/login/A1; key-type LoginName; value-type SaeId; } } }</pre>
Regular sans serif typeface	<ul style="list-style-type: none"> Represents configuration statements. Indicates SRC CLI commands and options in text. Represents examples in procedures. Represents URLs. 	<ul style="list-style-type: none"> <code>system ldap server {</code> <code>stand-alone;</code> Use the <code>request sae modify device failover</code> command with the <code>force</code> option. <code>user@host# . . .</code> http://www.juniper.net/techpubs/software/management/sdx/api-index.html
<i>Italic sans serif typeface</i>	Represents variables in SRC CLI commands.	<code>user@host# set local-address local-address</code>
Angle brackets	In text descriptions, indicate optional keywords or variables.	Another runtime variable is <code><gfwif></code> .
Key name	Indicates the name of a key on the keyboard.	Press Enter.

Table 2: Text Conventions (continued)

Convention	Description	Examples
Key names linked with a plus sign (+) .	Indicates that you must press two or more keys simultaneously.	Press Ctrl + b.
<i>Italic typeface</i>	<ul style="list-style-type: none"> ■ Emphasizes words. ■ Identifies chapter, appendix, and book names. ■ Identifies distinguished names. ■ Identifies files, directories, and paths in text but not in command examples. 	<ul style="list-style-type: none"> ■ There are two levels of access: <i>user</i> and <i>privileged</i>. ■ <i>Chapter 2, Services</i>. ■ <i>o = Users, o = UMC</i> ■ The <i>/etc/default.properties</i> file.
Backslash	At the end of a line, indicates that the text wraps to the next line.	Plugin.radiusAcct-1.class = \net.juniper.smgt.sae.plugin\RadiusTrackingPluginEvent
Words separated by the symbol	Represent a choice to select one keyword or variable to the left or right of this symbol. (The keyword or variable may be either optional or required.)	diagnostic line

Related Juniper Networks Documentation

With each SRC software release, we provide the *SRC Documentation CD*, which contains the documentation described in Table 3.

With each SRC Application Library release, we provide the *SRC Application Library CD*. This CD contains both the software applications and the *SRC Application Library Guide*.

The C-Web interface, which is based on the J-Web interface, is available for monitoring C-series platforms and the SRC software. For general information about the J-Web interface, see the *J-Web Interface User Guide*.

A complete list of abbreviations used in this document set, along with their spelled-out terms, is provided in the *SRC Getting Started Guide*.

Table 3: Juniper Networks C-series and SRC Technical Publications

Document	Description
Core Documentation Set	
<i>C-series Hardware Guide</i>	Describes the hardware platforms and how to install, maintain, replace, and troubleshoot them. The guide also includes specifications.
<i>SRC-PE Getting Started Guide</i>	Describes the SRC software and explains how to set up an initial configuration and manage a C-series platform. The guide describes how to set up and start the SRC CLI and C-Web, as well as other SRC configurations. It provides information about setting up an initial SRC configuration on a Solaris platform. The guide also describes how to upgrade the SRC software and how to use the SRC configuration tools. It includes reference material for the SRC documentation.
<i>SRC-PE CLI User Guide</i>	Describes how to use the SRC CLI, configure and monitor the platform with the CLI, and control the CLI environment. The guide also describes how to manage SRC components with the CLI.
<i>SRC-PE Network Guide: SAE, Juniper Networks Routers, and NIC</i>	Describes how to use and configure the SAE and the NIC. This guide also provides detailed information for using JUNOS routers and JUNOS routing platforms in the SRC network.
<i>SRC-PE Integration Guide: Network Devices, Directories, and RADIUS Servers</i>	Describes how to integrate external components—network devices, directories, and RADIUS servers—into the SRC network. The guide provides detailed information about integrating specific models of the external components.
<i>SRC-PE Services and Policies Guide</i>	Describes how to work with services and policies. The guide provides an overview, configuration procedures, and management information. The guide also provides information about the SRC tools for configuring policies.
<i>SRC-PE Subscribers and Subscriptions Guide</i>	Describes how to work with residential and enterprise subscribers and subscriptions. The guide provides an overview, configuration procedures, and management information. This guide also provides information about the sample residential portals and enterprise service portals, including the Enterprise Manager Portal.
<i>SRC-PE Monitoring and Troubleshooting Guide</i>	Describes how to use logging, the SNMP agent, the SRC CLI, and the C-Web interface to monitor and troubleshoot SRC components. This guide also describes the SNMP traps.
<i>SRC-PE Solutions Guide</i>	Provides high-level instructions for SRC implementations. The guide documents the following scenarios: managing QoS services on JUNOS routers; managing subscribers in a wireless roaming environment; providing voice over IP (VoIP) services; integrating the SRC software in a PCMM environment, including the use of the Juniper Policy Server (JPS); mirroring subscriber traffic on JUNOS routers; demonstrating network resource management features in a sample IP television (IPTV) application; and demonstrating the integration of prepaid services in a sample application.
<i>SRC-PE CLI Command Reference, Volume 1</i> <i>SRC-PE CLI Command Reference, Volume 2</i>	Together constitute information about command and statement syntax; descriptions of commands, configuration statements, and options; editing level of statement options; and a history of when a command was added to the documentation.
<i>SRC-PE Comprehensive Index</i>	Provides a complete index of the SRC guides, excluding the <i>C-series Hardware Guide</i> and the <i>SRC CLI Command Reference</i> .
<i>J-Web User Interface Guide</i>	Provides general information about the J-Web interface.

Table 3: Juniper Networks C-series and SRC Technical Publications (continued)

Document	Description
Application Library	
<i>SRC Application Library Guide</i>	Describes how to install and work with applications that you can use to extend the capabilities of the SRC software. The guide documents the following applications: SRC-SG (SOAP Gateway) Web applications, applications to integrate the Juniper Networks Intrusion Detection and Protection (IDP) software into an SRC-managed environment, an application to provide endpoint security by integrating Juniper Networks Instant Virtual Extranet (IVE) Host Checker, a traffic-mirroring Web application, an application to integrate IP address managers with the SAE, an application to provide tracking and QoS control at the application level by integrating the SRC software with the Ellacoya deep packet inspection (DPI) platform, an application to control volume usage, and the SRC-ACP (Admission Control Plug-In) application.
Release Notes	
<i>SRC-PE Release Notes</i> <i>SRC Application Library Release Notes</i>	In the <i>Release Notes</i> , you will find the latest information about features, changes, known problems, resolved problems, supported platforms and network devices (such as Juniper Networks routers and CMTS devices), and third-party software. If the information in the <i>Release Notes</i> differs from the information found in the documentation set, follow the <i>Release Notes</i> . Release notes are included in the corresponding software distribution and are available on the Web.

Obtaining Documentation

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SRC CLI

This document summarizes the SRC command-line interface (SRC CLI).

Configuration statements and operational commands are listed in alphabetical order for the following components in the *SRC-PE CLI Command Reference, Volume 1*:

- CLI and System
- Juniper Networks Database
- SAE
- Network Information Collector (NIC)
- SNMP Agent
- Juniper Policy Server (JPS)

Configuration statements and operational commands are listed in alphabetical order for the following components in the *SRC-PE CLI Command Reference, Volume 2*:

- Service CLI
- Policy CLI
- Subscriber CLI
- Redirect Server
- SRC Admission Control Plug-In (SRC-ACP)

CLI and System

The following table summarizes the SRC command-line interface (SRC CLI) for controlling and using the SRC CLI environment and for managing the C-series platform. Configuration statements and operational commands are listed in alphabetical order.

- [Configuration commands and statements](#)
- [Filter commands](#)
- [Operational commands](#)

CLI and System
Configuration Commands and Statements
commit
delete
edit
exit
help
help configuration
history
insert
interfaces
interfaces name unit
interfaces name unit unit-number family inet
interfaces name unit unit-number tunnel
load factory-default
load merge
load override
load replace
load set

rename
rollback
routing-options static route
run
save
set
show
slot
system
system ldap client
system login
system login class
system login user
system login user user-name authentication
system ntp
system ntp authentication-key
system ntp broadcast
system ntp multicast-client
system ntp peer
system ntp server
system radius-server
system services
system services editor
system services netconf
system services ssh
system services web-management http

system services web-management https
system services web-management logger
system services web-management logger name file
system services web-management logger name syslog
system syslog file
system syslog file file-name
system syslog host
system syslog host log-host-name
system syslog user
system syslog user user-name
system tacplus-server
top
up
Filter Commands
count
display changed
display xml
except
find
last
match
no-more
save
Operational Commands
clear security certificate-request
clear security certificate

clear security ssh
configure
disable
enable
exit
file archive
file checksum md5
file compare
file copy
file delete
file list
file rename
file show
ping
request disk disable
request disk enable
request disk identify
request disk initialize
request license import
request network discovery
request security enroll
request security generate-certificate-request
request security get-ca-certificate
request security import-certificate
request system halt
request system install

request system reboot
request system restore
request system snapshot
request system uninstall
request system upgrade
restart
set cli complete-on-space
set cli directory
set cli language
set cli level
set cli password
set cli prompt
set cli screen-length
set cli screen-width
set cli terminal
set date
set date ntp
show cli
show cli authorization
show cli directory
show cli level
show component
show configuration
show date
show disk status

show interfaces
show iptables
show ntp associations
show ntp statistics
show ntp status
show route
show security certificate
show system boot-messages
show system information
ssh
start shell
telnet
traceroute

commit

Syntax

```
commit <check> <and-quit>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Commit the set of changes and cause the changes to take operational effect.

Options

`check`—(Optional) Verify whether the syntax is correct, but do not apply changes.

`and-quit`—(Optional) Exit from configuration mode if the commit operation is successful.

Required Privilege Level

config-control

delete

Syntax

```
delete < object value >
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Delete a configuration statement or identifier. All subordinate statements and identifiers contained within the specified statement path are deleted with it.

Options

object— Name of the statement or identifier to delete.

Value—Path of a configuration object

value— Value of the statement to delete.

Value—Valid value for selected object

Required Privilege Level

config-control

edit

Syntax

```
edit object
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Specify edit level in the configuration hierarchy. This command lets you go directly to the specified edit level; for example, to [edit system login]. If you specify a path to a level that does not exist, the software creates the path for you. If you navigate to a different level without creating other statements (for example, by using a top, up, or exit command), the configuration statement may be deleted.

To edit the configuration statement to which you navigated by using the edit command, use the set, delete, rename, or insert commands.

Options

object — Edit level; for example, edit system login.

Required Privilege Level

No specific privilege required.

exit

Syntax

```
exit <configuration-mode>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Exit from this level in the CLI to the level above. At the top level in configuration mode, exit from configuration mode.

Alias

quit

Options

`configuration-mode`—(Optional) Exit from configuration mode.

Required Privilege Level

No specific privilege required.

help

Syntax

help <command>

Release Information

Command introduced in SRC Release 1.0.0

Description

Display help about commands. Enter help followed a command name to view information.

Options

command—(Optional) Name of command for which to display help help text.

Value—Operational command

Required Privilege Level

No specific privilege required.

help configuration

Syntax

```
help configuration <object>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display help for a configuration statement. Enter help followed by the statement to view information.

Options

object—(Optional) Configuration statement or object for which to provide help.

Value—Path of a configuration object

Required Privilege Level

No specific privilege required.

history

Syntax

```
history <clear>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display the list of the commands executed—from least recent to most recent.

Options

`clear`—(Optional) Clear command history.

Required Privilege Level

No specific privilege required.

insert

Syntax

```
insert parent identifier1 (after | before) identifier2
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Insert an identifier into an existing configuration hierarchy. You must configure the identifiers before you reorder them. The insert command does not create new identifiers.

Options

parent— Path in the configuration hierarchy to an existing configuration statement.

Value— Hierarchy path

identifier1— Existing identifier.

Value— Name of existing identifier

Ordering of identifiers.

Value

- after— Place *identifier1* after *identifier2*.
- before— Place *identifier1* before *identifier2*.

identifier2— New identifier to insert.

Value— Valid value for selected object

Required Privilege Level

config-control

interfaces

Syntax

```
interfaces name ...
```

Hierarchy Level

```
[edit interfaces]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure interfaces on the C-series platform.

Options

name *name*— Name of interface

Value— Interface name

Required Privilege Level

interface

Required Editing Level

Basic

interfaces *name* unit

Syntax

```
interfaces name unit unit-number ...
```

Hierarchy Level

```
[edit interfaces name unit]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure logical interfaces on a physical Ethernet interface on the C-series platform. You can create different units to configure numerous IP addresses on an interface.

Options

unit-number *unit-number*— Number of the unit (logical interface).

Value—Integer in the range 0–16385

Required Privilege Level

interface

Required Editing Level

Basic

interfaces *name* unit *unit-number* family inet

Syntax

```
interfaces name unit unit-number family inet {
    address address;
    broadcast broadcast;
}
```

Hierarchy Level

```
[edit interfaces name unit unit-number family inet]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure properties for IPv4.

Options

`address address`—(Optional) IP address with destination prefix for interface.

Value— IP address/destination prefix

Default— No value

Editing Level—Basic

`broadcast broadcast`—(Optional) Broadcast address.

Value—IP address

Default— No value

Editing Level—Basic

Required Privilege Level

interface

Required Editing Level

Basic

interfaces *name* unit *unit-number* tunnel

Syntax

```
interfaces name unit unit-number tunnel {
    mode (ipip | gre);
    destination destination;
    source source;
    key key;
    interface interface;
    ttl ttl;
}
```

Hierarchy Level

```
[edit interfaces name unit unit-number tunnel]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a tunnel interface. A tunnel allows direct connection between a remote location and an application running on the C-series platform; a tunnel let's you use the redirect server in deployments where the JUNOS router does not have a direct connection to the C-series platform.

Options

`mode (ipip | gre)`— Type of tunnel interface.

Value

- `ipip`— IP-over-IP. Encapsulates IP packets within IP packets.
- `gre`— GRE. Encapsulates traffic that uses various routing protocols within IP.

Default— No value

Editing Level—Basic

`destination destination`— IP address of the remote end of the tunnel.

Value—IP address
Default— No value
Editing Level—Basic

source *source*—(Optional) Local IP address, that will not change, to receive tunneled packets. If you specify a source address, also specify a local interface.

Value—IP address
Default— No value
Editing Level—Basic

key *key*—(Optional) For a GRE tunnel, a GRE key.

Value—Integer in the range -2147483648–2147483647
Default— No value
Editing Level—Basic

interface *interface*—(Optional) Existing physical interface. If you configured a source address, specify an interface.

Value— Name of interface.

Example: eth0

Default— No value
Editing Level—Basic

ttl *ttl*—(Optional) Lifetime of tunneled packets.

Value—Integer in the range 1–255
Editing Level—Basic

Required Privilege Level

interface

Required Editing Level

Basic

load factory-default

Syntax

```
load factory-default
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Load the default configuration supplied with the SRC software.

Required Privilege Level

config-control

load merge

Syntax

```
load merge <filename> <relative>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Combine the configuration that is currently shown in the CLI and the configuration in the specified file.

Options

filename—(Optional) Path and filename of the file on the C-series platform to load.

Value— Complete filename on the C-series platform *path/filename*.

relative—(Optional) Hierarchy level relative to the current location.

Required Privilege Level

config-control

load override

Syntax

```
load override <filename>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Discard the entire configuration that is currently shown in the CLI, and load the entire configuration in the specified file. The statement also marks every object as changed.

Options

filename—(Optional) Path and filename of the file on the C-series platform to load.

Value— Complete filename on the SRC platform *path/filename*.

Required Privilege Level

config-control

load replace

Syntax

```
load replace <filename> <relative>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Replace identifiers or values in a configuration.

Options

filename—(Optional) Path and filename of the file on the C-series platform to load.

Value— Complete filename on the C-series platform *path/filename*.

relative—(Optional) Hierarchy level relative to the current location.

Required Privilege Level

config-control

load set

Syntax

```
load set <filename> <relative>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Execute the set of commands listed in the specified file.

Options

filename—(Optional) Path and filename of the file on the C-series platform to load.

Value— Complete filename on the C-series platform *path/filename*.

relative—(Optional) Hierarchy level relative to the current location.

Required Privilege Level

config-control

rename

Syntax

```
rename parent identifier1 (to) identifier2
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Rename an existing configuration statement or identifier.

Options

parent— Path to an existing configuration statement or identifier.

Value—Path of a collection object

identifier1— Existing identifier or statement.

Value— Identifier or statement

Configuration path.

Value

- to— Transition.

identifier2— New identifier or statement.

Value—Valid value for selected object

Required Privilege Level

config-control

rollback

Syntax

```
rollback
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Return to a previously committed configuration.

Note: You can enter the rollback command only at the top level of the configuration hierarchy.

Required Privilege Level

config-control

routing-options static route

Syntax

```
routing-options static route destination {
    next-hop next-hop;
    reject;
}
```

Hierarchy Level

```
[edit routing-options static route]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure static routes to point to routers that connect to other networks to allow connectivity to devices on other networks.

Options

destination destination—Destination network and mask. To configure the default route use destination 0.0.0.0/0

Value—Text

next-hop next-hop—(Optional) Address of next hop from the C-series platform to the destination.

Value—IP address
 Default—No value
 Editing Level—Basic

reject—(Optional) Drop packets to the specified destination, and send an ICMP unreachable message.

Editing Level—Basic

Required Privilege Level

routing

Required Editing Level

Basic

run

Syntax

run command

Release Information

Command introduced in SRC Release 1.0.0

Description

Run an operational mode command without exiting from configuration mode.

Options

command— Name of command to run.

Value—Operational command

Required Privilege Level

No specific privilege required.

save

Syntax

```
save <filename>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Save the configuration to an ASCII file. The contents of the current level of the statement hierarchy and below are saved, along with the statement hierarchy containing it.

Options

filename—(Optional) Name of file to contain the saved configuration.

Value— One of the following:

- Local filename, including path— *path/file*.
- File URL.
- FTP format—*ftp://username@hostname/ filename* or *ftp://username:password @hostname/filename*. (Note: Password appears at the CLI in clear text.)

Required Privilege Level

view

set

Syntax

set object value

Release Information

Command introduced in SRC Release 1.0.0

Description

Create a statement hierarchy and set identifier values. When you enter a set command, the current level in the hierarchy does not change.

Options

object— Configuration statement or identifier

Value—Path of a configuration object

value— Value configured for a configuration statement.

Value—Valid value for selected object

Required Privilege Level

config-control

show

Syntax

```
show <object>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display information about a configuration object.

Options

object—(Optional) Configuration object for which to display information. The object can be a configuration statement or an identifier for a statement.

Value—Path of a configuration object

Required Privilege Level

config-view

slot

Syntax

`slot number ...`

Hierarchy Level

`[edit slot]`

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure slot number for component.

Options

`number number`— Number of the slot for which you want to configure values.

Value— Currently, the chassis has only one slot. The valid value is 0.

Required Privilege Level

system

Required Editing Level

Basic

system

Syntax

```
system {
    host-name host-name;
    domain-name domain-name;
    domain-search [domain-search...];
    name-server [name-server...];
    authentication-order [(radius | tacplus | password)...];
    time-zone time-zone;
}
```

Hierarchy Level

```
[edit system]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure system properties.

Options

`host-name host-name`—Hostname for the C-series platform.

Value— `hostname`
 Default— `No value`
 Editing Level—Basic

`domain-name domain-name`—(Optional) Name of the domain in which the C-series platform is located. This is the default domain name that is appended to hostnames that are not fully qualified.

Note: You can specify the `domain-name` option or the `domain-search` option, but not both.

Value— `domain name`
 Default— `No value`
 Editing Level—Basic

`domain-search [domain-search...]`—(Optional) List of domains to search.

Value— *domain-name, domain-name,...*

Default— No value

Editing Level—Basic

`name-server [name-server...]`—(Optional) Domain name server(s).

Value— *name-server, name-server,...*

Default— No value

Editing Level—Basic

`authentication-order [(radius | tacplus | password)...]`—(Optional)
Order in which the software tries different user authentication methods when attempting to authenticate a user. For each login attempt, the software tries the authentication methods in order configured, until the password matches.

Value

- `radius`—RADIUS authentication
- `tacplus`—TACACS+ authentication services
- `password`—Traditional password authentication

Editing Level—Basic

`time-zone time-zone`—(Optional) Name of the local time zone.

Value— *time-zone*

Default—UTC

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

system ldap client

Syntax

```
system ldap client {
    base-dn base-dn;
    url url;
    backup-urls [backup-urls...];
    principal principal;
    credentials credentials;
    timeout timeout;
    time-limit time-limit;
    eventing;
    polling-interval polling-interval;
    connection-manager-id connection-manager-id;
    dispatcher-pool-size dispatcher-pool-size;
    event-base-dn event-base-dn;
    signature-dn signature-dn;
    blacklist;
}
```

Hierarchy Level

```
[edit system ldap client]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure directory properties used by the CLI to connect to the directory that contains SRC data.

On a C-series platform, you use the Juniper Networks database and typically use the default configuration for the directory connection. You can add backup directories and change the password to the directory.

Options

base-dn base-dn—(Optional) DN of the root directory for SRC components and applications.

Value— DN

Default—o = UMC

Editing Level—Basic

`url url`—(Optional) URL that identifies the location of the primary directory server.

Value— URL
 Default—`ldap://127.0.0.1:389`
 Editing Level—Basic

`backup-urls [backup-urls . . .]`—(Optional) URLs that identify the locations of backup directory servers. Backup servers are used if the primary directory server is not accessible.

Value— URL
 Default— No value
 Editing Level—Basic

`principal principal`—(Optional) DN that defines the username with which an SRC component accesses the directory.

Value— DN
 Default—`cn = conf,o = Operators, < base >`
 Editing Level—Basic

`credentials credentials`—(Optional) Password used for authentication with the directory server.

Value—Secret text
 Default—`conf`
 Editing Level—Basic

`timeout timeout`—(Optional) Maximum amount of time during which the directory must respond to a connection request.

Value—Integer in the range 0–600 s
 Default— No value
 Editing Level—Expert

`time-limit time-limit`—(Optional) The number of milliseconds to wait for directory results before returning. If set to 0, wait indefinitely.

Value—Integer in the range 0–2147483647 ms
 Default— 5000
 Editing Level—Expert

`eventing`—(Optional) Enable an SRC component to poll the directory for changes.

Default—TRUE

Editing Level—Normal

`polling-interval` *polling-interval*—(Optional) Interval at which an SRC component polls the directory to check for directory changes.

Value—Integer in the range 15–86400 s

Default— No value

Editing Level—Normal

`connection-manager-id` *connection-manager-id*—(Optional) CLI identifier of the connection manager for the directory eventing system (within the JNDI framework).

Value— Identifier for connection manager

Example—DIRAGENT_POOL_VR

Editing Level—Expert

`dispatcher-pool-size` *dispatcher-pool-size*—(Optional) Number of directory change notifications that can be sent simultaneously to the SRC component.

Value—Integer in the range 0–2147483647

Editing Level—Expert

`event-base-dn` *event-base-dn*—(Optional)

DN of an entry superior to the data associated with an SRC component in the directory.

If you are storing non-SRC data in the directory, and that data changes frequently whereas the SRC data does not, you may need to adjust the default value to improve performance. For optimal performance, set the value to the DN of an entry superior to both the SRC data and the changing non-SRC data.

Value— DN

Default— o = umc, < base >

Editing Level—Expert

`signature-dn` *signature-dn*—(Optional) DN of the directory entry that specifies the

`usedDirectory` attribute for the SRC CLI. The `usedDirectory` attribute identifies the vendor of the directory server.

Value— DN

Editing Level—Expert

`blacklist`—(Optional) Specifies whether the directory monitoring system prevents connection to a directory if the directory fails to respond during 10 polling intervals.

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

system login

Syntax

```
system login {
    announcement announcement;
}
```

Hierarchy Level

```
[edit system login]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure system announcement to be displayed at user login.

Options

`announcement announcement`—(Optional) Announcement displayed to every user after login.

Value— Announcement text

Default— No value

Editing Level—Basic

Required Privilege Level

system admin

Required Editing Level

Basic

system login class

Syntax

```
system login class name {
    allow-commands allow-commands;
    allow-configuration allow-configuration;
    deny-commands deny-commands;
    deny-configuration deny-configuration;
    idle-timeout idle-timeout;
    permissions [(admin | admin-control | all | clear | configure | control |
field | firewall | firewall-control | interface | interface-control |
maintenance | network | reset | routing | routing-control | secret | secret-
control | security | security-control | shell | snmp | snmp-control | system |
system-control | view | view-configuration | service | service-control |
subscriber | subscriber-control)...];
}
```

Hierarchy Level

```
[edit system login class]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Define login classes. You can define any number of login classes.

Options

name name— Name that you choose for a login class.

Value— Name

allow-commands allow-commands—(Optional) Operational mode commands that members of a login class can use.

If you omit this statement and the deny-commands statement, users can issue only those commands for which they have access privileges through the permissions statement.

You can use an extended (modern) regular expression as defined in POSIX 1003.2. If the regular expression contains any spaces, operators, or wildcard characters, enclose it in

quotation marks.

Value— Operational-mode commands to allow

Default— No value

Editing Level—Basic

`allow-configuration` *allow-configuration*—(Optional) Configuration mode commands that members of a login class can use.

If you omit this statement and the `deny-configuration` statement, users can issue only those commands for which they have access privileges through the `permissions` statement

You can use an extended (modern) regular expression as defined in POSIX 1003.2. If the regular expression contains any spaces, operators, or wildcard characters, enclose it in quotation marks.

Value— Configuration-mode commands to allow

Default— No value

Editing Level—Basic

`deny-commands` *deny-commands*—(Optional) Operational mode commands that the user is denied permission to issue, even though the `permissions` set with the `permissions` statement would allow it.

If you omit this statement and the `allow-commands` statement, users can issue only those commands for which they have access privileges through the `permissions` statement.

You can use an extended (modern) regular expression as defined in POSIX 1003.2. If the regular expression contains any wildcard characters, enclose it in quotation marks.

Value— Operational mode commands to deny

Default— No value

Editing Level—Basic

`deny-configuration` *deny-configuration*—(Optional) Configuration mode commands that the user is denied permission to issue, even though the `permissions` set with the `permissions` statement would allow it.

If you omit this statement and the `allow-configuration` statement, users can issue only those commands for which they have access privileges through the `permissions` statement.

You can use extended (modern) regular expression as defined in POSIX 1003.2. If the regular expression contains any spaces, operators, or wildcard characters, enclose it in quotation marks.

Value— Configuration mode commands to deny

Default— No value

Editing Level—Basic

`idle-timeout` *idle-timeout*—(Optional) Maximum amount of time that a session can be idle before the user is logged off the C-series platform. The session times out after remaining at the CLI operational mode prompt for the specified time.

If you omit this statement, a user is never forced off the system after extended idle times.

Value— Number of minutes

Default— No value

Editing Level—Basic

`permissions [(admin | admin-control | all | clear | configure | control | field | firewall | firewall-control | interface | interface-control | maintenance | network | reset | routing | routing-control | secret | secret-control | security | security-control | shell | snmp | snmp-control | system | system-control | view | view-configuration | service | service-control | subscriber | subscriber-control) ...]`—(Optional) Access privileges for each login class.

Value

- `admin`— Can view user account information in configuration mode and with the `show configuration` command.
- `admin-control`— Can view user accounts and configure them (at the [edit system login] hierarchy level).
- `all`— Has all permissions.
- `clear`— Can clear (delete) information learned from the network that is stored in various network databases (by using the `clear` commands).
- `configure`— Can enter configuration mode (by using the `configure` command).
- `control`— Can modify any configuration values.
- `field`— Reserved for field (debugging) support.
- `firewall`— Can view the firewall filter configuration in configuration mode.
- `firewall-control`— Can view and configure firewall filter information.
- `interface`— Can view the interface configuration in configuration mode and with the `show configuration operational mode` command.
- `interface-control`— Can modify interface configuration.
- `maintenance`— Can perform system maintenance, including starting a local shell on a C-series platform, and can halt and reboot a C-series platform (by using the `request system`

commands).

- **network**— Can access the network by entering commands such as SSH or Telnet.
- **reset**— Can restart software processes by using the `restart` command and can configure whether software processes are enabled or disabled.
- **routing**— Can view routing information in configuration and operational modes.
- **routing-control**— Can view general routing information and modify routing configuration.
- **secret**— Can view passwords and other authentication keys in the configuration.
- **secret-control**— Can view passwords and other authentication keys in the configuration and can modify them in configuration mode.
- **security**— Can view security configuration in configuration mode and with the `show configuration operational mode` command.
- **security-control**— Can view security configuration in configuration mode and with the `show configuration operational mode` command.
- **shell**— Can start a local shell on the router by entering the `start shell` command.
- **snmp**— Can view SNMP configuration information in configuration and operational modes.
- **snmp-control**— Can view SNMP configuration information and configure SNMP (at the `[edit snmp]` hierarchy level).
- **system**— Can view system-level information in configuration and operational modes.
- **system-control**— Can view and configure system-level configuration information.
- **view**— Can use various commands to display current system-wide values and statistics.
- **view-configuration**— Can view all system configuration, excluding any secret configurations.
- **service**— Can view service and policy definitions.
- **service-control**— Can view and configure service definitions and policy definitions.
- **subscriber**— Can view information about subscriber definitions.
- **subscriber-control**— Can view and configure information about subscriber definitions.

Editing Level—Basic

Required Privilege Level

system admin

Required Editing Level

Basic

system login user

Syntax

```
system login user user-name {
    class class;
    full-name full-name;
    uid uid;
    gid gid;
    prompt prompt;
    level (basic | normal | advanced | expert);
    complete-on-space (on | off);
}
```

Hierarchy Level

```
[edit system login user]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure access permissions for individual users.

Options

user-name user-name— Username that is used to log in to a C-series platform.

Value— Username

class class— User's login class. Configure one class for each user. The class referenced must already be configured.

Value— Class-name

Editing Level—Basic

full-name full-name— Full name of the user. If the name contains spaces, enclose it in quotation marks.

Value— Name

Editing Level—Basic

`uid uid`— User identifier for the login account.

Value—Integer in the range 0–64000

Editing Level—Basic

`gid gid`— Group identifier for the login account.

Value—Integer in the range 0–64000

Editing Level—Basic

`prompt prompt`—(Optional) Default prompt that this user sees at the SRC CLI.

Value— Prompt-text

Editing Level—Basic

`level (basic | normal | advanced | expert)`—(Optional) Editing level available to the user. The setting for the editing level determines which configuration commands are visible to the user.

Value

- `basic`— Minimal set of configuration statements and commands— only the statements that must be configured are visible.
- `normal`— Normal set of configuration statements and commands— the common and basic statements are visible.
- `advanced`— All configuration statements and commands, including the common and basic ones, are visible.
- `expert`— All configuration statements, including common, basic, and internal statements and commands used for debugging, are visible.

Default— Normal

Editing Level—Basic

`complete-on-space (on | off)`—(Optional) Set the CLI to complete a partial command entry when you type a space. This statement enables command completion for all user sessions for this user.

To enable command completion for an active user session, use the `set cli complete-`

on-space operational mode command.

Value

- `on`— Turn on command completion—allow either a space or a tab to be used for command completion.
- `off`— Turn off command completion—a space or a tab after a partial command name does not complete the command.

Default— On

Editing Level—Basic

Required Privilege Level

system admin

Required Editing Level

Basic

system login user *user-name* authentication

Syntax

```
system login user user-name authentication {
    plain-text-password;
    encrypted-password encrypted-password;
    ssh-authorized-keys [ssh-authorized-keys...];
}
```

Hierarchy Level

```
[edit system login user user-name authentication]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Authentication methods that a user can use to log in to a C-series platform. You can assign multiple authentication methods to a single user.

Options

`plain-text-password`—(Optional) Prompt for a plain-text password.

Editing Level—Basic

`encrypted-password encrypted-password`—(Optional) Password in encrypted format.

Value— Encrypted-password
Editing Level—Basic

`ssh-authorized-keys [ssh-authorized-keys...]`—(Optional) Public key for SSH.

Value— Public-key
Editing Level—Basic

Required Privilege Level

system admin

Required Editing Level

Basic

system ntp

Syntax

```
system ntp {
    boot-server boot-server;
    broadcast-client;
    trusted-key [trusted-key...];
}
```

Hierarchy Level

```
[edit system ntp]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure NTP.

We strongly recommend that you configure NTP on every server used for an SRC deployment. The system may not recognize subscriber sessions if the clocks are not synchronized.

Options

`boot-server boot-server`—(Optional) Server that NTP queries when at boot time to determine the local date and time.

When you boot the system on which the SRC software runs, the system issues an `ntpdate` request, which polls a network server to determine the local date and time. You can configure a server that the system uses to determine the time at startup. If no boot server is configured, NTP uses one of the configured servers to set the initial time.

Value— IP address of an NTP server
 Default— No value
 Editing Level—Basic

`broadcast-client`—(Optional) Listen for NTP broadcast messages on the local network to discover other servers on the same subnet.

Editing Level—Basic

`trusted-key [trusted-key . . .]`—(Optional) List of keys you are allowed to use when you configure the local system to synchronize its time with other systems on the network.

Value— Positive signed 32-bit integer (0–2147483647)

Default— No value

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

system ntp authentication-key

Syntax

```
system ntp authentication-key key-number {
    value value;
}
```

Hierarchy Level

```
[edit system ntp authentication-key]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure NTP authentication keys so that the C-series platform can send authenticated packets. If you configure the C-series platform to operate in authenticated mode, you must configure a key.

NTP authentication uses the MD5 encryption algorithm.

Options

key-number key-number— Positive integer that identifies the NTP authentication key.

Value—Integer in the range 1–2147483647

value value— The value of the NTP authentication, which can contain 1–8 ASCII characters. If the key contains spaces, enclose the space(s) in quotation marks.

Value—Secret text
 Default—No value
 Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

system ntp broadcast

Syntax

```
system ntp broadcast address {
    key key;
    ttl ttl;
    version version;
}
```

Hierarchy Level

```
[edit system ntp broadcast]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the C-series platform to operate in broadcast mode with the remote system at the specified address. In this mode, the local system sends periodic broadcast messages to a client population at the specified broadcast or multicast address. Typically, you include this statement only when the local system is operating as a transmitter.

Options

address *address*— IP address to receive broadcast or multicast periodic broadcast messages.

Value— IP address

key *key*—(Optional) Value of the authentication key used to encrypt authentication fields in all packets sent to the broadcast or multicast address.

Value— Positive signed 32-bit integer (0–2147483647)

Default— No value

Editing Level—Basic

ttl *ttl*—(Optional) TTL value to transmit.

Value—Integer in the range 1–255

Default— No value
Editing Level—Basic

`version version`—(Optional) Version number of NTP to use in outgoing NTP packets.

Value—Integer in the range 1–4
Default— No value
Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

system ntp multicast-client

Syntax

```
system ntp multicast-client {  
    address;  
}
```

Hierarchy Level

```
[edit system ntp multicast-client]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Listen for NTP multicast messages on the local network to discover other servers on the same subnet.

Options

address—(Optional) IP address(s). If you specify more than one address, the system joins those multicast groups.

Value—IP address
Default— No value
Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

system ntp peer

Syntax

```
system ntp peer address {
    key key;
    version version;
    prefer;
}
```

Hierarchy Level

```
[edit system ntp peer]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the C-series platform to operate in symmetric active mode with the remote system at the specified address. In this mode, the C-series platform and the remote system can synchronize with each other. This configuration is useful in a network in which either the local router or the remote system might be a better source of time.

Options

address *address*— IP address of an NTP peer. Do not specify a hostname.

Value—IP address

key *key*—(Optional) Key number used to encrypt all authentication fields in packets sent to the specified address.

Value— Positive signed 32-bit integer (0–2147483647)

Default— No value

Editing Level—Basic

version *version*—(Optional) Version number of NTP to be used in outgoing packets.

Value—Integer in the range 1–4

Default— No value

Editing Level—Basic

`prefer`—(Optional) Remote system is the preferred host. This remote system is then selected for synchronization among a set of systems that are operating correctly.

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

system ntp server

Syntax

```
system ntp server address {
    key key;
    version version;
    prefer;
}
```

Hierarchy Level

```
[edit system ntp server]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the C-series platform to operate in client mode with the remote system at the specified address. In this mode, the C-series platform can be synchronized with the remote system, but the remote system can never be synchronized with the C-series platform.

Options

`address address`— IP address of an NTP server. Do not specify a hostname.

Value—IP address

`key key`—(Optional) Key number used to encrypt all authentication fields in packets sent to the specified address.

Value— Positive signed 32-bit integer (0–2147483647)

Default— No value

Editing Level—Basic

`version version`—(Optional) Version number of NTP to be used in outgoing packets.

Value—Integer in the range 1–4

Default— No value

Editing Level—Basic

`prefer`—(Optional) Remote system is the preferred host. This remote system is then selected for synchronization among a set of systems that are operating correctly.

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

system radius-server

Syntax

```
system radius-server address {
    port port;
    secret secret;
    timeout timeout;
    retry retry;
}
```

Hierarchy Level

```
[edit system radius-server]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure RADIUS authentication. To use more than one RADIUS server, include a `radius-server` statement for each server. The software contacts the servers in order in a round-robin fashion until it receives a valid response from one of the servers or until the retry limit is reached for all servers.

To configure RADIUS for authentication, also include `radius` in the `authentication-order` option for the `system` statement.

For a user authenticated through RADIUS to be able to log in to the C-series platform, you must create either a local profile or a remote profile to define common access privileges for all users authenticated through RADIUS or TACACS+. For information about creating user profiles, see the `system login user` statement.

Options

`address address`— IP address of RADIUS server.

Value— IP address

`port port`—(Optional) [Alias: `authentication-port`] Port number on which to connect to a RADIUS server.

Value—Integer in the range 0–65535
Default—1812

Editing Level—Basic

`secret` *secret*— Password to use with the RADIUS server. This secret password is used by the C-series platform and must match the password on the RADIUS server.

Value— `password`
Editing Level—Basic

`timeout` *timeout*—(Optional) Amount of time that the C-series platform waits to receive a response from the RADIUS server.

Value—Integer in the range 1–90 s
Default—3
Editing Level—Basic

`retry` *retry*—(Optional) Number of times the C-series platform tries to contact a RADIUS server.

Value—Integer in the range 1–10
Default—3
Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

system services

Syntax

```
system services {  
    telnet;  
}
```

Hierarchy Level

```
[edit system services]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure system services.

Options

`telnet`—(Optional) Allow Telnet connections from remote systems to the C-series platform.

Note: Telnet connections do not allow access through `root`.

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

system services editor

Syntax

```
system services editor {
    password-encryption (crypt | md5 | sha | plain);
}
```

Hierarchy Level

```
[edit system services editor]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure access properties for external access to the Policies, Services, and Subscribers Editor.

Options

`password-encryption (crypt | md5 | sha | plain)`—(Optional) Encrypt the passwords of users who remotely access the Policies, Services, and Subscribers Editor using the specified encryption algorithm.

Value

- `crypt`— UNIX crypt, a one-way encryption.
- `md5`— Message Digest 5 (MD5), a 128-bit message digest.
- `sha`— SHA message digest, a 160-bit message digest.
- `plain`— No encryption.

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

system services netconf

Syntax

```
system services netconf {  
    ssh;  
}
```

Hierarchy Level

```
[edit system services netconf]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Allow connections through NETCONF to the C-series platform.

Options

ssh—(Optional) Use SSH for NETCONF connections.

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

system services ssh

Syntax

```
system services ssh {
    root-login (allow | deny | deny-password);
    protocol-version (v1 | v2);
}
```

Hierarchy Level

```
[edit system services ssh]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Allow SSH requests from remote systems to the C-series platform.

Options

`root-login (allow | deny | deny-password)`—(Optional) Control user access through SSH.

Value

- `allow`— Allow users to login in to the C-series platform as `root` through SSH.(Default)
- `deny`— Disable users from logging in to the C-series platform as `root` through SSH.
- `deny-password`— Allow users to log in to the C-series platform as `root` through SSH when the authentication method (for example, RSA authentication) does not require a password.

Editing Level—Basic

`protocol-version (v1 | v2)`—(Optional) SSH protocol versions accepted.

Value

- v1—SSH version 1
- v2—SSH version 2 (Default)

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

system services web-management http

Syntax

```
system services web-management http {
    port port;
    interface [interface...];
}
```

Hierarchy Level

```
[edit system services web-management http]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Use HTTP without encryption.

Options

port port—(Optional) TCP port to be used for incoming connections to the C-Web interface.

Value—Integer in the range 1–65535

Default—80

Editing Level—Basic

interface [interface...]—(Optional) List of network interfaces to accept incoming connections. If you do not specify any interfaces, the software accepts connections from all interfaces.

Value— Name of external interface, such as eth0.

Editing Level—Basic

Required Privilege Level

system system

Required Editing Level

Basic

system services web-management https

Syntax

```
system services web-management https {
    port port;
    interface [interface...];
    local-certificate local-certificate;
}
```

Hierarchy Level

```
[edit system services web-management https]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Use secure HTTP with encryption.

Options

`port port`—(Optional) TCP port to be used for incoming connections to the C-Web interface.

Value—Integer in the range 1–65535

Default—443

Editing Level—Basic

`interface [interface...]`—(Optional) List of network interfaces to accept incoming connections. If you do not specify any interfaces, the software accepts connections from all interfaces.

Value— Name of external interface, such as eth0.

Editing Level—Basic

`local-certificate local-certificate`—(Optional) Name of the security certificate (in X.509 format) on the local system. This certificate is used to secure connections from external Web browsers to the C-Web interface.

Value— Name of digital security certificate.
Editing Level—Basic

Required Privilege Level

system system

Required Editing Level

Basic

system services web-management logger

Syntax

```
system services web-management logger name ...
```

Hierarchy Level

```
[edit system services web-management logger]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a logging component for the C-Web interface. Logging can be to a file or to the system logging utility.

Options

name *name*— Name of a logging component.

Value—Text

Required Privilege Level

system system

Required Editing Level

Basic

system services web-management logger *name* file

Syntax

```
system services web-management logger name file {
    filter filter;
    filename filename;
    rollover-filename rollover-filename;
    maximum-file-size maximum-file-size;
}
```

Hierarchy Level

```
[edit system services web-management logger name file]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure logging of messages to a file.

Options

filter filter—(Optional) Filter to define which event messages the software logs or ignores. Filters can specify the logging level, such as debug, or can specify expressions. For information about expressions, see the documentation that describes how to configure logging.

Value— Log filter

Default— The default value is different for each type of component.

Editing Level—Basic

filename filename— Absolute path of the filename that contains the current logs.

Note: Make sure that the user under which the J2EE application server or Web application server runs has write access to this folder. If this user does not have write access to the default folder, configure the component or application to write logs in folders to which the user has write access.

Value— Filename

Default— By default, SRC components and applications write log files in the folder in which the component or application is started.

Editing Level—Basic

`rollover-filename` *rollover-filename*—(Optional) Absolute path of the filename that contains the log history. When the log file reaches the maximum size, the software closes the log file and renames it with the name you specify for the rollover file. If a previous rollover file exists, the software overwrites it. The software then reopens the log file and continues to save event messages in it.

Value— Path of filename

Example—`/opt/UMC/sae/var/log/sae.alt`

Default— The default value is different for each type of component.

Editing Level—Normal

`maximum-file-size` *maximum-file-size*—(Optional) Maximum size of the log file and the rollover file.

Do not set the maximum file size to a value greater than the available disk space.

Value—Integer in the range 0–2147483647 kbytes

Default— 1000000

Editing Level—Normal

Required Privilege Level

system system

Required Editing Level

Basic

system services web-management logger *name* syslog

Syntax

```
system services web-management logger name syslog {
    filter filter;
    host host;
    facility facility;
    format format;
}
```

Hierarchy Level

```
[edit system services web-management logger name syslog]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure logging of messages to system logging.

Options

filter filter—(Optional) Filter to define which event messages the software logs or ignores. Filters can specify the logging level, such as debug, or can specify expressions. For information about expressions, see the documentation that describes how to configure logging.

Value— Log filter

Default— The default value is different for each type of component.

Editing Level—Basic

host host— IP address or name of a host that collects event messages by means of a standard system logging daemon.

Value— IP address or hostname

Default—loghost

Editing Level—Basic

facility facility—(Optional) Type of system log in accordance with the system logging protocol.

Value—Integer in the range 0–23

Default— 3

Editing Level—Advanced

`format` *format*—(Optional) MessageFormat string that specifies how the information in an event message is printed. (The strings {#} are replaced with the log information [...]).

Value— MessageFormat string as specified in <http://java.sun.com/j2se/1.4.2/docs/api/java/text/MessageFormat.html>.

The fields available for events are:

- 0—Time and date of the event
- 1—Name of the thread generating the event
- 2—Text message of the event
- 3—Category of the event
- 4—Priority of the event

Editing Level—Advanced

Required Privilege Level

system system

Required Editing Level

Basic

system syslog file

Syntax

```
system syslog file file-name ...
```

Hierarchy Level

```
[edit system syslog file]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Specify a file to store information that has been collected.

Options

file-name file-name— Name of the file in which to log system messages.

Value— filename

Required Privilege Level

system

Required Editing Level

Basic

system syslog file *file-name*

Syntax

```
system syslog file file-name (any | authorization | daemon | ftp | kernel |
user | local7) {
    (any | emergency | alert | critical | error | warning | notice | info |
none);
}
```

Hierarchy Level

```
[edit system syslog file file-name]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the message groups and severity level of messages to be forwarded to a specified file, host, or user.

Options

Group of messages that are either generated by the same software process or concern a similar condition or activity (such as authentication attempts). A message group is referred to as a facility.

Value

- **any**— Messages from all facilities.
- **authorization**— Authentication and authorization attempts.
- **daemon**— Actions performed or errors encountered by various system processes.
- **ftp**— Actions performed or errors encountered by an FTP process.
- **kernel**— Actions performed or errors encountered by the kernel.
- **user**— Actions performed or errors encountered by various user processes.
- **local7**— Actions performed or errors encountered by different SRC processes.

Severity level

Value

- any— Messages for all severity levels.
- emergency— System panic or other condition that causes the system to stop functioning.
- alert— Conditions that require immediate correction.
- critical— Critical conditions, such as hard drive errors.
- error— Error conditions that generally have less serious consequences than errors in the emergency, alert, and critical levels.
- warning— Conditions that warrant monitoring.
- notice— Conditions that are not errors but might warrant special handling.
- info— Events or nonerror conditions of interest.
- none— Messages are not generated for any condition.

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

system syslog host

Syntax

```
system syslog host log-host-name ...
```

Hierarchy Level

```
[edit system syslog host]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the IP address or hostname of the remote host to receive system log messages. The remote machine must be running a standard syslogd utility.

Options

log-host-name log-host-name— IP address or hostname of a remote system to receive system log messages. The remote machine must be running a standard syslogd utility.

Value— IP address or hostame

Required Privilege Level

system

Required Editing Level

Basic

system syslog host *log-host-name*

Syntax

```
system syslog host log-host-name (any | authorization | daemon | ftp | kernel
| user | local7) {
    (any | emergency | alert | critical | error | warning | notice | info |
none);
}
```

Hierarchy Level

```
[edit system syslog host log-host-name]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the message groups and severity level of messages to be forwarded to a specified file, host, or user.

Options

Group of messages that are either generated by the same software process or concern a similar condition or activity (such as authentication attempts). A message group is referred to as a facility.

Value

- **any**— Messages from all facilities.
- **authorization**— Authentication and authorization attempts.
- **daemon**— Actions performed or errors encountered by various system processes.
- **ftp**— Actions performed or errors encountered by an FTP process.
- **kernel**— Actions performed or errors encountered by the kernel.
- **user**— Actions performed or errors encountered by various user processes.
- **local7**— Actions performed or errors encountered by different SRC processes.

Severity level

Value

- **any**— Messages for all severity levels.
- **emergency**— System panic or other condition that causes the system to stop functioning.
- **alert**— Conditions that require immediate correction.
- **critical**— Critical conditions, such as hard drive errors.
- **error**— Error conditions that generally have less serious consequences than errors in the emergency, alert, and critical levels.
- **warning**— Conditions that warrant monitoring.
- **notice**— Conditions that are not errors but might warrant special handling.
- **info**— Events or nonerror conditions of interest.
- **none**— Messages are not generated for any condition.

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

system syslog user

Syntax

```
system syslog user user-name ...
```

Hierarchy Level

```
[edit system syslog user]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Notify a specified user by means of a terminal session.

Options

`user-name` *user-name*— Name of user to receive messages.

Value— Username

Required Privilege Level

system

Required Editing Level

Basic

system syslog user *user-name*

Syntax

```
system syslog user user-name (any | authorization | daemon | ftp | kernel |
user | local7) {
    (any | emergency | alert | critical | error | warning | notice | info |
none);
}
```

Hierarchy Level

```
[edit system syslog user user-name]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the message groups and severity level of messages to be forwarded to a specified file, host, or user.

Options

Group of messages that are either generated by the same software process or concern a similar condition or activity (such as authentication attempts). A message group is referred to as a facility.

Value

- **any**— Messages from all facilities.
- **authorization**— Authentication and authorization attempts.
- **daemon**— Actions performed or errors encountered by various system processes.
- **ftp**— Actions performed or errors encountered by an FTP process.
- **kernel**— Actions performed or errors encountered by the kernel.
- **user**— Actions performed or errors encountered by various user processes.
- **local7**— Actions performed or errors encountered by different SRC processes.

Severity level

Value

- any— Messages for all severity levels.
- emergency— System panic or other condition that causes the system to stop functioning.
- alert— Conditions that require immediate correction.
- critical— Critical conditions, such as hard drive errors.
- error— Error conditions that generally have less serious consequences than errors in the emergency, alert, and critical levels.
- warning— Conditions that warrant monitoring.
- notice— Conditions that are not errors but might warrant special handling.
- info— Events or nonerror conditions of interest.
- none— Messages are not generated for any condition.

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

system tacplus-server

Syntax

```
system tacplus-server {
    address [address...];
    secret secret;
}
```

Hierarchy Level

```
[edit system tacplus-server]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure TACACS+ authentication.

To configure TACACS+ for authentication, also include `tacplus` in the `authentication-order` option for the `system` statement.

For a user authenticated through TACACS+ to be able to log into the C-series platform, you must create either a local profile or a remote profile to define common access privileges for all users authenticated via RAIDUS or TACACS+. For information about creating user profiles, see the `system login user` statement.

Options

`address [address...]`— Address of TACACS+ authentication server.

Value— IP address
 Default— No value
 Editing Level—Basic

`secret secret`— Password to use with the RADIUS or TACACS+ server. The secret password used by the C-series platform must match that used by the server.

Value—Secret text
 Default— No value
 Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

top

Syntax

top

Release Information

Command introduced in SRC Release 1.0.0

Description

Return to the top level of configuration mode, which is indicated by the [edit] banner.

Required Privilege Level

No specific privilege required.

up

Syntax

up

Release Information

Command introduced in SRC Release 1.0.0

Description

Move up one level in the hierarchy of configuration statements.

Required Privilege Level

No specific privilege required.

count

Syntax

count

Release Information

Command introduced in SRC Release 1.0.0

Description

Indicate number of occurrences.

Required Privilege Level

No specific privilege required.

display

Syntax

display changed

Release Information

Command introduced in SRC Release 1.0.0

Description

Display additional information.

Options

changed— Tag attributes with value changes.

Default—false

Required Privilege Level

No specific privilege required.

display

Syntax

```
display (xml)
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display additional information.

Options

Type of information to display.

Value

- `xml` — Display information as XML tags.

Required Privilege Level

No specific privilege required.

except

Syntax

`except pattern`

Release Information

Command introduced in SRC Release 1.0.0

Description

Display text that does not match the specified pattern.

Options

pattern— Pattern to hide.

Value— Text that forms the pattern.

Required Privilege Level

No specific privilege required.

find

Syntax

`find pattern`

Release Information

Command introduced in SRC Release 1.0.0

Description

Search for first occurrence of a specified pattern.

Options

pattern— Pattern to locate.

Value— Text that forms the pattern.

Required Privilege Level

No specific privilege required.

last

Syntax

```
last <lines>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display the last part of the output.

Options

lines—(Optional) Number of lines from the last line backward.

Value—Integer in the range 0–2147483647

Default—10

Required Privilege Level

No specific privilege required.

match

Syntax

`match pattern`

Release Information

Command introduced in SRC Release 1.0.0

Description

Display text that matches the specified pattern.

Options

pattern— Pattern to match.

Value— Pattern to locate.

Required Privilege Level

No specific privilege required.

no-more

Syntax

`no-more`

Release Information

Command introduced in SRC Release 1.0.0

Description

Do not paginate output.

Required Privilege Level

No specific privilege required.

save

Syntax

`save filename`

Release Information

Command introduced in SRC Release 1.0.0

Description

Save output text to file.

Options

filename— Name or URL of file to which to save output.

Value— Filename or URL

Required Privilege Level

No specific privilege required.

clear security certificate-request

Syntax

```
clear security certificate-request <file-name file-name>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Delete a certificate request on the system.

Options

file-name file-name—(Optional) Name of certificate signing request file. This file is stored in the `/tmp` directory and has the file-extension `.csr`.

Value—*filename*

Default—`certreq`

Required Privilege Level

security

clear security certificate

Syntax

```
clear security certificate <identifier identifier>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Delete a digital certificate from the system.

Options

identifier identifier—(Optional) Name of a local digital certificate.

Value—*Certificate name*

Required Privilege Level

security

clear security ssh

Syntax

```
clear security ssh <known-host known-host>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Clear (delete) cached SSH data.

Options

`known-host known-host`—(Optional) Name of known host to remove

Value— Hostname

Required Privilege Level

security

configure

Syntax

configure

Release Information

Command introduced in SRC Release 1.0.0

Description

Enter configuration mode. In configuration mode, you enter hierarchical statements to define properties for the SRC software.

Alias

edit

Required Privilege Level

configure

disable

Syntax

```
disable component component
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Stop an SRC component that is running on the system.

Options

`component` *component*— Name of SRC component to stop.

To see a list of installed components, use the `show component` command.

Value— Component name

Required Privilege Level

reset

enable

Syntax

`enable component component`

Release Information

Command introduced in SRC Release 1.0.0

Description

Start a specified SRC component that is installed on the system.

Options

`component component`— Name of SRC component to start.

Value— Component name

Required Privilege Level

reset

exit

Syntax

exit

Release Information

Command introduced in SRC Release 1.0.0

Description

Exit from the CLI session. If a session was established through SSH, you return to the local environment; if the session was established through Telnet or from a console, you return to the login prompt.

Alias

quit

Required Privilege Level

No specific privilege required.

file archive

Syntax

```
file archive <compress> source source destination destination
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Create an archive file on a C-series platform.

Options

`compress`—(Optional) Compress an archive file by using the GNU `gzip` utility to create a TGZ file.

`source` *source*— Directory path to archive.

Value— Directory path

`destination` *destination*— Name of archive file to be created.

Value— Filename

Required Privilege Level

maintenance

file checksum md5

Syntax

```
file checksum md5 path
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Calculate an MD5 checksum of a file on a C-series platform.

Options

path— Directory path of the file.

Value— Directory path

Required Privilege Level

maintenance

file compare

Syntax

```
file compare < (context | unified) > <ignore-white-space> files from-file to-file
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Compare files on a C-series platform.

Options

(Optional)

Value

- **context**— Output shows the context for differences between the files. It shows which line was changed in one line listing, then the change for the line in a second line listing.
- **unified**— Output shows the differences between files in a unified format. A single listing of line numbers shows the line on which a change occurred, then the changed text.

ignore-white-space—(Optional) Differences in amount of white space ignored.

from-file—File to compare

Value— Filename

to-file—File to compare

Value— Filename

Required Privilege Level

maintenance

file copy

Syntax

```
file copy source destination
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Copy files.

Options

source— Source URL of file to copy.

Value— FTP or file URL

destination— Destination URL of file to copy.

Value— FTP or file URL

Required Privilege Level

maintenance

file delete

Syntax

```
file delete file
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Delete a file on a C-series platform.

Options

file— File to delete.

Value— Filename

Required Privilege Level

maintenance

file list

Syntax

```
file list <recursive> <detail> <path>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

List files in a directory on a C-series platform.

Options

recursive—(Optional) Create recursive listing of files.

detail—(Optional) Provide information about the files in a listing of files, such as modification date and file size.

path—(Optional) Path to the directory in which you list files.

Value— Pathname

Required Privilege Level

maintenance

file rename

Syntax

```
file rename source destination
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Rename a file on a C-series platform.

Options

source— File to rename.

Value— Filename

destination— New name for file to be renamed.

Value— Filename

Required Privilege Level

maintenance

file show

Syntax

```
file show <encoding (base64) > filename
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display content of a file.

Options

`encoding (base64)` —(Optional) Type of file encoding.

Value

- `base64`— File has base64 encoding.

filename— Name of file for which to display content.

Value— Filename

Required Privilege Level

maintenance

ping

Syntax

```
ping <count count> <interval interval> <interface interface> <no-resolve> <tos  
tos> <ttl ttl> <size size> <pattern pattern> host
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Determine whether a remote host is reachable by sending ping requests to the remote host.

Options

`count count`—(Optional) Number of ping requests to send.

Value—Integer in the range 1–2000000000 packets

`interval interval`—(Optional) Interval between ping requests.

Value—Integer in the range 1–2147483647 s

`interface interface`—(Optional) Interface from which to send a ping request.

Value— Interface name; for example, eth0.

`no-resolve`—(Optional) Do not display symbolic addresses in command output.

`tos tos`—(Optional) Value of IP type-of-service byte.

Value—Integer in the range 0–255

`ttl ttl`—(Optional) Maximum number of hops between the source and the destination.

Value— Number of hops

size size—(Optional) Number of bytes of data to be sent.

Value—Integer in the range 0–65468

Default— 56. This value translates to 64 ICMP bytes that includes the 8 bytes for ICMP header data.

pattern pattern—(Optional) Number of bytes to fill, or pad, the packet to send. You can use this option to diagnose data-dependent problems in a network. For example, *pattern ff* causes all ones to fill the sent packet.

Value— Hexadecimal fill pattern. Up to 16 bytes to fill the packet to send.

host— IP address or hostname of remote host.

Value— IP address or hostname

Required Privilege Level

network

request disk disable

Syntax

```
request disk disable <device device>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Disable a specified disk in the disk mount.

Options

`device device`—(Optional) Number assigned to the disk to be disabled, 0 or 1.

Value—Integer in the range 0–1

Default—0

Required Privilege Level

maintenance

request disk enable

Syntax

```
request disk enable <device device>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Enable a a specified disk in the disk mount.

Options

`device device`—(Optional) Number assigned to the disk to be enabled, 0 or 1.

Value—Integer in the range 0–1

Default—0

Required Privilege Level

maintenance

request disk identify

Syntax

```
request disk identify <device device>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Turn on LED blinking for a specified disk on a C-series platform to identify which disk is disk 0 and which is disk 1.

Options

`device device`—(Optional) Number assigned to a disk, 0 or 1.

Value—Integer in the range 0–1

Default—0

Required Privilege Level

maintenance

request disk initialize

Syntax

```
request disk initialize <device device> <force>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Initialize a specified disk in the disk mount.

Options

`device device`—(Optional) Number assigned to the disk to be initialized, 0 or 1.

Value—Integer in the range 0–1

Default—0

`force`—(Optional) Initialize a specified disk.

Note: When you run this command and specify a disk that contains data, the command initializes the disk and the data on the disk is lost.

Required Privilege Level

maintenance

request license import

Syntax

```
request license import file-name file-name <server-address server-address>
<name-space name-space> <authentication-dn authentication-dn> <password
password> <master-license>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Import an SRC license into the directory. The license can be either a pilot license or a server license. Use the `master-license` option to install a server, or master, license.

Options

`file-name` *file-name*— Name of the file that contains the SRC license information.

Value— Filename
Default— No value

`server-address` *server-address*—(Optional) IP address for the primary directory server. For C-series platforms, this is the platform that has the Juniper Networks database configured to have a primary role.

Value— IP address
Default— No value

`name-space` *name-space*—(Optional) Base distinguished name (DN) for the directory. In most cases you can use the default `< base >` .

Value— Base DN
Default— `< base >`

`authentication-dn` *authentication-dn*—(Optional) DN used for directory authentication.

Value— DN

Default— No value

`password password`—(Optional) Password used for directory authentication.

Value— Password

Default— No value

`master-license`—(Optional) License is a server, or master, license.

Required Privilege Level

`maintenance`

request network discovery

Syntax

```
request network discovery network network <community community>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Discover all manageable network elements in an IP subnet. The devices must be online and respond to SNMP queries.

Options

`network network`— Address of the network to discover

Value— Address in dotted decimal notation

- Individual host—`###.###.###`
- Complete network—`###.###.###/##`

`community community`—(Optional) Name of SNMP community

Value— SNMP community name

Default—`public`

Required Privilege Level

network

request security enroll

Syntax

```
request security enroll <subject subject> <password password> url url ca-  
identifier ca-identifier identifier identifier
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Request that the certificate authority (CA) automatically sign the certificate request for the specified subject and challenge password and enroll the certificate through the Simple Certificate Enrollment Protocol (SCEP). Use the `request security get-ca-certificate` command to generate the certificate request.

Options

`subject subject`—(Optional) Name (as defined in the X.509 standard for public key infrastructure) used in the certificate name field. If you do not specify a value for `subject`, the SRC software uses the unqualified hostname of the system in the format `cn = hostname`. You can specify one subject for a certificate.

Value— Distinguished name in the format: `cn = name`.

Example

```
cn=sdxl,ou=pop,o=Juniper,l=kanata, st=ontario,  
c=Canada
```

`password password`—(Optional) Password on the CA for the specified subject. If you do not enter a password, the system prompts you for one.

Value— *password*

`url url`— URL of certificate authority (which is the SCEP server).

Value— *URL*

`ca-identifier` *ca-identifier*— Identifier that designates the certificate authority.
Use the value provided by the CA.

Value— *CA identifier*

`identifier` *identifier*— Local name of a digital certificate.

Value— *Certificate name*

Required Privilege Level

security

request security generate-certificate-request

Syntax

```
request security generate-certificate-request <subject subject> <password
password> <file-name file-name> <encoding (binary | pem) >
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Create a self-signed certificate and a certificate signing request. You send the the certificate signing request file to a certificate authority (CA) for signing. Use the `request security import-certificate` command to import the issued certificate.

Options

`subject subject`—(Optional) Name (as defined in the X.509 standard for public key infrastructure) used in the certificate name field. If you do not specify a value for `subject`, the SRC software uses the unqualified hostname of the system in the format `cn = hostname`. You can specify one subject for a certificate.

Value— Distinguished name in the format: `cn = name`.

Example

```
cn=sdx1,ou=pop,o=Juniper,l=kanata, st=ontario,
c=Canada
```

`password password`—(Optional) Password on the CA for the specified subject. If you do not enter a password, the system prompts you for one.

Value— `password`

`file-name file-name`—(Optional) Name of certificate signing request file. This file is stored in the `/tmp` directory with the file-extension `.csr`.

Value— `filename`
Default—`certreq`

`encoding (binary | pem)` —(Optional) Type of encoding used by the certificate signing request.

Value

- `binary`— Binary encoding
- `pem`— Privacy enhanced mail encoding

Default—`pem`

Required Privilege Level

security

request security get-ca-certificate

Syntax

```
request security get-ca-certificate url url ca-identifier ca-identifier
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Request a certificate authority (CA) certificate through the Simple Certificate Enrollment Protocol (SCEP). After you request the certificate, use the `request security enroll` command to request digital certificates from this CA.

Options

`url url`— URL of certificate authority (which is the SCEP server).

Value— *URL*

`ca-identifier ca-identifier`— Identifier that designates the certificate authority. The identifier is not the name of the certificate authority.

Value— *Identifier*

Required Privilege Level

security

request security import-certificate

Syntax

```
request security import-certificate file-name file-name identifier identifier
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Import a digital certificate from a file. Run the `request security generate-certificate-request` command first to create a certificate signing request that you manually submit to the CA for signing.

Options

`file-name file-name`— Name of the certificate file.

Value— *filename*

`identifier identifier`— Name of a local digital certificate.

Value— *Certificate name*

Required Privilege Level

security

request system halt

Syntax

```
request system halt <force>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Stop system processes and halt the operating system.

Alias

poweroff

Options

`force`—(Optional) Stop the system without first performing a shutdown.

Required Privilege Level

maintenance

request system install

Syntax

```
request system install url url package package
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Install a specified SRC component.

Options

`url url`— URL of an SRC installable image. The URL can be one of the following:

- `usb:`—Local USB disk
- `ftp://host/path`—Path on an FTP site or on the local system

Value— URL

`package package`— Name of the SRC package to install.

Value— Package name

Required Privilege Level

maintenance

request system reboot

Syntax

```
request system reboot <force>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Shut down then restart the C-series platform.

Options

`force`—(Optional) Restart the C-series platform without first performing a system shutdown.

Required Privilege Level

maintenance

request system restore

Syntax

```
request system restore
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Restore the root file system from a previously taken snapshot.

Note: The system will reboot twice while the snapshot is being restored.

Required Privilege Level

maintenance

request system snapshot

Syntax

```
request system snapshot <verbose>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Create a backup copy of the root file system.

After you issue the command, you cannot return to the previous version of the software because the running and backup copies of the software are identical.

Options

`verbose`—(Optional) Display detailed messages during the backup process.

Required Privilege Level

maintenance

request system uninstall

Syntax

```
request system uninstall package package
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Remove an SRC package that is installed on the system.

Options

`package package`— Name of the SRC package to remove.

Value— Package name

Required Privilege Level

maintenance

request system upgrade

Syntax

```
request system upgrade url url <package package>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Upgrade the SRC software.

Options

`url url`—URL of an SRC installable image. The URL can be one of the following:

- `usb:`—Local USB disk
- `ftp://host/path`—Path on an FTP site or on the local system

Value— URL

`package package`—(Optional) Name of an SRC package to upgrade.

Value— Package name

Required Privilege Level

maintenance

restart

Syntax

```
restart component component < (gracefully | immediately | soft) >
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Restart an SRC component that is running on the system.

Options

`component` *component*— Name of SRC component to restart.

Value— Name of component

(Optional) Method to use to restart component.

Value

- `gracefully`— Shutdown the component, then start it again.
- `immediately`— Send a signal kill (SIGKILL) signal to immediately stop the component, then start it again.
- `soft`— Send a signal hangup (SIGHUP) signal to the process for the component to restart the component.

Default—`gracefully`

Required Privilege Level

reset

set cli complete-on-space

Syntax

```
set cli complete-on-space (on | off)
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Set the CLI to complete a partial command entry when you type a space. This command enables command completion for the current user session.

To enable command completion for all user sessions for a specified user, use the `system login user` statement.

Options

Command completion

Value

- `on`— Turn on command completion to allow a space to be used for command completion.
- `off`— Turn off command completion; a space after a partial command name does not complete the command.

Required Privilege Level

No specific privilege required.

set cli directory

Syntax

```
set cli directory directory
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Set the path of the working directory.

Options

directory— Pathname of working directory.

Value— Directory path

Required Privilege Level

No specific privilege required.

set cli language

Syntax

```
set cli language <language>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Set the language and encoding appropriate to your terminal environment.

Options

language—(Optional) Language and encoding.

Value— Language and encoding in the format 2-character language code (lower case)_2-character country code (upper case). encoding. For example, en_US.UTF8.
Default—en_US.UTF8

Required Privilege Level

No specific privilege required.

set cli level

Syntax

```
set cli level (basic | normal | advanced | expert)
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Set the access level for the CLI commands. The access level controls the number of commands and configuration statements accessible to the user.

Options

Editing level

Value

- **basic**— Minimal set of configuration statements and commands. Only the statements that must be configured are visible.
- **normal**— Normal set of configuration statements and commands. The common and basic statements are visible.
- **advanced**— All configuration statements and commands, including the common and basic ones, are visible.
- **expert**— All configuration statements, including common, basic, and internal statements and commands used for debugging are visible.

Required Privilege Level

No specific privilege required.

set cli password

Syntax

```
set cli password
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Change the current password that is used to access the CLI.

Required Privilege Level

No specific privilege required.

set cli prompt

Syntax

```
set cli prompt cli-prompt
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Set the prompt that is displayed within the CLI.

Options

cli-prompt— Characters that appear at the CLI prompt.

Specify the characters \> to have > appear at the end of the prompt in operational mode and # at the end of the prompt in configuration mode.

Value— Text to appear at prompt

Required Privilege Level

No specific privilege required.

set cli screen-length

Syntax

```
set cli screen-length length
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Set the number of lines to appear on the screen.

Options

length— Number of lines to appear on a CLI screen. If the terminal supports reporting the screen size the screen size reported by the terminal takes precedence.

Value—Integer in the range 5–100000

Required Privilege Level

No specific privilege required.

set cli screen-width

Syntax

```
set cli screen-width width
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Set the screen width in number of columns to appear on the screen.

Options

width— Number of columns to appear on a CLI screen. If the terminal supports reporting the screen size the screen size reported by the terminal takes precedence.

Value—Integer in the range 0–100000

Required Privilege Level

No specific privilege required.

set cli terminal

Syntax

```
set cli terminal (ansi | vt100 | xterm | dumb)
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Set the terminal type.

Options

Terminal type

Value

- `ansi`—ANSI-compatible terminal
- `vt100`—VT100-compatible terminal
- `xterm`—Xterm window
- `dumb`—Dumb terminal

Required Privilege Level

No specific privilege required.

set date

Syntax

```
set date time
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Set the system date and time.

Options

time— System date and time.

Value— System date and time in the format YYYYMMDDhhmm.ss in which:

- YYYY—Year. Contains 4 digits.
- mm—Month. A number 1–12.
- DD—Day. A number 1–31
- mm—Minute. A number 0–59.
- ss—Second. A number 0–59.

For example, to enter the time 12:15 and 30 seconds on October 30, 2006 enter 200610301215.30.

Required Privilege Level

maintenance

set date ntp

Syntax

```
set date ntp servers
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Use NTP to set the date and time for the C-series platform.

> Note: For normal operation, we strongly recommended that you configure NTP to maintain local time. For additional information, see the `system ntp` configuration statement.

If NTP is enabled it is not possible to set the time manually.

Options

servers— List of the IP addresses of NTP servers to use.

Value— IP address(es)

Required Privilege Level

maintenance

show cli

Syntax

```
show cli
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display properties that have been set to control the CLI environment.

Required Privilege Level

No specific privilege required.

show cli authorization

Syntax

```
show cli authorization
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Identify the user logged in to the CLI session, and display the user's privilege level, the user's permissions to run specified operational and configuration commands, and the user's authorization to run commands.

Required Privilege Level

No specific privilege required.

show cli directory

Syntax

```
show cli directory
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display the current working directory.

Required Privilege Level

No specific privilege required.

show cli level

Syntax

```
show cli level
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display the current access level.

Required Privilege Level

No specific privilege required.

show component

Syntax

```
show component
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display information and status for SRC components installed.

Required Privilege Level

maintenance

show configuration

Syntax

```
show configuration <object>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display information about the SRC configuration.

Options

object—(Optional) Object for which to display information.

Value—Path of a configuration object

Required Privilege Level

config-view

show date

Syntax

```
show date
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display the time and date set on the system.

Alias

```
time
```

Required Privilege Level

No specific privilege required.

show disk status

Syntax

```
show disk status <brief>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display status information.

Options

`brief`—(Optional) Display summary information.

Required Privilege Level

view

show interfaces

Syntax

```
show interfaces <interface-name>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display information about interfaces configured on a C-series platform, including but not limited to interface address, information about packets sent, and information about packets received.

Options

interface-name—(Optional) Name of an interface

Value— Interface name; for example eth0. If you do not specify an interface name, the command displays information for all interfaces.

Default— No value

Required Privilege Level

network

show iptables

Syntax

```
show iptables < (nat | filter | mangle) > <reset-counters>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display information about the iptables Linux tool.

Options

(Optional) Type of information to display.

Value

- `nat`— Display information for the nat table for the iptables tool. The nat table provides rules for rewriting packet addresses.
- `filter`— Display information for the filter table for the iptables tool. The filter table provides rules for defining packet filters.
- `mangle`— Display information for the mangle table for the iptables tool. The mangle table provides rules for adjusting packet options, such as quality of service.

`reset-counters`—(Optional) Reset counters of the items in output.

Required Privilege Level

view

show ntp associations

Syntax

```
show ntp associations <no-resolve>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display NTP peers and their state.

Options

`no-resolve`—(Optional) Suppress symbolic addressing.

Required Privilege Level

view

show ntp statistics

Syntax

```
show ntp statistics <no-resolve>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display information about NTP.

Options

`no-resolve`—(Optional) Suppress symbolic addressing.

Required Privilege Level

view

show ntp status

Syntax

```
show ntp status <no-resolve>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display the values of internal variables returned by NTP peers.

Options

`no-resolve`—(Optional) Suppress symbolic addressing.

Required Privilege Level

view

show route

Syntax

```
show route <no-resolve> <detail>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display information from the routing table.

Options

`no-resolve`—(Optional) Do not display symbolic addresses in command output.

`detail`—(Optional) Display detailed output.

Required Privilege Level

network

show security certificate

Syntax

```
show security certificate <trusted>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display information about the certificates stored on the local system.

Options

`trusted`—(Optional) Display information about certificate authority (CA) certificates.

Required Privilege Level

security

show system boot-messages

Syntax

```
show system boot-messages
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display system messages generated during system startup.

Required Privilege Level

view

show system information

Syntax

```
show system information
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display information about the system. The command output includes the system hostname, information about the system hardware, the version of the SRC software installed on the system.

Required Privilege Level

No specific privilege required.

ssh

Syntax

```
ssh host host < (v1 | v2) >
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Open an SSH session to another host.

Options

host host— Hostname or IP address of the remote host. You can specify a username by using the format *user@host* for *host*. If you do not specify a username, the command uses the username of the current user.

Value— Hostname, IP address, *user@hostname*, or *user@IP* address

(Optional) SSH version

Value

- v1— Use SSH version 1.
- v2— Use SSH version 2.

Default—

Required Privilege Level

network

start shell

Syntax

```
start shell (csh | sh | bash)
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Set type of shell to start.

Options

Type of shell to start.

Value

- csh— C shell
- sh— Bourne-style shell
- bash— GNU Bourne shell

Default—csh

Required Privilege Level

shell maintenance

telnet

Syntax

```
telnet host [<port port>]
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Open a Telnet session to another host.

Options

host— Hostname or address of the remote host.

Value— Hostname or IP address

port *port*—(Optional) Port number or service name on the remote host.

Value— Port number

Required Privilege Level

network

traceroute

Syntax

```
traceroute <gateway gateway> <interface interface> <tos tos> <ttl ttl> <wait wait> <no-resolve> <bypass-routing> <source source> host
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display the route from the local host, interface on the local host, or IP address on the local host to a remote host.

Options

gateway gateway—(Optional) Address of gateway through which route passes.

Value— IP address

interface interface—(Optional) Interface from which to send packets to trace a route. The IP address of this interface is the source IP address in packets sent to trace the route. Typically, you specify either the *interface* or *source* option to obtain the IP address for packets sent on a multi-homed host (a host that has more than one IP address).

Value— Interface name; for example, eth0.

tos tos—(Optional) Value of IP type-of-service byte

Value—Integer in the range 0–255

ttl ttl—(Optional) Maximum number of hops between the source and the destination

Value— Number of hops

wait wait—(Optional) Number of seconds to wait for a response.

Value—Integer in the range 0–600 s

`no-resolve`—(Optional) Do not display symbolic addresses in command output.

`bypass-routing`—(Optional) Do not use the entries in the routing table when traceroute request is sent; use the interface specified by the `interface` option.

`source source`—(Optional) IP address from which to send packets to trace a route. The IP address is included in packets sent to trace the route. Typically, you specify either the `interface` or `source` option to obtain the IP address for packets sent on a multi-homed host (a host that has more than one IP address).

Value— IP address (not a hostname). If you specify an IP address that is not assigned to a system, you receive an error message to the effect that a traceroute request was not sent.

`host`— IP address or hostname of remote host.

Value— IP address or hostname

Required Privilege Level

network

Juniper Networks Database

The following table summarizes the SRC command-line interface (SRC CLI) for the Juniper Networks Database. Configuration statements and operational commands are listed in alphabetical order.

Juniper Networks Database
Configuration Statements
system ldap server
system ldap server community
Operational Commands
request system ldap load

system ldap server

Syntax

```
system ldap server {  
    stand-alone;  
}
```

Hierarchy Level

```
[edit system ldap server]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Enable the Juniper Networks database that resides on a C-series platform to run as a standalone database. This database contains the SRC configuration information.

If you want to run the Juniper Networks database in a community (or group) of databases on C-series platforms, use the `system ldap server community` statement.

Enable the Juniper Networks database in either standalone or community mode; a Juniper Networks database can run either standalone or in a community, but not both. If you do not enable the database, it will not run.

Options

`stand-alone`—(Optional) Standalone mode for the Juniper Networks database.

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

system ldap server community

Syntax

```
system ldap server community {
    role (primary | secondary);
    primary-neighbors [primary-neighbors...];
    secondary-neighbors [secondary-neighbors...];
}
```

Hierarchy Level

```
[edit system ldap server community]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Enable the Juniper Networks database to operate as part of a community (group) of other Juniper Networks databases that run on other C-series platforms. The Juniper Networks database contains the SRC configuration information.

If you want to run the Juniper Networks database standalone, use the `stand-alone` option at the `system ldap server` level.

Enable the Juniper Networks database in either standalone or community mode; a Juniper Networks database can run either standalone or in a community, but not both. If you do not enable the database, it will not run.

Options

`role (primary | secondary)`— Role of the database.

Value

- `primary`— A database that provides read and write access to client applications. It replicates its data and distributes changes to any Juniper Networks databases configured as neighbors.
- `secondary`— A database that provides read access to client applications. If client applications try to write data to this database, the database refers the client to a primary database.

Default— No value
Editing Level—Basic

`primary-neighbors [primary-neighbors . . .]`—(Optional) A database that propagates changes that it receives to other Juniper Networks databases configured as neighbors. A primary neighbor must be assigned a primary role.

Value— Primary neighbor identified by one of the following:

- IP address
- Hostname that the C-series system can resolve through the domain name system
- Fully qualified hostname

Use spaces to separate entries.

Examples

- 192.2.4.0 192.3.3.0
- myhostname1 myhostname2
- myhostname1.mycompany.com myhostname2.mycompany.com

Default— No value
Editing Level—Basic

`secondary-neighbors [secondary-neighbors . . .]`—(Optional) A database that only receives database changes. A secondary neighbor must be assigned a secondary role.

Value— Secondary neighbor identified by one of the following:

- IP address
- Hostname that the C-series platform can resolve through the domain name system
- Fully qualified hostname

Use spaces to separate entries.

Examples

- 192.2.4.0 192.3.3.0
- myhostname1 myhostname2
- myhostname1.mycompany.com myhostname2.mycompany.com

Default— No value
Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

request system ldap load

Syntax

```
request system ldap load (equipment-registration | isp-service-portal |  
enterprise-portal | snmp-agent)
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Load sample data supplied with the SRC software.

Options

Type of data to be loaded.

Value

- `equipment-registration`— Sample data for the sample residential portal to demonstrate an application that provides an association between a subscriber and the equipment being used to make the DHCP connection.
- `isp-service-portal`— Sample data for the sample residential portal to demonstrate an application that provides a means for subscribers to directly log in to a subscriber session for their ISP.
- `enterprise-portal`— Sample data for the Enterprise Manager Portal and the sample enterprise service portal.
- `snmp-agent`— Sample data for the SNMP agent; includes traps.

Required Privilege Level

No specific privilege required.

SAE

The following table summarizes the SRC command-line interface (SRC CLI) for the SAE. Configuration statements and operational commands are listed in alphabetical order.

SAE
Configuration Statements
shared_auth-cache_cached-dhcp-profile
shared_network_application-manager-group
shared_network_device
shared_network_device_name_interface-classifier_rule
shared_network_device_name_interface-classifier_rule_name_condition
shared_network_device_name_virtual-router
shared_network_policy-decision-point
shared_sae_configuration
shared_sae_configuration_aggregate-services
shared_sae_configuration_driver
shared_sae_configuration_driver_junos
shared_sae_configuration_driver_junose
shared_sae_configuration_driver_junose_session-store
shared_sae_configuration_driver_junos_configuration-checking
shared_sae_configuration_driver_junos_security
shared_sae_configuration_driver_junos_session-store
shared_sae_configuration_driver_pcmmm
shared_sae_configuration_driver_pcmmm_cmts-specific-rks-plug-ins
shared_sae_configuration_driver_pcmmm_session-store
shared_sae_configuration_driver_scripts

<u>shared_sae_configuration_driver_session-store</u>
<u>shared_sae_configuration_driver_simulated</u>
<u>shared_sae_configuration_driver_simulated_name_session-store</u>
<u>shared_sae_configuration_driver_snmp</u>
<u>shared_sae_configuration_driver_third-party</u>
<u>shared_sae_configuration_driver_third-party_session-store</u>
<u>shared_sae_configuration_dynamic-radius-server</u>
<u>shared_sae_configuration_external-interface-features</u>
<u>shared_sae_configuration_external-interface-features_name_CommunityManager</u>
<u>shared_sae_configuration_external-interface-features_name_EventAPI</u>
<u>shared_sae_configuration_external-interface-features_name_JavaScriptProcessor</u>
<u>shared_sae_configuration_external-interface-features_name_PythonScriptProcessor</u>
<u>shared_sae_configuration_external-interface-features_name_SAEAccess</u>
<u>shared_sae_configuration_external-interface-features_name_SAEFeature</u>
<u>shared_sae_configuration_external-interface-features_name_SAEFeature_properties</u>
<u>shared_sae_configuration_file-accounting-template</u>
<u>shared_sae_configuration_file-accounting-template_name_attributes</u>
<u>shared_sae_configuration_global-radius-udp-port</u>
<u>shared_sae_configuration_idle-timeout</u>
<u>shared_sae_configuration_interim-accounting</u>
<u>shared_sae_configuration_ldap</u>
<u>shared_sae_configuration_ldap_directory-eventing</u>
<u>shared_sae_configuration_ldap_persistent-login-cache</u>
<u>shared_sae_configuration_ldap_policy-data</u>
<u>shared_sae_configuration_ldap_service-data</u>
<u>shared_sae_configuration_ldap_subscriber-data</u>

<u>shared_sae_configuration_license-manager_client</u>
<u>shared_sae_configuration_license-manager_directory-access</u>
<u>shared_sae_configuration_logger</u>
<u>shared_sae_configuration_logger_name_file</u>
<u>shared_sae_configuration_logger_name_syslog</u>
<u>shared_sae_configuration_login-registration</u>
<u>shared_sae_configuration_nic-proxy-configuration</u>
<u>shared_sae_configuration_nic-proxy-configuration_name_cache</u>
<u>shared_sae_configuration_nic-proxy-configuration_name_nic-host-selection</u>
<u>shared_sae_configuration_nic-proxy-configuration_name_nic-host-selection_blacklisting</u>
<u>shared_sae_configuration_nic-proxy-configuration_name_resolution</u>
<u>shared_sae_configuration_nic-proxy-configuration_name_test-nic-bindings</u>
<u>shared_sae_configuration_nic-proxy-configuration_name_test-nic-bindings_key-values</u>
<u>shared_sae_configuration_plug-ins</u>
<u>shared_sae_configuration_plug-ins_event-publishers</u>
<u>shared_sae_configuration_plug-ins_manager</u>
<u>shared_sae_configuration_plug-ins_pool</u>
<u>shared_sae_configuration_plug-ins_pool_name_acp-interface-listener</u>
<u>shared_sae_configuration_plug-ins_pool_name_custom-radius-accounting</u>
<u>shared_sae_configuration_plug-ins_pool_name_custom-radius-accounting_peer-group</u>
<u>shared_sae_configuration_plug-ins_pool_name_custom-radius-authentication</u>
<u>shared_sae_configuration_plug-ins_pool_name_custom-radius-authentication_peer-group</u>
<u>shared_sae_configuration_plug-ins_pool_name_ejb-adaptor</u>
<u>shared_sae_configuration_plug-ins_pool_name_external</u>
<u>shared_sae_configuration_plug-ins_pool_name_file-accounting</u>
<u>shared_sae_configuration_plug-ins_pool_name_flex-radius-accounting</u>

<u>shared_sae_configuration_plug-ins_pool_name_flex-radius-accounting_peer-group</u>
<u>shared_sae_configuration_plug-ins_pool_name_flex-radius-accounting_radius-packet-definition</u>
<u>shared_sae_configuration_plug-ins_pool_name_flex-radius-accounting_radius-packet-definition_name_attributes</u>
<u>shared_sae_configuration_plug-ins_pool_name_flex-radius-authentication</u>
<u>shared_sae_configuration_plug-ins_pool_name_flex-radius-authentication_peer-group</u>
<u>shared_sae_configuration_plug-ins_pool_name_flex-radius-authentication_radius-packet-definition</u>
<u>shared_sae_configuration_plug-ins_pool_name_flex-radius-authentication_radius-packet-definition_name_attributes</u>
<u>shared_sae_configuration_plug-ins_pool_name_interface-subscriber-limit</u>
<u>shared_sae_configuration_plug-ins_pool_name_internal</u>
<u>shared_sae_configuration_plug-ins_pool_name_internal_properties</u>
<u>shared_sae_configuration_plug-ins_pool_name_ldap-authentication</u>
<u>shared_sae_configuration_plug-ins_pool_name_pcmm-rks</u>
<u>shared_sae_configuration_plug-ins_pool_name_pcmm-rks_peer-group</u>
<u>shared_sae_configuration_plug-ins_pool_name_qos-profile-tracking</u>
<u>shared_sae_configuration_plug-ins_pool_name_radius-accounting</u>
<u>shared_sae_configuration_plug-ins_pool_name_radius-accounting_peer-group</u>
<u>shared_sae_configuration_plug-ins_pool_name_radius-authentication</u>
<u>shared_sae_configuration_plug-ins_pool_name_radius-authentication_peer-group</u>
<u>shared_sae_configuration_plug-ins_pool_name_schedule-authorization</u>
<u>shared_sae_configuration_plug-ins_state-synchronization</u>
<u>shared_sae_configuration_policy-management-configuration</u>
<u>shared_sae_configuration_radius-packet-template</u>
<u>shared_sae_configuration_radius-packet-template_name_radius-attributes</u>
<u>shared_sae_configuration_radius-packet-template_name_radius-attributes_name_attributes</u>
<u>shared_sae_configuration_script-extension</u>

<u>shared_sae_configuration_service-activation</u>
<u>shared_sae_configuration_service-schedule</u>
<u>shared_sae_configuration_session-job-manager</u>
<u>shared_sae_configuration_subscriber-sessions</u>
<u>shared_sae_configuration_time-based-policies</u>
<u>shared_sae_dhcp-classifier_rule</u>
<u>shared_sae_dhcp-classifier_rule_name_condition</u>
<u>shared_sae_group</u>
<u>shared_sae_subscriber-classifier_rule</u>
<u>shared_sae_subscriber-classifier_rule_name_condition</u>
<u>slot_number_sae</u>
<u>slot_number_sae_initial</u>
<u>slot_number_sae_initial_directory-connection</u>
<u>slot_number_sae_initial_directory-eventing</u>
<u>slot_number_sae_radius</u>
Operational Commands
<u>clear_sae_directory-blacklist</u>
<u>clear_sae_registered_equipment</u>
<u>clear_sae_registered_login</u>
<u>request_sae_import-pilot-license</u>
<u>request_sae_java-garbage-collection</u>
<u>request_sae_load_configuration</u>
<u>request_sae_load_domain-map</u>
<u>request_sae_load_interface-classification</u>
<u>request_sae_load_services</u>
<u>request_sae_load_subscriptions</u>

request_sae_login_ipv4_authenticated-dhcp
request_sae_login_ipv4_authenticated-interface
request_sae_login_ipv4_unauthenticated-dhcp
request_sae_login_ipv4_unauthenticated-interface
request_sae_logout_dn
request_sae_logout_ip
request_sae_logout_login-name
request_sae_logout_session-id
request_sae_modify_device_failover
request_sae_shutdown_device
show_sae_directory-blacklist
show_sae_drivers
show_sae_interfaces
show_sae_licenses
show_sae_policies
show_sae_registered_equipment
show_sae_registered_login
show_sae_services
show_sae_statistics_device
show_sae_statistics_device_common
show_sae_statistics_directory
show_sae_statistics_directory_connections
show_sae_statistics_license_client
show_sae_statistics_license_device
show_sae_statistics_license_local
show_sae_statistics_policy-management

<u>show_sae_statistics_process</u>
<u>show_sae_statistics_radius</u>
<u>show_sae_statistics_radius_client</u>
<u>show_sae_statistics_sessions</u>
<u>show_sae_subscribers</u>
<u>show_sae_subscribers_dn</u>
<u>show_sae_subscribers_ip</u>
<u>show_sae_subscribers_login-name</u>
<u>show_sae_subscribers_service-name</u>
<u>show_sae_subscribers_session-id</u>
<u>show_sae_threads</u>

shared auth-cache cached-dhcp-profile

Syntax

```
shared auth-cache cached-dhcp-profile name {
    description description;
    pool-name pool-name;
    ip-address ip-address;
    dhcp-options dhcp-options;
    boot-server-name boot-server-name;
    boot-file-name boot-file-name;
    virtual-router virtual-router;
    local-interface local-interface;
    lease-time lease-time;
    user-name user-name;
    service-bundle service-bundle;
    radius-class radius-class;
}
```

Hierarchy Level

```
[edit shared auth-cache cached-dhcp-profile]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a cached DHCP profile.

Options

name name— Name of a cached DHCP profile.

Value— String

description description—(Optional) Description of the DHCP client device.

Value— String

Default— No value

Editing Level—Basic

`pool-name` *pool-name*—(Optional) Name of the IP address pool on the JUNOS router from which a DHCP address is selected.

Value— String

Default— No value

Editing Level—Basic

`ip-address` *ip-address*—(Optional) Fixed IP address that is offered to the DHCP client if the client is part of a network in the configured DHCP pool.

Value— IP address

Default— No value

Editing Level—Basic

`dhcp-options` *dhcp-options*—(Optional) Defines DHCP options that are used to configure DHCP clients.

Value— Define DHCP options in the format: option = value [,value...].

where option is the DHCP option name or number (see the customer documentation for a list of supported DHCP options) and values are entered based on the type of option:

- int32, int16, int8—Decimal or hex prefixed by 0x
- string—Optionally surrounded by double quotes
- ip-address—Dotted decimal
- data-string—Sequence of hex-encoded bytes separated by a : (colon) or a string surrounded by double quotes

Separate multiple options by line breaks.

Value is a string containing one or more options defined as 'name = value'. Multiple options are separated by line breaks.

To include nonstandard options in a DHCP profile, use the name option-*nnn*, where *nnn* is the option number, and the value is of type data-string; that is, either a string surrounded in double quotes, or a sequence of hex-encoded bytes, separated by a colon (:).

Default— No value

Editing Level—Basic

`boot-server-name` *boot-server-name*—(Optional) Name of the server used to boot the DHCP client.

Value— String, length < 64

Default— No value

Editing Level—Basic

`boot-file-name` *boot-file-name*—(Optional) Name of a boot file used to boot the DHCP client.

Value— String, length < 128

Default— No value

Editing Level—Basic

`virtual-router` *virtual-router*—(Optional) Name of the virtual router that holds the IP address pool.

Value— Name of the virtual router in the format *vrname@hostname*.

An * (asterisk) means that the values for the virtual router are ignored when the cached profile is used. Use an * if you do not know the virtual router to which the subscriber will connect.

Default— *

Editing Level—Basic

`local-interface` *local-interface*—(Optional) Name of the JUNOSe router interface that will receive the DHCP client device's request for an IP address.

Value— Name of the virtual router in the format *vrname@hostname*.

An * (asterisk) means that the values for local interface are ignored when the cached profile is used. Use an * if you do not know the interface to which the subscriber will connect or if you want to allow the subscriber to connect through multiple interfaces.

Default— *

Editing Level—Basic

`lease-time` *lease-time*—(Optional) Length of time the supplied IP address is valid. This parameter is not currently implemented on the JUNOSe router. The DHCP lease time that the SAE sends to the JUNOSe router is ignored.

Value— Number of seconds

Default— No value

Editing Level—Basic

`user-name` *user-name*—(Optional) Username of the DHCP subscriber without the domain name.

Value— String that specifies the information to the left of the @ character in userName@domainName.

Default— No value

Editing Level—Basic

service-bundle *service-bundle*—(Optional) Vendor-specific RADIUS attribute that specifies the SRC service bundle to use.

Value— String

Default— No value

Editing Level—Basic

radius-class *radius-class*—(Optional) RADIUS attribute class.

Value— String

Default— No value

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

shared network application-manager-group

Syntax

```
shared network application-manager-group name {
    description description;
    application-manager-id application-manager-id;
    connected-sae [connected-sae...];
    pdp-group pdp-group;
    local-address-pools [local-address-pools...];
    managing-sae-ior managing-sae-ior;
}
```

Hierarchy Level

```
[edit shared network application-manager-group]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure application managers for the Juniper policy server (JPS).

Options

name *name*— Name of application manager group.

Value— Text string

description *description*—(Optional) Information about the SAE community.

Value— Text string

Default— No value

Editing Level—Basic

application-manager-id *application-manager-id*— Unique identifier within the domain of the service provider for the application manager that handles the service session; used to specify the application manager identifier (AMID) that is included in all messages sent to and from the policy server.

This option is required. The SAE constructs the AMID value by concatenating two fields: Application Manager Tag (this option) and Application Type (this value is obtained from a service during activation).

Value— 2-byte unsigned integer

Default— No value

Editing Level—Basic

`connected-sae` [*connected-sae* . . .] — SAEs that are connected to the specified policy server group (PDP Group). This list becomes the community of SAEs.

This option is required. When you modify a community, wait for passive session stores of the new community members to be updated before you shut down the current active SAE. Otherwise, a failover from the current active SAE to the new member is triggered immediately, and the new member's session store may not have received all data from the active SAE's session store.

Value— IP address or hostname

Default— No value

Editing Level—Basic

`pdp-group` *pdp-group* — Name of the policy server group associated with this SAE community.

Value— Text string

Default— No value

Editing Level—Basic

`local-address-pools` [*local-address-pools* . . .] —(Optional) List of IP address pools that this PDP group currently manages and stores. You must configure a local address pool if you are using the NIC so that the NIC can resolve the IP-to-SAE mapping.

Value— List of IP address pools. You can specify an unlimited number of IP address pools. You can specify either the first and last addresses in a range, or the you can specify a subnet address, a subnet mask, and a list of addresses to exclude from the subnet. Use spaces in the syntax only to separate the first and last explicit IP addresses in a range.

The IP pool syntax has the format:

```
"([ < ipAddressStart > < ipAddressEnd > ] | { < ipBaseAddress > /
(< mask > | < digitNumber > ), < ipAddressExclude > } )"
```

where:

- `ipAddressStart`—First IP address (version 4 or 6) in a range

- **ipAddressEnd**—Last IP address (version 4 or 6) in a range
- **ipBaseAddress**—Network base address
- **mask**—Subnet mask
- **digitNumber**—Integer specifying the number of significant digits of the first IP address in the range
- **ipAddressExclude**—List of IP addresses to be excluded from the range
- **|**—Choice of expression; choose either the expression to the left or the expression to the right of this symbol
- *****—Zero or more instances of the preceding group

The following example shows four ranges for the IP address pool.

- [10.10.10.5 10.10.10.250]
- {10.20.20.0/24}
- {10.21.0.0/255.255.0.0}
- {10.20.30.0/24,10.20.30.1}

Default— No value

Editing Level—Basic

`managing-sae-ior` *managing-sae-ior*—(Optional) Common Object Request Broker Architecture (CORBA) reference for the SAE managing this policy server group. The `amIorPublisher` script provides this information when the SAE connects to the policy server. If you do not select this script when configuring initialization scripts, enter a value.

Value— One of the following items:

- The actual CORBA reference for the SAE
- The absolute path to the interoperable object reference (IOR) file
- A corbaloc URL in the form `corbaloc:: < host > :8801/SAE`
 - `< host >` —Name or IP address of the SAE host

The following examples show different CORBA references.

- Absolute path—`/opt/UMC/sae/var/run/sae.ior`
- corbaloc URL—`boston:8801/sae`
- Actual IOR—`IOR:0000000000000002438444C3A736D67742E6A756E697...`

Default— No value

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

shared network device

Syntax

```
shared network device name {
    description description;
    management-address management-address;
    device-type (junose | junos | pcmm | third-party);
    qos-profile [qos-profile...];
}
```

Hierarchy Level

```
[edit shared network device]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a device that the SAE manages.

Options

name name— Name of the router or other device that the SAE manages.

Value— Text

description description—(Optional) Description of the device that the SAE manages.

Value— Text

Default— No value

Editing Level—Basic

management-address management-address—(Optional) IP address of the device. For networks with JUNOSe routers, the redirect component in redundant mode uses this address to send SNMP set messages to set a static route to the new redirect server after a failover.

Value— IP address

Default— No value

Editing Level—Basic

`device-type (junose | junos | pcmm | third-party)`—(Optional) Type of device that you are configuring.

Value

- `junose`— JUNOSe router
- `junos`— JUNOS routing platform
- `pcmm`— CMTS device
- `third-party`— Third-party device

Default— No value

Editing Level—Basic

`qos-profile [qos-profile...]`—(Optional) For JUNOSe routers, specifies quality of service (QoS) profiles that are configured on the router.

Value— Single QoS profile or a list of QoS profiles. Enter a list of QoS profiles within brackets. For example:

`[atm-default eth-default dhcp-default]`

Default— No value

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

shared network device *name* interface-classifier rule

Syntax

```
shared network device name interface-classifier rule name {
    target target;
    script script;
}
```

Hierarchy Level

```
[edit shared network device name interface-classifier rule]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure an interface classification rule.

Options

name name— Name of the rule in the interface classification script.

Value— Text

target target—(Optional) Result of the classification script that gets returned to the SAE.

Value— Path to a policy group. For example, /sample/junose/DHCP.

Default— No value

Editing Level—Basic

script script—(Optional) Script target. A script that can contain definitions of custom functions that can be called during the matching process. The complete content of the script is interpreted when the classifier is initially loaded. Because you can insert code into a script target, you can use the classification script to perform various tasks.

Value— Script enclosed in quotation marks.

Default— No value

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

shared network device *name* interface-classifier rule *name* condition

Syntax

```
shared network device name interface-classifier rule name condition name ...
```

Hierarchy Level

```
[edit shared network device name interface-classifier rule name condition]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure match conditions used to find a target. You can configure multiple conditions for each classifier rule.

Options

name name— Match conditions used to find a target. For more information about configuring match conditions, see *Classifying Interfaces and Subscribers with the SRC CLI* in *SRC-PE Subscribers and Subscriptions Guide*.

Value—Text

Required Privilege Level

system

Required Editing Level

Basic

shared network device *name* virtual-router

Syntax

```
shared network device name virtual-router name {
    sae-connection [sae-connection...];
    snmp-read-community snmp-read-community;
    snmp-write-community snmp-write-community;
    scope [scope...];
    local-address-pools local-address-pools;
    static-address-pools static-address-pools;
    tracking-plug-in [tracking-plug-in...];
}
```

Hierarchy Level

```
[edit shared network device name virtual-router]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a virtual router object.

Options

name *name*— Name of the virtual router.

Value— One of the following:

- For JUNOSe routers, the name of the VR, which is case sensitive, must exactly match the name of the VR configured on the router.
- For JUNOS routing platforms, CMTS devices, and other third-party devices, use the name default

sae-connection [*sae-connection...*]—(Optional) IP addresses of the SAEs that can manage this device. This option is required for the SAE to work with the router.

Value— IP addresses. Enter a list of IP addresses within brackets. For

example:

[10.10.3.0 10.10.3.48]

Default— No value

Editing Level—Basic

`snmp-read-community` *snmp-read-community*—(Optional) SNMP community name associated with SNMP read-only operations for this virtual router. Read operations are typically used by router initialization scripts to read information, such as IP address pools, from the router.

Value— Text

Default— admin

Editing Level—Basic

`snmp-write-community` *snmp-write-community*—(Optional) SNMP community name associated with SNMP write operations for this virtual router. The write community is used only by the redirect server to set a static route.

Value— Text

Default— public

Editing Level—Basic

`scope` [*scope* . . .]—(Optional) The virtual router can be associated with a number of service scopes. The scopes are available for subscribers connected to this virtual router for selecting customized versions of services.

Value— Text. Enter a list of scopes within brackets. For example:

[POP-Toronto POP-Boston]

Default— No value

Editing Level—Basic

`local-address-pools` *local-address-pools*—(Optional) For JUNOS virtual routers, address of local address pools on the JUNOS virtual router.

- If you do not configure the PoolPublisher router initialization script for a JUNOS virtual router, configure this option for a JUNOS virtual router.
- If you do configure the PoolPublisher router initialization script for a JUNOS virtual router, configure this option if pool data needs to be updated. This data needs to be updated if you change the address pools on a virtual router that is actively

being managed by SAE. The reason is that the initialization script is triggered only when the COPS connection is started.

For CMTS devices, You must configure either a local address pool or a static address pool so that the NIC can resolve the IP-to-SAE mapping.

Value— An address pool is specified by a sequence of zero or more address sets enclosed in parentheses (). An address set can be either a range of addresses or a subnetwork with or without address exclusions.

- Specify a range by entering a start and end address separated by a space and enclosed in square brackets. For example, [10.10.10.5 10.10.10.250] denotes the address set 10.10.10.5 to 10.10.10.250 inclusive.
- Specify a subnet with optional address exclusions in curly brackets. You must include a base address and a mask or prefix length separated by a forward slash. To exclude addresses, follow the forward slash with a comma and a comma-separated list of excluded addresses. For example:
 - {10.20.20.0/24} denotes all addresses that start with 10.20.20
 - {10.21.0.0/255.255.0.0} denotes all addresses that start with 10.21
 - {10.20.30.0/24,10.20.30.0,10.20.30.255} denotes all addresses that start with 10.20.30 except 10.20.30.0 and 10.20.30.255

Default— No value

Editing Level—Basic

`static-address-pools static-address-pools`—(Optional) IP address pools that a JUNOS virtual router manages but does not store on the router because the router is not managing the allocation of these addresses. For CMTS devices, you must configure either a local address pool or a static address pool so that the NIC can resolve the IP-to-SAE mapping.

Value—

Default— No value

Editing Level—Basic

`tracking-plug-in [tracking-plug-in. . .]`—(Optional) List of plug-ins that are notified of interface events for this virtual router.

Value— IP address. You can include a mask. For example 10.20.20.0/24.

Default— No value

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

shared network policy-decision-point

Syntax

```
shared network policy-decision-point name {
    description description;
    pdp-address pdp-address;
    pdp-group pdp-group;
}
```

Hierarchy Level

```
[edit shared network policy-decision-point]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configures the policy server as a policy decision point.

Options

`name name`— Name of policy decision point.

Value— Text string

`description description`—(Optional) Information about this policy server.

Value— Text string

Default— No value

Editing Level—Basic

`pdp-address pdp-address`— IP address of the policy server. The SAE uses this address to establish a COPS connection with the policy server.

Value— IP address

Default— No value

Editing Level—Basic

`pdp-group` *pdp-group*— Name of the policy server group.

Value— Text string

Default— No value

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration

Syntax

```
shared sae configuration {  
    compress-session-data;  
}
```

Hierarchy Level

```
[edit shared sae configuration]
```

Options

`compress-session-data`—(Optional) Enable or disable compression of the serialized data when saving the state of the SAE. You can use serialized data compression to reduce the size of sessions objects that the SAE sends across the network for the session store feature.

Enabling this option reduces the size of objects, but increases the CPU load on the SAE. We recommend that you do not enable this option because of the increase to the CPU load.

Default— Disabled

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration aggregate-services

Syntax

```
shared sae configuration aggregate-services {
    keepalive-time keepalive-time;
    keepalive-retry-time keepalive-retry-time;
    activation-deactivation-time activation-deactivation-time;
    failed-notification-retry-time failed-notification-retry-time;
}
```

Hierarchy Level

```
[edit shared sae configuration aggregate-services]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure timers and intervals associated with monitoring and activating aggregate sessions.

Options

`keepalive-time keepalive-time`— Interval at which keepalive messages are sent from an aggregate service session and an associated fragment service session.

Value— Number of seconds in the range 1–2147483647

Default— 86400

Editing Level—Basic

`keepalive-retry-time keepalive-retry-time`— Time to wait before resending unacknowledged keepalive messages.

Value— Number of seconds in the range 1–2147483647

Default— 900

Editing Level—Basic

`activation-deactivation-time activation-deactivation-time`— Time to wait before retrying failed activation or deactivation of the fragment service session.

Value— Number of seconds in the range 1–2147483647

Default— 900

Editing Level—Basic

`failed-notification-retry-time` *failed-notification-retry-time*—
Length of time to continue sending failure notifications if an aggregate service cannot reach a fragment service, or a fragment service cannot reach an aggregate service during shutdown of the aggregate service.

Value— Number of seconds in the range 1–2147483647

Default— 86400

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Normal

shared sae configuration driver

Syntax

```
shared sae configuration driver {
    unauthenticated-subscriber-dn unauthenticated-subscriber-dn;
    virtual-portal-address virtual-portal-address;
    mac-cache-expiration mac-cache-expiration;
}
```

Hierarchy Level

```
[edit shared sae configuration driver]
```

Options

unauthenticated-subscriber-dn unauthenticated-subscriber-dn— Transitional profile for subscribers who are not logged in to the SAE. For example, if a subscriber logs out of the SAE using the API method `Subscriber.logout()`, an unauthenticated subscriber session is created. The unauthenticated subscriber profile must exist and can be subscribed to services available for unauthenticated subscribers. The portal implementation determines whether unauthenticated (anonymous) subscribers can access the portal.

Value— `<DN>`. You can use the special value `<base>` to refer to the globally configured base DN. The string `<base>` is replaced with the directory base DN.

Default— `uniqueID= unauthenticated,ou= local,retailerName= default,o= Users,< base>`

Editing Level—Normal

virtual-portal-address virtual-portal-address—(Optional) IP address that policies use as a substitution to send traffic to a captive portal.

Value— IP address

Default— 192.168.254.1

Editing Level—Normal

mac-cache-expiration mac-cache-expiration— Amount of time that a subscriber profile remains in the SAE's in-memory cache. Configure this parameter to be greater than the time required for a DHCP subscriber to transition from an unauthenticated IP address to an authenticated IP address or vice versa. The time required for a DHCP subscriber to transition from one IP address to another depends on the lease times configured on the JUNOS router and the instructions given to the subscriber on the Web portal, such as reboot your PC now.

Value— Number of seconds in the range 0–2147483647

Default— 1800

Editing Level—Normal

Required Privilege Level

system

Required Editing Level

Normal

shared sae configuration driver junos

Syntax

```
shared sae configuration driver junos {
    beep-server-port beep-server-port;
    tls-beep-server-port tls-beep-server-port;
    connection-attempts connection-attempts;
    keepalive-interval keepalive-interval;
    message-timeout message-timeout;
    batch-size batch-size;
    transaction-batch-time transaction-batch-time;
    sdx-group-name sdx-group-name;
    sdx-session-group-name sdx-session-group-name;
    send-commit-check send-commit-check;
}
```

Hierarchy Level

```
[edit shared sae configuration driver junos]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the SAE to manage JUNOS routing platforms. A JUNOS routing platform interacts with the SAE by using a JUNOS software process called `sdx`. When the `sdx` process establishes a TCP/IP connection to the SAE, the SAE begins to manage the router. The JUNOS router driver configuration defines parameters related to the interactions between the SAE and the `sdx` process.

Options

`beep-server-port` *beep-server-port*— TCP port number that is used to communicate with the `sdx` process on JUNOS routing platforms. This port number must match the port number configured in the `sdx` process on the router.

Value— TCP port number; if this value is set to zero and the TLS BEEP server port is set, the SAE accepts only TLS connections.

If you change this port number, you need to restart the SAE before the change takes effect.

Default— 3333
Editing Level—Advanced

`tls-beep-server-port` *tls-beep-server-port*— TCP port number used to communicate with the `sdx` process on JUNOS routing platforms using a secure TLS connection.

Value— TLS port number; if this value is set to zero, the SAE does not accept TLS connections.

If you change this port number, you need to restart the SAE before the change takes effect.

Default— 3434
Editing Level—Advanced

`connection-attempts` *connection-attempts*— Number of outstanding connection attempts before the SAE starts dropping new connection attempts.

Value— Positive value greater than 0; if the value is equal to or less than 0, the default value is used.

Default— 50
Editing Level—Advanced

`keepalive-interval` *keepalive-interval*— Interval between keepalive messages sent from the router. The `sdx` process on the router monitors the connection to the SAE by sending keepalive messages at one-third the specified interval. If the `sdx` process does not receive the expected keepalive answer within the specified timeout, it closes the connection.

A short interval results in a high load on the BEEP interface.

A long interval results in a long time before a connection failure is detected.

Value— Number of seconds in the range 0-2147483647. A value of 0 means that timeout is disabled.

Default— 45
Editing Level—Advanced

`message-timeout` *message-timeout*— Amount of time that the router driver waits for a response from the `sdx` process. Under a high load the router may not be able to respond fast enough to requests.

Change this value only if a high number of timeout events appear in the error log.

Value— Number of milliseconds in the range 0–2147483647

Default— 30000

Editing Level—Advanced

`batch-size` *batch-size*— Minimum number of service configuration transactions that are committed at the same time. If any of the transactions in a batch fails, all transactions are aborted, and the associated service activations or deactivations fail.

To control maximum latency for a job when services are activated in parallel, specify 120 % of the number of CORBA threads as the batch size.

Value— Integer in the range 0–2147483647

Default— 30

Editing Level—Advanced

`transaction-batch-time` *transaction-batch-time*— Maximum time to collect configuration transactions in a batch. The batch is completed if either the batch size or the batch time is reached.

The completion time is calculated from the creation of a batch. Note that the batch time is a function of the total configuration size and not of the number of commands in the configuration transactions.

Value— Number of milliseconds in the range 0–2147483647

Default— 2000

Editing Level—Advanced

`sdx-group-name` *sdx-group-name*— Name of group on the JUNOS routing platform in which provisioning objects are stored.

Value— Name configured on the JUNOS routing platform

Default— sdx

Editing Level—Advanced

`sdx-session-group-name` *sdx-session-group-name*— Name of group on the JUNOS routing platform in which session objects are stored.

Value— Name configured on the JUNOS routing platform

Default— sdx-sessions

Editing Level—Advanced

`send-commit-check` *send-commit-check*— Enables or disables commit check. If enabled, a more detailed error message is logged if a batch fails, which lets you verify

individual transactions in a batch.

To maximize service activation performance, commit check should be disabled.

Value— true or false

Default— true

Editing Level—Advanced

Required Privilege Level

system

Required Editing Level

Advanced

shared sae configuration driver junose

Syntax

```
shared sae configuration driver junose {
    cops-server-port cops-server-port;
    backlog backlog;
    keepalive-interval keepalive-interval;
    message-timeout message-timeout;
    cops-message-maximum-length cops-message-maximum-length;
    cops-message-read-buffer-size cops-message-read-buffer-size;
    cops-message-write-buffer-size cops-message-write-buffer-size;
    pending-address-timeout pending-address-timeout;
    cops-handler-threads cops-handler-threads;
    cached-driver-expiration cached-driver-expiration;
    drop-unmanaged-interfaces-xdr-driver;
    track-unmanaged-interfaces-xdr-driver;
}
```

Hierarchy Level

```
[edit shared sae configuration driver junose]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the SAE to manage JUNOSe routers. The router driver specifies the COPS connection between the SAE COPS server and the COPS client in the JUNOSe router.

Options

cops-server-port *cops-server-port*— TCP port number of the COPS server used to communicate with the JUNOSe routers.

Value— Port number that matches the configuration of the SRC client in the JUNOSe router.

Default— 3288

Editing Level—Advanced

backlog *backlog*— Maximum number of outstanding connection attempts before connections are dropped.

Value— Integer
Default— 50
Editing Level—Advanced

`keepalive-interval` *keepalive-interval*— Interval between keepalive messages sent from the COPS client (the JUNOS router). The COPS client monitors the COPS connection by sending keepalive messages at random intervals between one-fourth and three-fourths of the specified interval. If the client does not receive the expected keepalive answer within the specified timeout, the client terminates the connection.

A short interval results in a high load on the COPS interface.

A long interval results in a long time before a COPS failure is detected.

Value— Number of seconds in the range 0-32768. A value of 0 means that timeout is disabled.
Default— 45
Editing Level—Advanced

`message-timeout` *message-timeout*— Timeout interval in which the COPS server waits for a response to COPS requests. Under a high load the router may not be able to respond fast enough to COPS requests. Change this value only if a high number of COPS timeout events appear in the error log.

Value— Number of milliseconds
Default— 60000
Editing Level—Advanced

`cops-message-maximum-length` *cops-message-maximum-length*— Maximum length of a COPS message. We recommend that you use the default setting.

Value— Number of bytes in the range 4 bytes to 2 GB
Default— 200000
Editing Level—Advanced

`cops-message-read-buffer-size` *cops-message-read-buffer-size*— Buffer size for receiving COPS messages from the JUNOS client. We recommend that you use the default setting unless you are instructed to change it by Juniper Networks engineers.

Value— Number of bytes in the range 4 bytes to 2 GB
Default— 30000
Editing Level—Advanced

`cops-message-write-buffer-size` *cops-message-write-buffer-size*— Buffer size for sending COPS messages to the JUNOS client. We recommend that you use the default setting unless you are instructed to change it by Juniper Networks engineers.

Value— Number of bytes in the range 4 bytes to 2 GB

Default— 30000

Editing Level—Advanced

`pending-address-timeout` *pending-address-timeout*— Maximum time that a DHCP address request remains pending.

Value— Number of milliseconds. Typical values are in the range 1000-15000 (1 second to 15 seconds).

Default— 5000

Editing Level—Advanced

`cops-handler-threads` *cops-handler-threads*— Size of the thread pool for handling unsolicited messages. These threads are shared among all JUNOS router drivers. You may want to set this value higher than the default if you wish to create greater throughput on platforms with multiple processing cores, and you are not achieving full processor resource utilization. Increasing the number of threads increases the ability to use multiple processing cores in parallel.

Value— Number of threads

Default— 20

Editing Level—Advanced

`cached-driver-expiration` *cached-driver-expiration*— Minimum amount of time to keep the state of a router driver after its COPS connection is closed. You might want to change this value because the SAE can resynchronize more quickly if most of the state is still in memory and it does not need to be reread from the disk.

Value— Number of seconds in the range 0-2147483647

Default— 600

Editing Level—Advanced

`drop-unmanaged-interfaces-xdr-driver`—(Optional) For JUNOS COPS-XDR drivers, enables or disables the driver to keep a record of unmanaged interfaces. You must enable this option if you have unmanaged dynamic interfaces in a virtual router that is managed by COPS-XDR. If the driver does not keep a record of unmanaged interfaces, next-interface actions in policies may not work properly in certain cases. To use RAM more efficiently, enable this option if you have a large number of unmanaged interfaces that are not the target of next-hop policies.

Default— Disabled

Editing Level—Expert

`track-unmanaged-interfaces-xdr-driver`—(Optional) Enables sending of interface tracking events for unmanaged interfaces of the XDR router driver. Because the COPS-XDR protocol does not include notifications (DRQs) when unmanaged interfaces are disabled, plug-ins will not receive an unmanaged interface's stop events.

Default— Disabled

Editing Level—Expert

Required Privilege Level

system

Required Editing Level

Advanced

shared sae configuration driver junose session-store

Syntax

```
shared sae configuration driver junose session-store {
    maximum-queue-age maximum-queue-age;
    maximum-queued-operations maximum-queued-operations;
    maximum-queue-size maximum-queue-size;
    maximum-file-size maximum-file-size;
    minimum-disk-space-usage minimum-disk-space-usage;
    rotation-batch-size rotation-batch-size;
    maximum-session-size maximum-session-size;
    disk-load-buffer-size disk-load-buffer-size;
    network-buffer-size network-buffer-size;
    retry-interval retry-interval;
    communications-timeout communications-timeout;
    load-timeout load-timeout;
    idle-timeout idle-timeout;
    maximum-backlog-ratio maximum-backlog-ratio;
    minimum-backlog minimum-backlog;
}
```

Hierarchy Level

```
[edit shared sae configuration driver junose session-store]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the session store for the JUNOSe driver.

Options

maximum-queue-age *maximum-queue-age*—(Optional) Maximum age that a queue of buffered store operations (such as adding a session to the store or removing a session from the store) can reach before the queue is written to a session store file.

Value— Number of milliseconds in the range 0–2147483647. A value of -1 indicates that there is no limit. A value of zero causes the session store to write each store operation to a session store file immediately.

Default— 5000

Editing Level—Advanced

`maximum-queued-operations` *maximum-queued-operations*—(Optional)
 Number of buffered store operations that are queued before the queue is written to a session store file.

Value— Integer in the range 0–2147483647. A value of -1 indicates that there is no limit. A value of zero causes the session store to write each store operation to a session store file immediately.

Default— 50

Editing Level—Advanced

`maximum-queue-size` *maximum-queue-size*—(Optional) Maximum size that a queue of buffered store operations can reach before the queue is written to a session store file.

Value— Number of bytes in the range 0–2147483647

Default— 51050

Editing Level—Advanced

`maximum-file-size` *maximum-file-size*—(Optional) Maximum size of session store files. When a file reaches this size, a new file is created.

Value— Number of bytes in the range 0–2147483647

Default— 25000000

Editing Level—Advanced

`minimum-disk-space-usage` *minimum-disk-space-usage*—(Optional)
 Percentage of space in all session store files that is used by live sessions. When the percentage of space in the session store files that is used by live sessions decreases to this percentage, the oldest session store file is compacted and appended to the newest session store file, and then the oldest session store file is deleted.

Value— Percentage of disk space in the range 1–100. We recommend a range of 30–50

Default— 25

Editing Level—Advanced

`rotation-batch-size` *rotation-batch-size*—(Optional) When the oldest session store file is rotated, specifies the number of sessions that are rotated from the oldest file to the newest file at the same time. While a set of sessions is rotated, no other session store activity can take place.

Value— Integer in the range 0–2147483647

Default— 50

Editing Level—Advanced

`maximum-session-size` *maximum-session-size*—(Optional) Maximum size of a single subscriber or service session. Use this parameter to reserve memory for an internal buffer.

Value— Number of bytes in the range 0–2147483647

Default— 10000

Editing Level—Advanced

`disk-load-buffer-size` *disk-load-buffer-size*—(Optional) Size of the buffer that is used to load all of a session store's files from disk at startup.

Value— Number of bytes in the range 0–2147483647

Default— 1000000

Editing Level—Advanced

`network-buffer-size` *network-buffer-size*—(Optional) Size of the buffer that holds messages or message segments that are waiting to be sent to passive session stores

Value— Number of bytes in the range $21 + < \text{size of maximum session size field}$ – 2147483647

Default— 51050

Editing Level—Advanced

`retry-interval` *retry-interval*—(Optional) Time interval between attempts by the active session store to connect to missing passive session stores.

Value— Number of milliseconds in the range 0–2147483647

Default— 5000

Editing Level—Advanced

`communications-timeout` *communications-timeout*—(Optional) Amount of time that a session store waits before closing when it is blocked from reading or writing a message. This timeout does not apply when a session store is waiting for a remote session store to load its state from disk.

Value— Number of milliseconds in the range 0–2147483647

Default— 60000

Editing Level—Advanced

`load-timeout` *load-timeout*—(Optional) Amount of time that an active session store waits for a passive session store or a passive session store waits for an active session store to load its data from disk before it closes the connection to the session store.

Value— Number of milliseconds in the range 0–2147483647
Default— 420000
Editing Level—Advanced

`idle-timeout` *idle-timeout*—(Optional) Amount of time that a passive session store waits for activity from the active session store before it closes the connection to the active session store. This timeout applies after the session store startup and initial update processes are complete.

Value— Number of milliseconds in the range 0–2147483647
Default— 3600000
Editing Level—Advanced

`maximum-backlog-ratio` *maximum-backlog-ratio*—(Optional) Along with the minimum backlog size, specifies when the active session store closes the connection to a passive session store because of a backlog of messages waiting to be sent. After the startup and initial update processes are complete, if the backlog becomes too large, the connection to the passive session store is closed. After the retry interval ends, a new connection is opened.

If the backlog of unsent operations (in bytes) divided by the total size (in bytes) of all live store operations is greater than this number, the connection is closed.

Value— Floating point number
Default— 1.5
Editing Level—Advanced

`minimum-backlog` *minimum-backlog*—(Optional) Along with the maximum backlog ratio, specifies when the active session store closes the connection to a passive session store because of a backlog of messages waiting to be sent to the passive session store. After the startup and initial update processes are complete, if the backlog becomes too large, the connection to the passive session store is closed. After the retry interval ends, a new connection is opened.

If the maximum backlog ratio is met, the active session store does not close the connection unless the backlog of messages (in bytes) is greater than this number.

Value— Number of bytes in the range 0–2147483647
Default— 5000000
Editing Level—Advanced

Required Privilege Level

system

Required Editing Level

Advanced

shared sae configuration driver junos configuration-checking

Syntax

```
shared sae configuration driver junos configuration-checking {
    configuration-checking-schedule configuration-checking-schedule;
    configuration-checking-action (enforce | synchronize | detect);
}
```

Hierarchy Level

```
[edit shared sae configuration driver junos configuration-checking]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the SAE to periodically check the configuration of the JUNOS routing platform.

Options

`configuration-checking-schedule configuration-checking-schedule`—
(Optional) Specifies when the SAE checks the router configuration.

Value— The schedule format is modeled on the UNIX crontab Entry Format (see UNIX crontab man pages). It consists of seven fields separated by space or tabs and enclosed in double quotation marks. The fields specify:

- Minute (0-59)
- Hour (0-23)
- Day of month (1-31, or the first three letters of the day of month)
- Month of the year (1-12)
- Day of the week (0-6 with 0 = Sunday, or the first three letters of the name of the day)
- Year (4 digits indicating the year)
- Time Zone ID: An * indicates the SAE local time zone.

For custom time zones, specify the format:

- zone = "GMT" (" + " | "-") (hour : minute | hour minute | hour)
- hour = digit digit

- minute = digit digit
- digit = 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9

Use the following guidelines when configuring the schedule:

- An asterisk (*) is interpreted as 0 for minutes and hours and as the SAE local time zone for time zone. For all other fields, it stands for "first-last."
- Ranges of numbers and names are allowed. Ranges are two values separated with a hyphen. The specified range is inclusive. For example, 1–5 for the hour field specifies checking at hours 1, 2, 3, 4, and 5.
- Lists are allowed. A list is a set of numbers (or ranges) separated by commas. For example: "1,2,5,9", "0-4,8-12".
- Step values can be used with ranges. Following a range with "/" < number > " specifies skips in the number's value through the range. For example, "0-23/2" in the hours field specifies event execution every other hour. Steps are also permitted after an asterisk, so "* / 2" specifies every 2 hours.
- When determining the next event time based on a specific time pattern, the following rules apply: Seconds and milliseconds are ignored (that is, rounded up to the closest minute). If you set both a day of the month and a day of the week, only the day of month is used.

Default— No value

Editing Level—Advanced

configuration-checking-action (enforce | synchronize | detect)—
(Optional) Action that the SAE takes when it detects disparities between the configuration of the SAE and the configuration on the router.

Value— One of the following:

- detect—Reports disparities through the SAE router driver event trap called routerConfOutOfSynch and through the info log. The SAE does not make any changes on the router.
- enforce—Enforces the state of the session layer on the router. The SAE removes all sessions that have disparities and creates new sessions with the same activation parameters as the original ones
- synchronize—Synchronizes the state of the session layer on the router. The SAE removes all sessions that have disparities.

Editing Level—Advanced

Required Privilege Level

system

Required Editing Level

Advanced

shared sae configuration driver junos security

Syntax

```
shared sae configuration driver junos security {
    need-client-authentication;
    local-certificate local-certificate;
}
```

Hierarchy Level

```
[edit shared sae configuration driver junos security]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure Transport Layer Security (TLS) on the SAE.

Options

`need-client-authentication`—(Optional) Enables or disables whether or not the SAE requests a client certificate from the router

If enabled, the SAE asks the router for a client certificate when a connection to the router is established.

If disabled, the SAE does not ask the router for a client certificate when a connection to the router is established.

Default— Enabled

Editing Level—Normal

`local-certificate` *local-certificate*— Name of certificate to be used for TLS communications

Value— Name of certificate

Default— No value

Editing Level—Normal

Required Privilege Level

system

Required Editing Level

Advanced

shared sae configuration driver junos session-store

Syntax

```
shared sae configuration driver junos session-store {
    maximum-queue-age maximum-queue-age;
    maximum-queued-operations maximum-queued-operations;
    maximum-queue-size maximum-queue-size;
    maximum-file-size maximum-file-size;
    minimum-disk-space-usage minimum-disk-space-usage;
    rotation-batch-size rotation-batch-size;
    maximum-session-size maximum-session-size;
    disk-load-buffer-size disk-load-buffer-size;
    network-buffer-size network-buffer-size;
    retry-interval retry-interval;
    communications-timeout communications-timeout;
    load-timeout load-timeout;
    idle-timeout idle-timeout;
    maximum-backlog-ratio maximum-backlog-ratio;
    minimum-backlog minimum-backlog;
}
```

Hierarchy Level

```
[edit shared sae configuration driver junos session-store]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the session store for the JUNOS driver.

Options

maximum-queue-age *maximum-queue-age*—(Optional) Maximum age that a queue of buffered store operations (such as adding a session to the store or removing a session from the store) can reach before the queue is written to a session store file.

Value— Number of milliseconds in the range 0–2147483647. A value of -1 indicates that there is no limit. A value of zero causes the session store to write each store operation to a session store file immediately.

Default— 5000

Editing Level—Advanced

`maximum-queued-operations` *maximum-queued-operations*—(Optional)
 Number of buffered store operations that are queued before the queue is written to a session store file.

Value— Integer in the range 0–2147483647. A value of -1 indicates that there is no limit. A value of zero causes the session store to write each store operation to a session store file immediately.

Default— 50

Editing Level—Advanced

`maximum-queue-size` *maximum-queue-size*—(Optional) Maximum size that a queue of buffered store operations can reach before the queue is written to a session store file.

Value— Number of bytes in the range 0–2147483647

Default— 51050

Editing Level—Advanced

`maximum-file-size` *maximum-file-size*—(Optional) Maximum size of session store files. When a file reaches this size, a new file is created.

Value— Number of bytes in the range 0–2147483647

Default— 25000000

Editing Level—Advanced

`minimum-disk-space-usage` *minimum-disk-space-usage*—(Optional)
 Percentage of space in all session store files that is used by live sessions. When the percentage of space in the session store files that is used by live sessions decreases to this percentage, the oldest session store file is compacted and appended to the newest session store file, and then the oldest session store file is deleted.

Value— Percentage of disk space in the range 1–100. We recommend a range of 30–50

Default— 25

Editing Level—Advanced

`rotation-batch-size` *rotation-batch-size*—(Optional) When the oldest session store file is rotated, specifies the number of sessions that are rotated from the oldest file to the newest file at the same time. While a set of sessions is rotated, no other session store activity can take place.

Value— Integer in the range 0–2147483647

Default— 50

Editing Level—Advanced

`maximum-session-size` *maximum-session-size*—(Optional) Maximum size of a single subscriber or service session. Use this parameter to reserve memory for an internal buffer.

Value— Number of bytes in the range 0–2147483647

Default— 10000

Editing Level—Advanced

`disk-load-buffer-size` *disk-load-buffer-size*—(Optional) Size of the buffer that is used to load all of a session store's files from disk at startup.

Value— Number of bytes in the range 0–2147483647

Default— 1000000

Editing Level—Advanced

`network-buffer-size` *network-buffer-size*—(Optional) Size of the buffer that holds messages or message segments that are waiting to be sent to passive session stores

Value— Number of bytes in the range $21 + < \text{size of maximum session size field}$ – 2147483647

Default— 51050

Editing Level—Advanced

`retry-interval` *retry-interval*—(Optional) Time interval between attempts by the active session store to connect to missing passive session stores.

Value— Number of milliseconds in the range 0–2147483647

Default— 5000

Editing Level—Advanced

`communications-timeout` *communications-timeout*—(Optional) Amount of time that a session store waits before closing when it is blocked from reading or writing a message. This timeout does not apply when a session store is waiting for a remote session store to load its state from disk.

Value— Number of milliseconds in the range 0–2147483647

Default— 60000

Editing Level—Advanced

`load-timeout` *load-timeout*—(Optional) Amount of time that an active session store waits for a passive session store or a passive session store waits for an active session store to load its data from disk before it closes the connection to the session store.

Value— Number of milliseconds in the range 0–2147483647
Default— 420000
Editing Level—Advanced

`idle-timeout` *idle-timeout*—(Optional) Amount of time that a passive session store waits for activity from the active session store before it closes the connection to the active session store. This timeout applies after the session store startup and initial update processes are complete.

Value— Number of milliseconds in the range 0–2147483647
Default— 3600000
Editing Level—Advanced

`maximum-backlog-ratio` *maximum-backlog-ratio*—(Optional) Along with the minimum backlog size, specifies when the active session store closes the connection to a passive session store because of a backlog of messages waiting to be sent. After the startup and initial update processes are complete, if the backlog becomes too large, the connection to the passive session store is closed. After the retry interval ends, a new connection is opened.

If the backlog of unsent operations (in bytes) divided by the total size (in bytes) of all live store operations is greater than this number, the connection is closed.

Value— Floating point number
Default— 1.5
Editing Level—Advanced

`minimum-backlog` *minimum-backlog*—(Optional) Along with the maximum backlog ratio, specifies when the active session store closes the connection to a passive session store because of a backlog of messages waiting to be sent to the passive session store. After the startup and initial update processes are complete, if the backlog becomes too large, the connection to the passive session store is closed. After the retry interval ends, a new connection is opened.

If the maximum backlog ratio is met, the active session store does not close the connection unless the backlog of messages (in bytes) is greater than this number.

Value— Number of bytes in the range 0–2147483647
Default— 5000000
Editing Level—Advanced

Required Privilege Level

system

Required Editing Level

Advanced

shared sae configuration driver pcmm

Syntax

```
shared sae configuration driver pcmm {
    keepalive-interval keepalive-interval;
    tcp-connection-timeout tcp-connection-timeout;
    application-manager-id application-manager-id;
    message-timeout message-timeout;
    cops-message-maximum-length cops-message-maximum-length;
    cops-message-read-buffer-size cops-message-read-buffer-size;
    cops-message-write-buffer-size cops-message-write-buffer-size;
    sae-community-manager sae-community-manager;
    disable-full-sync disable-full-sync;
    disable-pcmm-i03-policy disable-pcmm-i03-policy;
    session-recovery-retry-interval session-recovery-retry-interval;
    element-id element-id;
    default-rks-plugin default-rks-plugin;
}
```

Hierarchy Level

```
[edit shared sae configuration driver pcmm]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the SAE to manage PCMM devices. The SAE connects to the PCMM device by using a COPS-over-TCP connection. The PCMM device driver controls this connection.

Options

`keepalive-interval` *keepalive-interval*— Interval between keepalive messages sent from the COPS client (the PCMM device) to the COPS server (the SAE). The COPS client monitors the COPS connection by sending keepalive messages at random intervals between one-fourth and three-fourths of the specified interval. If the client or the server does not receive the expected keepalive answer within the specified timeout, the client closes the connection.

Value— Number of seconds in the range 0-2147483647. A value of 0 means that the timeout is disabled.

Default— 45

Editing Level—Advanced

`tcp-connection-timeout` *tcp-connection-timeout*— Timeout for opening a TCP connection to the PCMM device.

Value— Number of seconds in the range 0–2147483647.

Default— 5

Editing Level—Advanced

`application-manager-id` *application-manager-id*— Identifier of the application manager when this SAE is configured as the application manager. The application manager includes this identifier in all messages that it sends to the policy server. The policy server passes this ID to the CMTS device in Gate Control messages. The CMTS device returns the ID associated with the gate to the policy server. The policy server uses this information to associate gate messages with a particular application manager.

Value— 4-byte unsigned integer that is unique in a service provider network.

Default— 0

Editing Level—Normal

`message-timeout` *message-timeout*— Amount of time that the COPS server (the SAE) waits for a response to COPS requests from the COPS client (the PCMM device). Under a high load the PCMM device may not be able to respond fast enough to COPS requests. Change this value only if a high number of COPS timeout events appear in the error log.

Value— Number of milliseconds in the range 0–2147483647

Default— 120000

Editing Level—Advanced

`cops-message-maximum-length` *cops-message-maximum-length*— Maximum length of a COPS message. We recommend that you use the default setting.

Value— Number of bytes in the range 4 bytes to 2 GB

Default— 204800

Editing Level—Advanced

`cops-message-read-buffer-size` *cops-message-read-buffer-size*— Buffer size for receiving COPS messages from the PCMM client. We recommend that you use the default setting unless you are instructed to change it by Juniper Networks engineers.

Value— Number of bytes in the range 4 bytes to 2 GB

Default— 30000

Editing Level—Advanced

`cops-message-write-buffer-size` *cops-message-write-buffer-size*— Buffer size for sending COPS messages to the PCMM client. We recommend that you use the default setting unless you are instructed to change it by Juniper Networks engineers.

Value— Number of bytes in the range 4 bytes to 2 GB

Default— 30000

Editing Level—Advanced

`sae-community-manager` *sae-community-manager*— Name of the community manager that manages PCMM driver communities. Active SAEs are selected from this community.

Value— Community name

Default— PCMMCommunityManager

Editing Level—Expert

`disable-full-sync` *disable-full-sync*— Disables or enables state synchronization with PCMM policy servers. State synchronization is achieved when the SAE is required to communicate with the policy server over the COPS connection.

Value— true or false

Default— false

Editing Level—Expert

`disable-pcmm-i03-policy` *disable-pcmm-i03-policy*— Enables or disables the SAE to send classifiers to the router that comply with PCMM I03. Disable this option if your network deployment has CMTS devices that do not support PCMM I03.

Value— true or false

Default— true

Editing Level—Expert

`session-recovery-retry-interval` *session-recovery-retry-interval*— Time interval between attempts by the SAE to restore service sessions that are still being recovered in the background when state synchronization is completed with a state-data-incomplete error. The SAE attempts to restore a service session if it receives a service modification or deactivation request for an unrecovered service session before the next interval.

We recommend setting this value to 3600000 (1 hour) or longer.

Value— Number of milliseconds in the range 0–2147483647

Default— 3600000

Editing Level—Expert

`element-id` *element-id*—(Optional) Unique identifier that the SAE uses to identify itself when it originates RKS events.

Value— 8-byte unsigned integer in the range 0–99999; must be unique within a PCMM network

Default— 0

Editing Level—Advanced

`default-rks-plug-in` *default-rks-plug-in*—(Optional) RKS plug-in to which the SAE sends event messages if you do not configure a CMTS-specific plug-in.

Value— Name of an RKS plug-in

Default— No value

Editing Level—Advanced

Required Privilege Level

system

Required Editing Level

Normal

shared sae configuration driver pcmm cmts-specific-rks-plug-ins

Syntax

```
shared sae configuration driver pcmm cmts-specific-rks-plug-ins name {
    rks-plug-in rks-plug-in;
}
```

Hierarchy Level

```
[edit shared sae configuration driver pcmm cmts-specific-rks-plug-ins]
```

Release Information

Statement introduced in SRC Release 7.0.0

Description

Configure a CMTS-specific RKS plug-in.

Options

`name name`— Name of the RKS plug-in.

Value—Text

`rks-plug-in rks-plug-in`— Name of the plug-in to which the SAE sends events for this CMTS device.

Value— Name of an RKS plug-in

Default— No value

Editing Level—Advanced

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration driver pcmm session-store

Syntax

```
shared sae configuration driver pcmm session-store {
    maximum-queue-age maximum-queue-age;
    maximum-queued-operations maximum-queued-operations;
    maximum-queue-size maximum-queue-size;
    maximum-file-size maximum-file-size;
    minimum-disk-space-usage minimum-disk-space-usage;
    rotation-batch-size rotation-batch-size;
    maximum-session-size maximum-session-size;
    disk-load-buffer-size disk-load-buffer-size;
    network-buffer-size network-buffer-size;
    retry-interval retry-interval;
    communications-timeout communications-timeout;
    load-timeout load-timeout;
    idle-timeout idle-timeout;
    maximum-backlog-ratio maximum-backlog-ratio;
    minimum-backlog minimum-backlog;
}
```

Hierarchy Level

```
[edit shared sae configuration driver pcmm session-store]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the session store for the PCMM driver.

Options

maximum-queue-age *maximum-queue-age*—(Optional) Maximum age that a queue of buffered store operations (such as adding a session to the store or removing a session from the store) can reach before the queue is written to a session store file.

Value— Number of milliseconds in the range 0–2147483647. A value of -1 indicates that there is no limit. A value of zero causes the session store to write each store operation to a session store file immediately.

Default— 5000

Editing Level—Advanced

`maximum-queued-operations` *maximum-queued-operations*—(Optional)
 Number of buffered store operations that are queued before the queue is written to a session store file.

Value— Integer in the range 0–2147483647. A value of -1 indicates that there is no limit. A value of zero causes the session store to write each store operation to a session store file immediately.

Default— 50

Editing Level—Advanced

`maximum-queue-size` *maximum-queue-size*—(Optional) Maximum size that a queue of buffered store operations can reach before the queue is written to a session store file.

Value— Number of bytes in the range 0–2147483647

Default— 51050

Editing Level—Advanced

`maximum-file-size` *maximum-file-size*—(Optional) Maximum size of session store files. When a file reaches this size, a new file is created.

Value— Number of bytes in the range 0–2147483647

Default— 25000000

Editing Level—Advanced

`minimum-disk-space-usage` *minimum-disk-space-usage*—(Optional)
 Percentage of space in all session store files that is used by live sessions. When the percentage of space in the session store files that is used by live sessions decreases to this percentage, the oldest session store file is compacted and appended to the newest session store file, and then the oldest session store file is deleted.

Value— Percentage of disk space in the range 1–100. We recommend a range of 30–50

Default— 25

Editing Level—Advanced

`rotation-batch-size` *rotation-batch-size*—(Optional) When the oldest session store file is rotated, specifies the number of sessions that are rotated from the oldest file to the newest file at the same time. While a set of sessions is rotated, no other session store activity can take place.

Value— Integer in the range 0–2147483647

Default— 50

Editing Level—Advanced

`maximum-session-size` *maximum-session-size*—(Optional) Maximum size of a single subscriber or service session. Use this parameter to reserve memory for an internal buffer.

Value— Number of bytes in the range 0–2147483647

Default— 10000

Editing Level—Advanced

`disk-load-buffer-size` *disk-load-buffer-size*—(Optional) Size of the buffer that is used to load all of a session store's files from disk at startup.

Value— Number of bytes in the range 0–2147483647

Default— 1000000

Editing Level—Advanced

`network-buffer-size` *network-buffer-size*—(Optional) Size of the buffer that holds messages or message segments that are waiting to be sent to passive session stores

Value— Number of bytes in the range $21 + < \text{size of maximum session size field}$ – 2147483647

Default— 51050

Editing Level—Advanced

`retry-interval` *retry-interval*—(Optional) Time interval between attempts by the active session store to connect to missing passive session stores.

Value— Number of milliseconds in the range 0–2147483647

Default— 5000

Editing Level—Advanced

`communications-timeout` *communications-timeout*—(Optional) Amount of time that a session store waits before closing when it is blocked from reading or writing a message. This timeout does not apply when a session store is waiting for a remote session store to load its state from disk.

Value— Number of milliseconds in the range 0–2147483647

Default— 60000

Editing Level—Advanced

`load-timeout` *load-timeout*—(Optional) Amount of time that an active session store waits for a passive session store or a passive session store waits for an active session store to load its data from disk before it closes the connection to the session store.

Value— Number of milliseconds in the range 0–2147483647
Default— 420000
Editing Level—Advanced

`idle-timeout` *idle-timeout*—(Optional) Amount of time that a passive session store waits for activity from the active session store before it closes the connection to the active session store. This timeout applies after the session store startup and initial update processes are complete.

Value— Number of milliseconds in the range 0–2147483647
Default— 3600000
Editing Level—Advanced

`maximum-backlog-ratio` *maximum-backlog-ratio*—(Optional) Along with the minimum backlog size, specifies when the active session store closes the connection to a passive session store because of a backlog of messages waiting to be sent. After the startup and initial update processes are complete, if the backlog becomes too large, the connection to the passive session store is closed. After the retry interval ends, a new connection is opened.

If the backlog of unsent operations (in bytes) divided by the total size (in bytes) of all live store operations is greater than this number, the connection is closed.

Value— Floating point number
Default— 1.5
Editing Level—Advanced

`minimum-backlog` *minimum-backlog*—(Optional) Along with the maximum backlog ratio, specifies when the active session store closes the connection to a passive session store because of a backlog of messages waiting to be sent to the passive session store. After the startup and initial update processes are complete, if the backlog becomes too large, the connection to the passive session store is closed. After the retry interval ends, a new connection is opened.

If the maximum backlog ratio is met, the active session store does not close the connection unless the backlog of messages (in bytes) is greater than this number.

Value— Number of bytes in the range 0–2147483647
Default— 5000000
Editing Level—Advanced

Required Privilege Level

system

Required Editing Level

Advanced

shared sae configuration driver scripts

Syntax

```
shared sae configuration driver scripts {
    extension-path extension-path;
    general general;
    junos junos;
    junose-pr junose-pr;
    junose-xdr junose-xdr;
    pcmm pcmm;
    third-party third-party;
}
```

Hierarchy Level

```
[edit shared sae configuration driver scripts]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure device scripts. When the SAE establishes a connection with a router, PCMM device, or other network device, it can run a script to customize the setup of the connection. These scripts are run when the connection is established and again when the connection is dropped.

Options

`extension-path extension-path`—(Optional) Path to scripts that are not in the default location, `/opt/UMC/sae/lib`.

Value— List of paths separated by semicolons (;)

Default— No value

Editing Level—Normal

`general general`—(Optional) Script that can be used for all types of routers, PCMM devices, and other network devices that the SRC software supports. The script is run when the connection between a router or other network device and the SAE is established and again when the connection is dropped.

Value— Name of a script

Default— No value

Editing Level—Basic

`junos junos`—(Optional) Initialization script for JUNOS routing platforms. The script is run when the connection between a router and the SAE is established and again when the connection is dropped.

Value— Name of a script

Default— `iorPublisher`

Editing Level—Basic

`junos-pr junose-pr`—(Optional) Initialization script for JUNOSe routers when the JUNOSe driver uses COPS-PR mode when connecting to the SAE. The script is run when the connection between a router and the SAE is established and again when the connection is dropped.

Value— Name of the file that contains the script without including the .py extension.

Default— No value

Editing Level—Basic

`junos-xdr junose-xdr`—(Optional) Initialization script for JUNOSe routers when the JUNOSe driver uses XDR mode when connecting to the SAE. The script is run when the connection between a router and the SAE is established and again when the connection is dropped.

In COPS XDR mode, the router does not send the network access server (NAS) IP address to the SAE. If your configuration requires this value, add the following line to a JUNOSe script:

```
import ERXnasip
```

When you add the `import ERXnasip` entry, the script obtains the NAS-IP address from the router through SNMP. This mechanism can affect performance, especially when the SAE manages a large number of virtual routers.

Value— Name of a script. For example, `iorPublisher`, `poolPublisher`.

Default— `iorPublisher`

Editing Level—Basic

`pcmm pcmm`—(Optional) Initialization script for the Juniper Policy Server in a PCMM environment. The script is run when the connection between a policy server and the SAE is established and again when the connection is dropped.

Value— Name of a script

Default— `amIorPublisher`

Editing Level—Basic

`third-party` *third-party*—(Optional) Initialization script for third-party device drivers. The script is run when the third-party device driver is activated or deactivated.

Value— Name of a script. For example, `iorPublisher`.

Default— No value

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration driver session-store

Syntax

```
shared sae configuration driver session-store {
    ip-address ip-address;
    port port;
    root-directory root-directory;
}
```

Hierarchy Level

```
[edit shared sae configuration driver session-store]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure global session store parameters that are shared by all session store instances (active or passive) on the SAE. You can also configure session store parameters within a router or other device driver configuration.

Options

ip-address ip-address—(Optional) IP address that the session store infrastructure on this SAE uses to listen for incoming TCP connections from active session stores.

Value— IP address. The address must be an IP address configured for the SAE host. If you do not enter an address or if you disable this field, active session stores cannot create passive session stores on this SAE. We recommend that you enter an address that is configured in a list of connected SAEs.

Default— No value

Editing Level—Advanced

port port—(Optional) TCP port number on which the session store infrastructure on this SAE listens for incoming connections from active session stores. This option has no effect if you have not configured a session store IP address.

Value— Port number in the range 1027–65535

Default— 8820

Editing Level—Advanced

`root-directory` *root-directory*—(Optional) Root directory in which the session store creates files. This option has no effect if you have not configured a session store IP address.

Value— Directory name
Default— *var/sessionStore*
Editing Level—Advanced

Required Privilege Level

system

Required Editing Level

Advanced

shared sae configuration driver simulated

Syntax

```
shared sae configuration driver simulated name {
    driver-type (junos | junose | pcmm);
    router-version router-version;
    driver-address driver-address;
    transport-router transport-router;
}
```

Hierarchy Level

```
[edit shared sae configuration driver simulated]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure simulated router drivers. Simulated router drivers allow you to create subscriber sessions without connecting to a router. You can then use the simulated subscriber sessions to test SAE applications.

Options

name *name*— Name of the simulated router driver.

Value—Text

driver-type (junos | junose | pcmm)— Type of device that the simulated driver simulates

Value— One of the following:

- junos
- junose
- pcmm

Default— JUNOS

Editing Level—Basic

`router-version` *router-version*—(Optional) Version of the device software to simulate.

Value— Valid software version for the device that is being simulated.

Default— No value

Editing Level—Basic

`driver-address` *driver-address*— Address of the router that is available for router initialization scripts.

Value— IP address

Default— 10.0.0.1

Editing Level—Basic

`transport-router` *transport-router*—(Optional) Name of a virtual router that is used to connect to the SAE. This value is passed to the router initialization script. It is not supported on JUNOS routing platforms.

Value— Name of a virtual router

Default— No value

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Normal

shared sae configuration driver simulated *name* session-store

Syntax

```
shared sae configuration driver simulated name session-store {
    maximum-queue-age maximum-queue-age;
    maximum-queued-operations maximum-queued-operations;
    maximum-queue-size maximum-queue-size;
    maximum-file-size maximum-file-size;
    minimum-disk-space-usage minimum-disk-space-usage;
    rotation-batch-size rotation-batch-size;
    maximum-session-size maximum-session-size;
    disk-load-buffer-size disk-load-buffer-size;
    network-buffer-size network-buffer-size;
    retry-interval retry-interval;
    communications-timeout communications-timeout;
    load-timeout load-timeout;
    idle-timeout idle-timeout;
    maximum-backlog-ratio maximum-backlog-ratio;
    minimum-backlog minimum-backlog;
}
```

Hierarchy Level

```
[edit shared sae configuration driver simulated name session-store]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the session store for the simulated driver.

Options

maximum-queue-age maximum-queue-age—(Optional) Maximum age that a queue of buffered store operations (such as adding a session to the store or removing a session from the store) can reach before the queue is written to a session store file.

Value— Number of milliseconds in the range 0–2147483647. A value of -1 indicates that there is no limit. A value of zero causes the session store to write each store operation to a session store file immediately.

Default— 5000

Editing Level—Advanced

`maximum-queued-operations` *maximum-queued-operations*—(Optional)
 Number of buffered store operations that are queued before the queue is written to a session store file.

Value— Integer in the range 0–2147483647. A value of -1 indicates that there is no limit. A value of zero causes the session store to write each store operation to a session store file immediately.

Default— 50

Editing Level—Advanced

`maximum-queue-size` *maximum-queue-size*—(Optional) Maximum size that a queue of buffered store operations can reach before the queue is written to a session store file.

Value— Number of bytes in the range 0–2147483647

Default— 51050

Editing Level—Advanced

`maximum-file-size` *maximum-file-size*—(Optional) Maximum size of session store files. When a file reaches this size, a new file is created.

Value— Number of bytes in the range 0–2147483647

Default— 25000000

Editing Level—Advanced

`minimum-disk-space-usage` *minimum-disk-space-usage*—(Optional)
 Percentage of space in all session store files that is used by live sessions. When the percentage of space in the session store files that is used by live sessions decreases to this percentage, the oldest session store file is compacted and appended to the newest session store file, and then the oldest session store file is deleted.

Value— Percentage of disk space in the range 1–100. We recommend a range of 30–50

Default— 25

Editing Level—Advanced

`rotation-batch-size` *rotation-batch-size*—(Optional) When the oldest session store file is rotated, specifies the number of sessions that are rotated from the oldest file to the newest file at the same time. While a set of sessions is rotated, no other session store activity can take place.

Value— Integer in the range 0–2147483647

Default— 50

Editing Level—Advanced

`maximum-session-size` *maximum-session-size*—(Optional) Maximum size of a single subscriber or service session. Use this parameter to reserve memory for an internal buffer.

Value— Number of bytes in the range 0–2147483647

Default— 10000

Editing Level—Advanced

`disk-load-buffer-size` *disk-load-buffer-size*—(Optional) Size of the buffer that is used to load all of a session store's files from disk at startup.

Value— Number of bytes in the range 0–2147483647

Default— 1000000

Editing Level—Advanced

`network-buffer-size` *network-buffer-size*—(Optional) Size of the buffer that holds messages or message segments that are waiting to be sent to passive session stores

Value— Number of bytes in the range $21 + < \text{size of maximum session size field} > - 2147483647$

Default— 51050

Editing Level—Advanced

`retry-interval` *retry-interval*—(Optional) Time interval between attempts by the active session store to connect to missing passive session stores.

Value— Number of milliseconds in the range 0–2147483647

Default— 5000

Editing Level—Advanced

`communications-timeout` *communications-timeout*—(Optional) Amount of time that a session store waits before closing when it is blocked from reading or writing a message. This timeout does not apply when a session store is waiting for a remote session store to load its state from disk.

Value— Number of milliseconds in the range 0–2147483647

Default— 60000

Editing Level—Advanced

`load-timeout` *load-timeout*—(Optional) Amount of time that an active session store waits for a passive session store or a passive session store waits for an active session store to load its data from disk before it closes the connection to the session store.

Value— Number of milliseconds in the range 0–2147483647

Default— 420000

Editing Level—Advanced

`idle-timeout` *idle-timeout*—(Optional) Amount of time that a passive session store waits for activity from the active session store before it closes the connection to the active session store. This timeout applies after the session store startup and initial update processes are complete.

Value— Number of milliseconds in the range 0–2147483647

Default— 3600000

Editing Level—Advanced

`maximum-backlog-ratio` *maximum-backlog-ratio*—(Optional) Along with the minimum backlog size, specifies when the active session store closes the connection to a passive session store because of a backlog of messages waiting to be sent. After the startup and initial update processes are complete, if the backlog becomes too large, the connection to the passive session store is closed. After the retry interval ends, a new connection is opened.

If the backlog of unsent operations (in bytes) divided by the total size (in bytes) of all live store operations is greater than this number, the connection is closed.

Value— Floating point number

Default— 1.5

Editing Level—Advanced

`minimum-backlog` *minimum-backlog*—(Optional) Along with the maximum backlog ratio, specifies when the active session store closes the connection to a passive session store because of a backlog of messages waiting to be sent to the passive session store. After the startup and initial update processes are complete, if the backlog becomes too large, the connection to the passive session store is closed. After the retry interval ends, a new connection is opened.

If the maximum backlog ratio is met, the active session store does not close the connection unless the backlog of messages (in bytes) is greater than this number.

Value— Number of bytes in the range 0–2147483647

Default— 5000000

Editing Level—Advanced

Required Privilege Level

system

Required Editing Level

Advanced

shared sae configuration driver snmp

Syntax

```
shared sae configuration driver snmp {
    read-only-community-string read-only-community-string;
    read-write-community-string read-write-community-string;
}
```

Hierarchy Level

```
[edit shared sae configuration driver snmp]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure global default SNMP communities for use with JUNOSe routers and JUNOS routing platforms. Global default SNMP communities are used if a virtual router does not exist on the router or the community strings have not been configured for the VR.

Options

`read-only-community-string read-only-community-string`— Default SNMP community string used for read access to the router.

Value— SNMP community string that matches a read-only community string configured on the router.

Default— Public

Editing Level—Normal

`read-write-community-string read-write-community-string`— Default SNMP community string used for write access to the router.

Value— SNMP community string that matches a read-write community string configured on the router.

Default— Private

Editing Level—Normal

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration driver third-party

Syntax

```
shared sae configuration driver third-party {
    sae-community-manager sae-community-manager;
}
```

Hierarchy Level

```
[edit shared sae configuration driver third-party]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the community manager for third-party devices that the SAE manages.

Options

`sae-community-manager sae-community-manager`— Name of the community manager that manages network device communities. Active SAEs are selected from this community.

Value— Community name

Default— PROXYCommunityManager

Editing Level—Expert

Required Privilege Level

system

Required Editing Level

Advanced

shared sae configuration driver third-party session-store

Syntax

```
shared sae configuration driver third-party session-store {
    maximum-queue-age maximum-queue-age;
    maximum-queued-operations maximum-queued-operations;
    maximum-queue-size maximum-queue-size;
    maximum-file-size maximum-file-size;
    minimum-disk-space-usage minimum-disk-space-usage;
    rotation-batch-size rotation-batch-size;
    maximum-session-size maximum-session-size;
    disk-load-buffer-size disk-load-buffer-size;
    network-buffer-size network-buffer-size;
    retry-interval retry-interval;
    communications-timeout communications-timeout;
    load-timeout load-timeout;
    idle-timeout idle-timeout;
    maximum-backlog-ratio maximum-backlog-ratio;
    minimum-backlog minimum-backlog;
}
```

Hierarchy Level

```
[edit shared sae configuration driver third-party session-store]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the session store for the third-party device driver.

Options

maximum-queue-age *maximum-queue-age*—(Optional) Maximum age that a queue of buffered store operations (such as adding a session to the store or removing a session from the store) can reach before the queue is written to a session store file.

Value— Number of milliseconds in the range 0–2147483647. A value of -1 indicates that there is no limit. A value of zero causes the session store to write each store operation to a session store file immediately.

Default— 5000

Editing Level—Advanced

`maximum-queued-operations` *maximum-queued-operations*—(Optional)
 Number of buffered store operations that are queued before the queue is written to a session store file.

Value— Integer in the range 0–2147483647. A value of -1 indicates that there is no limit. A value of zero causes the session store to write each store operation to a session store file immediately.

Default— 50

Editing Level—Advanced

`maximum-queue-size` *maximum-queue-size*—(Optional) Maximum size that a queue of buffered store operations can reach before the queue is written to a session store file.

Value— Number of bytes in the range 0–2147483647

Default— 51050

Editing Level—Advanced

`maximum-file-size` *maximum-file-size*—(Optional) Maximum size of session store files. When a file reaches this size, a new file is created.

Value— Number of bytes in the range 0–2147483647

Default— 25000000

Editing Level—Advanced

`minimum-disk-space-usage` *minimum-disk-space-usage*—(Optional)
 Percentage of space in all session store files that is used by live sessions. When the percentage of space in the session store files that is used by live sessions decreases to this percentage, the oldest session store file is compacted and appended to the newest session store file, and then the oldest session store file is deleted.

Value— Percentage of disk space in the range 1–100. We recommend a range of 30–50

Default— 25

Editing Level—Advanced

`rotation-batch-size` *rotation-batch-size*—(Optional) When the oldest session store file is rotated, specifies the number of sessions that are rotated from the oldest file to the newest file at the same time. While a set of sessions is rotated, no other session store activity can take place.

Value— Integer in the range 0–2147483647

Default— 50

Editing Level—Advanced

`maximum-session-size` *maximum-session-size*—(Optional) Maximum size of a single subscriber or service session. Use this parameter to reserve memory for an internal buffer.

Value— Number of bytes in the range 0–2147483647

Default— 10000

Editing Level—Advanced

`disk-load-buffer-size` *disk-load-buffer-size*—(Optional) Size of the buffer that is used to load all of a session store's files from disk at startup.

Value— Number of bytes in the range 0–2147483647

Default— 1000000

Editing Level—Advanced

`network-buffer-size` *network-buffer-size*—(Optional) Size of the buffer that holds messages or message segments that are waiting to be sent to passive session stores

Value— Number of bytes in the range $21 + < \text{size of maximum session size field}$ – 2147483647

Default— 51050

Editing Level—Advanced

`retry-interval` *retry-interval*—(Optional) Time interval between attempts by the active session store to connect to missing passive session stores.

Value— Number of milliseconds in the range 0–2147483647

Default— 5000

Editing Level—Advanced

`communications-timeout` *communications-timeout*—(Optional) Amount of time that a session store waits before closing when it is blocked from reading or writing a message. This timeout does not apply when a session store is waiting for a remote session store to load its state from disk.

Value— Number of milliseconds in the range 0–2147483647

Default— 60000

Editing Level—Advanced

`load-timeout` *load-timeout*—(Optional) Amount of time that an active session store waits for a passive session store or a passive session store waits for an active session store to load its data from disk before it closes the connection to the session store.

Value— Number of milliseconds in the range 0–2147483647
Default— 420000
Editing Level—Advanced

`idle-timeout` *idle-timeout*—(Optional) Amount of time that a passive session store waits for activity from the active session store before it closes the connection to the active session store. This timeout applies after the session store startup and initial update processes are complete.

Value— Number of milliseconds in the range 0–2147483647
Default— 3600000
Editing Level—Advanced

`maximum-backlog-ratio` *maximum-backlog-ratio*—(Optional) Along with the minimum backlog size, specifies when the active session store closes the connection to a passive session store because of a backlog of messages waiting to be sent. After the startup and initial update processes are complete, if the backlog becomes too large, the connection to the passive session store is closed. After the retry interval ends, a new connection is opened.

If the backlog of unsent operations (in bytes) divided by the total size (in bytes) of all live store operations is greater than this number, the connection is closed.

Value— Floating point number
Default— 1.5
Editing Level—Advanced

`minimum-backlog` *minimum-backlog*—(Optional) Along with the maximum backlog ratio, specifies when the active session store closes the connection to a passive session store because of a backlog of messages waiting to be sent to the passive session store. After the startup and initial update processes are complete, if the backlog becomes too large, the connection to the passive session store is closed. After the retry interval ends, a new connection is opened.

If the maximum backlog ratio is met, the active session store does not close the connection unless the backlog of messages (in bytes) is greater than this number.

Value— Number of bytes in the range 0–2147483647
Default— 5000000
Editing Level—Advanced

Required Privilege Level

system

Required Editing Level

Advanced

shared sae configuration dynamic-radius-server

Syntax

```
shared sae configuration dynamic-radius-server {
    maximum-cached-peer maximum-cached-peer;
}
```

Hierarchy Level

```
[edit shared sae configuration dynamic-radius-server]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the number of peers that the dynamic RADIUS server can maintain.

Options

`maximum-cached-peer` *maximum-cached-peer*— Maximum number of peers maintained by the dynamic RADIUS server.

Value—

Default— 100

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration external-interface-features

Syntax

```
shared sae configuration external-interface-features name ...
```

Hierarchy Level

```
[edit shared sae configuration external-interface-features]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Create an external interface configuration.

Options

`name name`— Name of the external interface configuration.

Value—Text

Required Privilege Level

system

Required Editing Level

Advanced

shared sae configuration external-interface-features *name* CommunityManager

Syntax

```
shared sae configuration external-interface-features name CommunityManager {
    keepalive-interval keepalive-interval;
    threads threads;
    acquire-timeout acquire-timeout;
    blackout-time blackout-time;
}
```

Hierarchy Level

```
[edit shared sae configuration external-interface-features name CommunityManager]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the SAE community manager that manages PCMM and third-party device communities.

Options

`keepalive-interval keepalive-interval`— Interval between keepalive messages sent from the active SAE to the passive members of the community.

Value— Number of seconds in the range 0–2147483647

Default— 30

Editing Level—Basic

`threads threads`— Number of threads that are allocated to manage the community. You generally do not need to change this property.

Value— Integer in the range 1–50

Default— 5

Editing Level—Basic

`acquire-timeout acquire-timeout`— Amount of time an SAE waits for a remote

member of the community when it is acquiring a distributed lock. To avoid race conditions when the SAE community is determining which SAE is the active SAE, the community manager has a distributed lock. When an SAE attempts to become the active SAE, it needs to acquire the distributed lock. You generally do not need to change this property.

Value— Number of seconds in the range 0–2147483647

Default— 15

Editing Level—Advanced

`blackout-time` *blackout-time*— Amount of time that an active SAE must wait after it shuts down before it can try to become the active SAE of the community again.

Value— Number of seconds in the range 0–2147483647

Default— 30

Editing Level—Advanced

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration external-interface-features *name* EventAPI

Syntax

```
shared sae configuration external-interface-features name EventAPI {
    retry-time retry-time;
    retry-limit retry-limit;
    threads threads;
}
```

Hierarchy Level

```
[edit shared sae configuration external-interface-features name EventAPI]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure properties for the Event Notification API.

Options

`retry-time retry-time`— Amount of time between attempts to send router events that could not be delivered.

Value— Number of seconds in the range 0–2147483647

Default— 300

Editing Level—Basic

`retry-limit retry-limit`— Maximum number of times an event fails to be delivered before it is discarded.

Value— Integer in the range 0–2147483647

Default— 5

Editing Level—Basic

`threads threads`— Number of threads allocated to process events.

Value— Integer in the range 0–2147483647

Default— 5

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration external-interface-features *name* JavaScriptProcessor

Syntax

```
shared sae configuration external-interface-features name JavaScriptProcessor {
    script-directory script-directory;
    scan-interval scan-interval;
    compiler-classpath compiler-classpath;
    character-encoding character-encoding;
    compiler-debug;
    java-compiler java-compiler;
}
```

Hierarchy Level

```
[edit shared sae configuration external-interface-features name JavaScriptProcessor]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the SAE properties that activate and configure the Java script interface module.

Options

script-directory script-directory—(Optional) Storage location for Java scripts; defined relative to the SAE installation directory. If you store the scripts in the `/opt/UMC/sae/var/javaScripts` directory on the SRC system, you do not need to specify this property.

Do not specify a directory that is part of the class path of the JVM running the SAE. If you do so, unloading of Java scripts will fail.

Value— Path that can be read by a URL class loader, in one of the following formats:

- `file: // < path > < filename >`
- `http: // < hostName > . < portNumber > < path > < filename >`
- `path`—List of directories separated by forward slashes
- `filename`—Name of the JAR file
- `hostName`—Name of the host on which the script is stored

- **portNumber**—Number of the TCP/IP port

Default— *var/javaScripts*

Editing Level—Advanced

scan-interval *scan-interval*— Time interval between scans in the script directory for new or modified .java source files. At each scan, the interface module compiles new and modified files. If the scripts conform to Java script requirements, the interface module installs them on the SAE as Java scripts. It also removes deleted scripts from the SAE.

Value— Number of seconds in the range 0–2147483647; 0 (zero) means that the interface module does not scan the directories.

Default— 0

Editing Level—Advanced

compiler-classpath *compiler-classpath*— Class path that the compiler uses to load source files.

Value— Path that can be read by a URL class loader, in one of the following formats:

- file: // < path > < filename >
- http:// < hostName > . < portNumber > < path > < filename >
- path—List of directories separated by forward slashes
- filename—Name of the JAR file
- hostName—Name of the host on which the script is stored
- portNumber—Number of the TCP/IP port

If you clear this value, the value defaults to the Java script directory specified by the script-directory option.

Default— *var/javaScripts:lib/sae.jar*

Editing Level—Advanced

character-encoding *character-encoding*—(Optional) Character encoding that the compiler uses when it loads Java source files.

Value— See <http://java.sun.com/j2se/1.4/docs/guide/intl/encoding.doc.html>

Default— Default encoding for the platform on which you are working

Editing Level—Advanced

compiler-debug—(Optional) Enables or disables whether the compiler places debug information into .class files

Default— Disabled

Editing Level—Advanced

`java-compiler` *java-compiler*—(Optional)

If you do not specify an external compiler, the interface module compiles the scripts-in-process with the `com.sun.tools.javac.Main` compiler from Sun Microsystems's `tools.jar`. The information specified in the Character Encoding, Compiler Classpath, and Compiler Debug fields is passed to the compiler.

If you specify an external compiler, an external process is created to perform the compilation using the specified command, and the information specified in the Character Encoding, Compiler Classpath, and Compiler Debug fields is ignored. Assumptions:

- The specified shell command will invoke an appropriate Java compiler without error.
- The specified shell command uses a class path that includes both the Java script directory specified in the Script Directory field and the SAE's public APIs.
- The compiler outputs its `.class` files to the directory specified in the Script Directory field.

Value— Command string with the class path that identifies both the Java script directory and the public APIs for the SAE.

Default— `javac -classpath var/javaScripts:lib/sae.jar -d var/javaScripts`

Editing Level—Advanced

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration external-interface-features *name* PythonScriptProcessor

Syntax

```
shared sae configuration external-interface-features name PythonScriptProcessor {  
}
```

Hierarchy Level

```
[edit shared sae configuration external-interface-features name PythonScriptProcessor]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Create an instance of the Python script processor.

Options

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration external-interface-features *name* SAEAccess

Syntax

```
shared sae configuration external-interface-features name SAEAccess {
    cache-size cache-size;
    cache-timeout cache-timeout;
    cache-clean cache-clean;
}
```

Hierarchy Level

```
[edit shared sae configuration external-interface-features name SAEAccess]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure properties for the SAE access interface module.

Options

`cache-size cache-size`— Maximum number of subscriber objects kept in the cache.

Value— Integer in the range 0–2147483647

Default— 1024

Editing Level—Normal

`cache-timeout cache-timeout`— Maximum time that idle subscriber objects are kept in the cache.

Value— Number of seconds in the range 0–2147483647

Default— 30

Editing Level—Normal

`cache-clean cache-clean`— Number of subscriber objects removed from the cache when the maximum number is reached.

Value— Integer in the range 1 – < cache size >

Default— 1

Editing Level—Normal

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration external-interface-features *name* SAEFeature

Syntax

```
shared sae configuration external-interface-features name SAEFeature {
    java-class java-class;
    additional-classpath additional-classpath;
}
```

Hierarchy Level

```
[edit shared sae configuration external-interface-features name SAEFeature]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure SAE properties for customized interface modules.

Options

`java-class java-class`— Name of the Java class that implements the interface module.

Value— Fully qualified Java class name. For example, `net.juniper.smgmt.sae.saeimpl.SAEAccessImpl`.

Default— No value

Editing Level—Normal

`additional-classpath additional-classpath`—(Optional) Path to the location where libraries are stored. If you store the libraries in the `/opt/UMC/sae/lib` directory on the host where you installed the SAE software, you do not need to specify a class path.

Value— Comma-separated list of URLs that can be read by a URL class loader in one of the following formats:

- `file:// < path > < filename >`
- `http:// < hostName > < portNumber > < path > < filename >`

where

- path is a list of directories separated by backslashes
- filename is the name of the JAR file
- hostName is the name of the host on which the script is stored
- portNumber is the number of the TCP/IP port

Default— No value

Editing Level—Normal

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration external-interface-features *name* SAEFeature properties

Syntax

```
shared sae configuration external-interface-
features name SAEFeature properties name {
    value;
}
```

Hierarchy Level

```
[edit shared sae configuration external-interface-
features name SAEFeature properties]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Define properties for an SAE customized interface module.

Options

name name— Name of the property for which you want to define a value.

Value—Text

value— Value for the property.

Value— Value for the property.

Default— No value

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Normal

shared sae configuration file-accounting-template

Syntax

```
shared sae configuration file-accounting-template name ...
```

Hierarchy Level

```
[edit shared sae configuration file-accounting-template]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a template that defines header names for attributes listed in accounting files. When the SAE writes data to a flat file, it writes into the first line the headers that identify the attributes in the file. For example, in the following accounting file, the first line lists headers for all attribute fields in the file, and the following lines list the actual data in each field:

Accounting Status,NAS ID,SAE Host,Router Name,Interface Name,Interface Alias

start,SSP.uelmo,uelmo,default@erx7_ssp57,FastEthernet1/1.1.

You can assign your own names to the headers that appear in the file. To do so, you define the header names in a template and then set up file accounting plug-ins to use the template. The default template, FileAccounting.std, defines header names for all possible attributes. You can use the default template or create your own templates.

Options

name name— Name of the file-accounting template.

Value—Text

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration file-accounting-template *name* attributes

Syntax

```
shared sae configuration file-accounting-template name attributes (status |
nas-id | host | router-name | interface-name | interface-alias | interface-
descr | port-id | user-ip-address | login-name | accounting-id | auth-user-id
| if-radius-class | if-session-id | service-name | radius-class | event-time |
session-id | terminate-cause | session-time | in-octets | out-octets | in-
packets | out-packets | nas-ip | user-mac-address | service-session-name |
service-session-tag | user-type | user-radius-class | user-session-id |
primary-user-name | subscription-name | login-id | if-index | event-time-
millisecond | nas-port | operational | user-inet-address | nas-inet-address |
router-type | interface-speed | service-bundle | user-dn | uid | domain |
retailer-dn | password | service-scope | session-timeout | downstream-
bandwidth | upstream-bandwidth | dhcp-packet | aggr-session-id | aggr-login-
name | aggr-user-dn | aggr-user-inet-address | aggr-accounting-id | aggr-auth-
user-id) {
    value;
}
```

Hierarchy Level

```
[edit shared sae configuration file-accounting-template name attributes]
```

Description

Configure the values for the attribute headers that will appear in accounting files.

Options

Name of the accounting attribute for which you want to define a header.

Value

- status
- nas-id
- host
- router-name
- interface-name
- interface-alias
- interface-descr
- port-id
- user-ip-address
- login-name

- accounting-id
- auth-user-id
- if-radius-class
- if-session-id
- service-name
- radius-class
- event-time
- session-id
- terminate-cause
- session-time
- in-octets
- out-octets
- in-packets
- out-packets
- nas-ip
- user-mac-address
- service-session-name
- service-session-tag
- user-type
- user-radius-class
- user-session-id
- primary-user-name
- subscription-name
- login-id
- if-index
- event-time-millisecond
- nas-port
- operational
- user-inet-address
- nas-inet-address
- router-type
- interface-speed
- service-bundle
- user-dn
- uid
- domain
- retailer-dn
- password
- service-scope
- session-timeout
- downstream-bandwidth
- upstream-bandwidth
- dhcp-packet
- aggr-session-id
- aggr-login-name
- aggr-user-dn
- aggr-user-inet-address
- aggr-accounting-id
- aggr-auth-user-id

value— Header text that appears in the accounting file.

Value— Text that you want to appear as the header in the property file.
If the header contains spaces, enclose the header in quotation marks.

Default— No value

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration global-radius-udp-port

Syntax

```
shared sae configuration global-radius-udp-port {
    udp-port;
}
```

Hierarchy Level

```
[edit shared sae configuration global-radius-udp-port]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a global source UDP port or a pool of ports that RADIUS plug-ins use to communicate with RADIUS servers.

In RADIUS packets that RADIUS plug-ins send to a RADIUS server, the plug-in uses an identifier field to match requests to replies. This field provides for a maximum of 256 identifiers. Once all identifiers are used, the plug-in cannot send any more requests until it receives replies that match the requests already sent. In high-load systems, this limit can slow performance.

To overcome this limitation, you can configure a pool of UDP ports for RADIUS plug-ins. Having a pool of ports allows RADIUS plug-ins to create one queue per port to wait for RADIUS replies. Each queue can wait for 256 RADIUS packets. The RADIUS plug-ins send RADIUS packets through the pool of ports in a round-robin mode.

Options

udp-port— Global source UDP port or a pool of ports that RADIUS plug-ins use to communicate with RADIUS servers. You can also configure UDP ports for each plug-in instance. If you do not configure a UDP port for a plug-in instance, the plug-in uses the global UDP port.

Value— You can enter a single port number, a pool of port numbers, or a list of port numbers and port ranges:

- Port number in the range 1–65535
- A range of ports in the format port-port; for example, 7000-7003

Default— 18130
Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Advanced

shared sae configuration idle-timeout

Syntax

```
shared sae configuration idle-timeout {  
    adjust-session-time;  
}
```

Hierarchy Level

```
[edit shared sae configuration idle-timeout]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Specify whether or not the SAE reduces the session time reported in the accounting stop message by the idle time. This way the session time is accurately reported to avoid overcharges for the session.

Options

`adjust-session-time`—(Optional) If enabled, when an idle timeout terminates a session, the session time reported in the accounting stop message is reduced by the idle time.

Default— Enabled

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Advanced

shared sae configuration interim-accounting

Syntax

```
shared sae configuration interim-accounting {
    service-interim-accounting;
    service-interim-interval service-interim-interval;
    subscriber-interim-accounting;
    subscriber-interim-interval subscriber-interim-interval;
}
```

Hierarchy Level

```
[edit shared sae configuration interim-accounting]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Enable interim accounting and set intervals between interim accounting messages for services and subscribers. These settings apply to all subscriber sessions and service sessions. You can override these settings for specific services by configuring an accounting interim interval in the service configuration.

Options

service-interim-accounting—(Optional) Enable interim accounting for services. You can override this setting for specific services by configuring an accounting interim interval in the service configuration.

Default— Enabled

Editing Level—Basic

service-interim-interval *service-interim-interval*— Interval between service interim accounting messages. A short interval causes the SAE to send many messages to the router and to the RADIUS servers. A long interval can result in a large loss of accounting information in the event of a system failure.

Value— Number of seconds in the range 900–86400

Default— 900

Editing Level—Basic

`subscriber-interim-accounting`—(Optional) Enable interim accounting for subscribers. If enabled, the SAE continually generates Interim-Update accounting requests for all active subscribers at the interval specified with the **`subscriber-interim-interval`** option.

Default— Enabled

Editing Level—Basic

`subscriber-interim-interval` *subscriber-interim-interval*— Interval between subscriber interim accounting messages. A short interval causes the SAE to send many messages to any configured accounting servers. A long interval can result in a large loss of accounting information in the event of a system failure.

Value— Number of seconds in the range 900–86400

Default— 900

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Normal

shared sae configuration ldap

Syntax

```
shared sae configuration ldap {
    network-dn network-dn;
    enable-directory-eventing;
}
```

Hierarchy Level

```
[edit shared sae configuration ldap]
```

Description

Configure the LDAP connection from the SAE to the directory in which network device data is stored.

Options

`network-dn network-dn`— Subtree in the directory in which network device data is stored.

Value— `<DN>` . You can use the special value `<base>` to refer to the globally configured base DN. The string `<base>` is replaced with the directory base DN.

Default— `o= Network,< base>`

Editing Level—Expert

`enable-directory-eventing`—(Optional) Enables or disables automatic discovery of changes in the SAE configuration data.

Default— Enabled

Editing Level—Normal

Required Privilege Level

system

Required Editing Level

Normal

shared sae configuration ldap directory-eventing

Syntax

```
shared sae configuration ldap directory-eventing {
    timeout timeout;
    dispatcher-pool-size dispatcher-pool-size;
}
```

Hierarchy Level

```
[edit shared sae configuration ldap directory-eventing]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a timeout for SAE directory eventing, and specify the number of events that the SAE can receive from the directory simultaneously.

Options

`timeout timeout`— Maximum time that the directory eventing system waits for the directory to respond.

Value— Number of seconds in the range 1–2147483647

Default— No value

Editing Level—Basic

`dispatcher-pool-size dispatcher-pool-size`— Number of events that the SAE can receive from the directory simultaneously.

Value— Integer in the range 1–2147483647

Default— No value

Editing Level—Expert

Required Privilege Level

system

Required Editing Level

Expert

shared sae configuration ldap persistent-login-cache

Syntax

```
shared sae configuration ldap persistent-login-cache {
    server-address server-address;
    port-number port-number;
    dn dn;
    authentication-dn authentication-dn;
    password password;
    directory-eventing;
    polling-interval polling-interval;
    blacklist;
    (ldaps);
}
```

Hierarchy Level

```
[edit shared sae configuration ldap persistent-login-cache]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the LDAP connection from the SAE to the directory in which persistent login cache data is stored.

Options

server-address server-address—(Optional) Directory server that stores information.

Value— IP address or hostname. For multiple directory servers, enclose the addresses or hostnames in quotes and separate addresses or names with a space. For example: "127.153.27.1 192.168.0.1".

Default— No value

Editing Level—Normal

port-number port-number—(Optional) Directory port number

Value—Integer in the range -2147483648–2147483647

Default— 389

Editing Level—Normal

`dn dn`— Subtree in the directory in which subscriber, service, or persistent login cache data is stored.

For subscriber data, when a subscriber logs in to a residential portal, the SAE searches subscriber profiles by mapping the realm of the login name to a retailer object found below the DN.

The SAE loads service definitions on startup and when service reloading is requested.

Value— `< DN >` . You can use the special value `< base >` to refer to the globally configured base DN. The string `< base >` is replaced with the directory base DN.

Default— One of the following:

- Subscriber data—`o= Users, < base >`
- Service data—`< base >`
- Persistent login cache—`ou-authCache, < base >`

Editing Level—Normal

`authentication-dn authentication-dn`—(Optional) DN that the SAE uses to authenticate access to the directory server. The specified directory entry must exist and have read access to all attributes.

For subscriber data, the entry must have write access if subscribers are allowed to customize their subscription profiles.

Value— `< DN >` . You can use the special value `< base >` to refer to the globally configured base DN. The string `< base >` is replaced with the directory base DN.

Default— No value

Editing Level—Normal

`password password`—(Optional) Password used to authenticate access to the directory server. You must configure the password in the directory to authenticate read access to the directory.

Value— Text string or base64 string.

For authentication to access subscriber data, the password must match the value of the `userPassword` attribute of the authentication DN.

Default— No value

Editing Level—Normal

`directory-eventing`—(Optional) Enables or disables automatic discovery of changes to directory data.

For subscriber data:

- If enabled, changes in the subscriber profile or subscriptions take effect automatically while the subscriber is logged in.
- If disabled, changes in the subscriber profile or subscriptions do not take effect until the next time the subscriber logs in.

For service data:

- If enabled, changes in service definitions take effect automatically. If a changed service is in use, all service instances are deactivated and then reactivated with the modified settings. Consequently, service may be affected for subscribers who are logged in at the time of the modification.
- If disabled, changes in service definitions do not take effect until you restart the SAE.

Default— Disabled

Editing Level—Advanced

`polling-interval` *polling-interval*— Frequency for checking the directory for changes.

Value— Number of seconds in the range 15–86400

Default— 30

Editing Level—Advanced

`blacklist`— Specifies whether the directory monitoring system prevents connection to a directory if the directory fails to respond during 10 polling intervals.

Editing Level—Advanced

`ldaps`—Enables LDAPS as the secure protocol for connections to the directory server.

Value— `ldaps`—Enable LDAPS

Default— Disabled

Editing Level—Advanced

Required Privilege Level

system

Required Editing Level

Normal

shared sae configuration ldap policy-data

Syntax

```
shared sae configuration ldap policy-data {
    policy-dn policy-dn;
    parameter-dn parameter-dn;
    directory-eventing;
    polling-interval polling-interval;
}
```

Hierarchy Level

```
[edit shared sae configuration ldap policy-data]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the LDAP connection from the SAE to the directory in which service data is stored.

Options

`policy-dn policy-dn`— Subtree in the directory in which policy data is stored.

Value— `<DN>`. You can use the special value `<base>` to refer to the globally configured base DN. The string `<base>` is replaced with the directory base DN.

Default— `o= Policies,< base>`

Editing Level—Normal

`parameter-dn parameter-dn`— Subtree in the directory in which policy parameter data is stored.

Value— `<DN>`. You can use the special value `<base>` to refer to the globally configured base DN. The string `<base>` is replaced with the directory base DN.

Default— `o= Parameters,< base>`

Editing Level—Normal

`directory-eventing`—(Optional) Enables or disables automatic discovery of changes

to directory data.

- If enabled, changes in policy definitions take effect automatically. If a changed policy is in use, all policy instances are deactivated and then reactivated with the modified settings. Consequently, service may be affected for subscribers who are logged in when the change is made.
- If disabled, changes in policy definitions do not take effect until you restart the SAE.

Default— Disabled

Editing Level—Advanced

`polling-interval` *polling-interval*— Frequency for checking the directory for changes.

Value— Number of seconds in the range 15–86400

Default— 30

Editing Level—Advanced

Required Privilege Level

system

Required Editing Level

Normal

shared sae configuration ldap service-data

Syntax

```
shared sae configuration ldap service-data {
    server-address server-address;
    port-number port-number;
    dn dn;
    authentication-dn authentication-dn;
    password password;
    directory-eventing;
    polling-interval polling-interval;
    blacklist;
    (ldaps);
}
```

Hierarchy Level

```
[edit shared sae configuration ldap service-data]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the LDAP connection from the SAE to the directory in which service data is stored.

Options

server-address server-address—(Optional) Directory server that stores information.

Value— IP address or hostname. For multiple directory servers, enclose the addresses or hostnames in quotes and separate addresses or names with a space. For example: "127.153.27.1 192.168.0.1".

Default— No value

Editing Level—Normal

port-number port-number—(Optional) Directory port number

Value—Integer in the range -2147483648–2147483647

Default— 389

Editing Level—Normal

`dn dn`— Subtree in the directory in which subscriber, service, or persistent login cache data is stored.

For subscriber data, when a subscriber logs in to a residential portal, the SAE searches subscriber profiles by mapping the realm of the login name to a retailer object found below the DN.

The SAE loads service definitions on startup and when service reloading is requested.

Value— `< DN >` . You can use the special value `< base >` to refer to the globally configured base DN. The string `< base >` is replaced with the directory base DN.

Default— One of the following:

- Subscriber data—`o= Users, < base >`
- Service data—`< base >`
- Persistent login cache—`ou-authCache, < base >`

Editing Level—Normal

`authentication-dn authentication-dn`—(Optional) DN that the SAE uses to authenticate access to the directory server. The specified directory entry must exist and have read access to all attributes.

For subscriber data, the entry must have write access if subscribers are allowed to customize their subscription profiles.

Value— `< DN >` . You can use the special value `< base >` to refer to the globally configured base DN. The string `< base >` is replaced with the directory base DN.

Default— No value

Editing Level—Normal

`password password`—(Optional) Password used to authenticate access to the directory server. You must configure the password in the directory to authenticate read access to the directory.

Value— Text string or base64 string.

For authentication to access subscriber data, the password must match the value of the `userPassword` attribute of the authentication DN.

Default— No value

Editing Level—Normal

`directory-eventing`—(Optional) Enables or disables automatic discovery of changes to directory data.

For subscriber data:

- If enabled, changes in the subscriber profile or subscriptions take effect automatically while the subscriber is logged in.
- If disabled, changes in the subscriber profile or subscriptions do not take effect until the next time the subscriber logs in.

For service data:

- If enabled, changes in service definitions take effect automatically. If a changed service is in use, all service instances are deactivated and then reactivated with the modified settings. Consequently, service may be affected for subscribers who are logged in at the time of the modification.
- If disabled, changes in service definitions do not take effect until you restart the SAE.

Default— Disabled

Editing Level—Advanced

`polling-interval` *polling-interval*— Frequency for checking the directory for changes.

Value— Number of seconds in the range 15–86400

Default— 30

Editing Level—Advanced

`blacklist`— Specifies whether the directory monitoring system prevents connection to a directory if the directory fails to respond during 10 polling intervals.

Editing Level—Advanced

`ldaps`—Enables LDAPS as the secure protocol for connections to the directory server.

Value— `ldaps`—Enable LDAPS

Default— Disabled

Editing Level—Advanced

Required Privilege Level

system

Required Editing Level

Normal

shared sae configuration ldap subscriber-data

Syntax

```
shared sae configuration ldap subscriber-data {
    subscription-loading-filter (subscriberRefFilter | objectClassFilter);
    load-subscriber-schedules;
    login-cache-dn login-cache-dn;
    session-cache-dn session-cache-dn;
    server-address server-address;
    port-number port-number;
    dn dn;
    authentication-dn authentication-dn;
    password password;
    directory-eventing;
    polling-interval polling-interval;
    blacklist;
    (ldaps);
}
```

Hierarchy Level

```
[edit shared sae configuration ldap subscriber-data]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the LDAP connection from the SAE to the directory in which subscriber data is stored.

Options

`subscription-loading-filter (subscriberRefFilter | objectClassFilter)`— Filter that the SAE uses to search for subscriptions in the directory when the SAE loads a subscription.

Value— One of the following:

- `subscriberRefFilter`—Subscriber reference filter. The SAE runs a search based on the `subscriberRef` attribute in the `umcServiceProfile` object, which is the base object class of the service profile hierarchy. The `subscriberRef` attribute contains a DN that points to the parent of the subscriber object.
- `objectClassFilter`—Subscription Objectclass filter. The SAE

performs a one-level search with the directory entry, which represents the subscriber folder as the base DN. The search filter is (objectClass = sspServiceProfile). This method can be slow if you have a large number of subscription entries within the subscriber folder subtree.

Default— objectClassFilter

Editing Level—Normal

load-subscriber-schedules—(Optional) Enable or disable loading of subscriber schedules.

Default— Enabled

Editing Level—Normal

login-cache-dn *login-cache-dn*— Subtree in the directory where subscriber login information is cached. When a subscriber logs in to a residential portal, the SAE searches subscriber profiles by mapping the realm of the login name to a retailer object found below the search base.

Value— <DN> . You can use the special value < base > to refer to the globally configured base DN. The string < base > is replaced with the directory base DN.

Default— o= Users,< base>

Editing Level—Normal

session-cache-dn *session-cache-dn*— Subtree in the directory where persistent session data is cached.

Value— <DN> . You can use the special value < base > to refer to the globally configured base DN. The string < base > is replaced with the directory base DN.

Default— o= PersistentSessions,< base>

Editing Level—Normal

server-address *server-address*—(Optional) Directory server that stores information.

Value— IP address or hostname. For multiple directory servers, enclose the addresses or hostnames in quotes and separate addresses or names with a space. For example: "127.153.27.1 192.168.0.1".

Default— No value

Editing Level—Normal

`port-number` *port-number*—(Optional) Directory port number

Value—Integer in the range -2147483648–2147483647

Default— 389

Editing Level—Normal

`dn` *dn*— Subtree in the directory in which subscriber, service, or persistent login cache data is stored.

For subscriber data, when a subscriber logs in to a residential portal, the SAE searches subscriber profiles by mapping the realm of the login name to a retailer object found below the DN.

The SAE loads service definitions on startup and when service reloading is requested.

Value— `<DN>` . You can use the special value `<base>` to refer to the globally configured base DN. The string `<base>` is replaced with the directory base DN.

Default— One of the following:

- Subscriber data—`o= Users,< base>`
- Service data—`< base>`
- Persistent login cache—`ou-authCache,< base>`

Editing Level—Normal

`authentication-dn` *authentication-dn*—(Optional) DN that the SAE uses to authenticate access to the directory server. The specified directory entry must exist and have read access to all attributes.

For subscriber data, the entry must have write access if subscribers are allowed to customize their subscription profiles.

Value— `<DN>` . You can use the special value `<base>` to refer to the globally configured base DN. The string `<base>` is replaced with the directory base DN.

Default— No value

Editing Level—Normal

`password` *password*—(Optional) Password used to authenticate access to the directory server. You must configure the password in the directory to authenticate read access to the directory.

Value— Text string or base64 string.

For authentication to access subscriber data, the password must match the value of the userPassword attribute of the authentication DN.

Default— No value

Editing Level—Normal

`directory-eventing`—(Optional) Enables or disables automatic discovery of changes to directory data.

For subscriber data:

- If enabled, changes in the subscriber profile or subscriptions take effect automatically while the subscriber is logged in.
- If disabled, changes in the subscriber profile or subscriptions do not take effect until the next time the subscriber logs in.

For service data:

- If enabled, changes in service definitions take effect automatically. If a changed service is in use, all service instances are deactivated and then reactivated with the modified settings. Consequently, service may be affected for subscribers who are logged in at the time of the modification.
- If disabled, changes in service definitions do not take effect until you restart the SAE.

Default— Disabled

Editing Level—Advanced

`polling-interval` *polling-interval*— Frequency for checking the directory for changes.

Value— Number of seconds in the range 15–86400

Default— 30

Editing Level—Advanced

`blacklist`— Specifies whether the directory monitoring system prevents connection to a directory if the directory fails to respond during 10 polling intervals.

Editing Level—Advanced

`ldaps`—Enables LDAPS as the secure protocol for connections to the directory server.

Value— `ldaps`—Enable LDAPS

Default— Disabled
Editing Level—Advanced

Required Privilege Level

system

Required Editing Level

Normal

shared sae configuration license-manager client

Syntax

```
shared sae configuration license-manager client {
    type type;
    cache cache;
}
```

Hierarchy Level

```
[edit shared sae configuration license-manager client]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the license manager client.

Options

`type type`— Type of the license client.

Value— SDX is currently the only valid value

Default— SDX

Editing Level—Basic

`cache cache`— Path to a cache file.

Value— Valid path

Default— `var/run/lic_cache`

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration license-manager directory-access

Syntax

```
shared sae configuration license-manager directory-access {
    server-address server-address;
    server-port server-port;
    license-dn license-dn;
    authentication-dn authentication-dn;
    password password;
    (ldaps);
    connection-manager-id connection-manager-id;
    event-base-dn event-base-dn;
    signature-dn signature-dn;
    snmp-agent;
}
```

Hierarchy Level

```
[edit shared sae configuration license-manager directory-access]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure directory access to the license manager.

Options

server-address *server-address*—(Optional) IP addresses or hostnames of the directory server that stores licensing data.

Value— IP address or hostname. For multiple directory servers, enclose the addresses or hostnames in quotes and separate addresses or names with a space.

Default— No value

Editing Level—Normal

server-port *server-port*— Port number of the LDAP connection to the directory server that stores licensing data.

Value— Port number in the range 0–65535

Default— 389

Editing Level—Normal

`license-dn` *license-dn*— Subtree in the directory where licensing information is stored. The SAE searches for the license key below this path.

Value— `<DN>`. The string `<base>` is replaced with the directory base DN

Default— `ou = Licenses, o = Management, < base >`

Editing Level—Normal

`authentication-dn` *authentication-dn*— DN the SAE uses to authenticate access to the directory server.

Value— `<DN>`. The string `<base>` is replaced with the directory base DN

Default— `cn = license-operator, o = Operators, < base >`

Editing Level—Normal

`password` *password*— Password used to authenticate access to the directory.

Value— Text string or Base64 string

Default— License

Editing Level—Normal

Enables or disables LDAPS as the secure protocol for connections to the directory server that stores license data.

Value

- `ldaps`—

Default— Disabled

Editing Level—Normal

`connection-manager-id` *connection-manager-id*— DES connection manager within the Java Naming and Directory Interface (JNDI) framework.

Value— Text

Default— `LICENSE_MANAGER`

Editing Level—Normal

`event-base-dn` *event-base-dn*—(Optional) Directory eventing base DN for the license manager data.

Value— `<DN>` . The string `<base>` is replaced with the directory base DN

Default— `<base>`

Editing Level—Expert

`signature-dn` *signature-dn*—(Optional) DN of the entry that specifies the LDAP schema attribute usedDirectory. This attribute identifies the type of directory, such as openLDAP or DirX, on which the license data is stored.

Value— `<DN>` . The string `<base>` is replaced with the directory base DN

Default— Disabled

Editing Level—Expert

`snmp-agent`—(Optional) Specifies whether the SRC SNMP agent exports MIBs for this directory connection.

Default— Disabled

Editing Level—Normal

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration logger

Syntax

```
shared sae configuration logger name ...
```

Hierarchy Level

```
[edit shared sae configuration logger]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Create a logging configuration for the SAE.

Options

`name name`— Name of the logging configuration.

Value—Text

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration logger *name* file

Syntax

```
shared sae configuration logger name file {
    filter filter;
    filename filename;
    rollover-filename rollover-filename;
    maximum-file-size maximum-file-size;
}
```

Hierarchy Level

```
[edit shared sae configuration logger name file]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure logging of messages to a file.

Options

`filter filter`—(Optional) Filter to define which event messages the software logs or ignores. Filters can specify the logging level, such as debug, or can specify expressions. For information about expressions, see the documentation that describes how to configure logging.

Value— Log filter

Default— The default value is different for each type of component.

Editing Level—Basic

`filename filename`— Absolute path of the filename that contains the current logs.

Note: Make sure that the user under which the J2EE application server or Web application server runs has write access to this folder. If this user does not have write access to the default folder, configure the component or application to write logs in folders to which the user has write access.

Value— Filename

Default— By default, SRC components and applications write log files in the folder in which the component or application is started.

Editing Level—Basic

`rollover-filename` *rollover-filename*—(Optional) Absolute path of the filename that contains the log history. When the log file reaches the maximum size, the software closes the log file and renames it with the name you specify for the rollover file. If a previous rollover file exists, the software overwrites it. The software then reopens the log file and continues to save event messages in it.

Value— Path of filename

Example—`/opt/UMC/sae/var/log/sae.alt`

Default— The default value is different for each type of component.

Editing Level—Normal

`maximum-file-size` *maximum-file-size*—(Optional) Maximum size of the log file and the rollover file.

Do not set the maximum file size to a value greater than the available disk space.

Value—Integer in the range 0–2147483647 kbytes

Default— 1000000

Editing Level—Normal

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration logger *name* syslog

Syntax

```
shared sae configuration logger name syslog {
    filter filter;
    host host;
    facility facility;
    format format;
}
```

Hierarchy Level

```
[edit shared sae configuration logger name syslog]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure logging of messages to system logging.

Options

filter filter—(Optional) Filter to define which event messages the software logs or ignores. Filters can specify the logging level, such as debug, or can specify expressions. For information about expressions, see the documentation that describes how to configure logging.

Value— Log filter

Default—/error-

Editing Level—Basic

host host— IP address or name of a host that collects event messages by means of a standard system logging daemon.

Value— IP address or hostname

Default—loghost

Editing Level—Basic

facility facility—(Optional) Type of system log in accordance with the system logging protocol.

Value—Integer in the range 0–23

Default— 3

Editing Level—Advanced

`format` *format*—(Optional) MessageFormat string that specifies how the information in an event message is printed. (The strings {#} are replaced with the log information [...]).

Value— MessageFormat string as specified in <http://java.sun.com/j2se/1.4.2/docs/api/java/text/MessageFormat.html>.

The fields available for events are:

- 0—Time and date of the event
- 1—Name of the thread generating the event
- 2—Text message of the event
- 3—Category of the event
- 4—Priority of the event

Default— None

Editing Level—Advanced

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration login-registration

Syntax

```
shared sae configuration login-registration {  
    registration-authentication;  
}
```

Hierarchy Level

```
[edit shared sae configuration login-registration]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Enable the authentication of registered username/password pairs.

Options

`registration-authentication`—(Optional) Enables the authentication of registered username/password pairs. Enable this option if your authentication server does not allow authentication while a session for the authenticated username is active.

Default—
Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Normal

shared sae configuration nic-proxy-configuration

Syntax

```
shared sae configuration nic-proxy-configuration name {
}
```

Hierarchy Level

```
[edit shared sae configuration nic-proxy-configuration]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a NIC proxy.

Options

`name name`— Name of the NIC proxy configuration.

Value—Text

Required Privilege Level

system

Required Editing Level

Normal

shared sae configuration nic-proxy-configuration *name* cache

Syntax

```
shared sae configuration nic-proxy-configuration name cache {
    cache-size cache-size;
    cache-cleanup-interval cache-cleanup-interval;
    cache-entry-age cache-entry-age;
}
```

Hierarchy Level

```
[edit shared sae configuration nic-proxy-configuration name cache]
```

Description

Configure the NIC Proxy cache properties. You can modify cache properties for the NIC proxy to optimize the resolution performance for your network configuration and system resources. Typically, you can use the default settings for the cache properties.

Options

`cache-size cache-size`—(Optional) Maximum size of the cache in which the NIC proxy retains data. If you decrease the cache size or disable the cache while the NIC proxy is running, the NIC proxy removes entries in order of descending age until the cache size meets the new limit.

Value— Integer in the range 0–2147483647

Default— 10000

Editing Level—Advanced

`cache-cleanup-interval cache-cleanup-interval`— Time interval at which the NIC proxy removes expired entries from its cache.

Value— Number of seconds in the range 5–2147483

Default— 15

Editing Level—Advanced

`cache-entry-age cache-entry-age`—(Optional) Maximum time that the NIC proxy can cache an entry. The NIC proxy compares this property with the life expectancy of each entry and uses the lower value to determine when to remove the entry.

Value— Number of seconds in the range 0–4294967295

- 0 or unspecified—Life expectancy of the data, which determines expiration of data
- Other values—Actual time that the NIC proxy caches entries

Editing Level—Advanced

Required Privilege Level

system

Required Editing Level

Advanced

shared sae configuration nic-proxy-configuration *name* nic-host-selection

Syntax

```
shared sae configuration nic-proxy-configuration name nic-host-selection {
    groups groups;
    selection-criteria (roundRobin | randomPick | priorityList);
}
```

Hierarchy Level

```
[edit shared sae configuration nic-proxy-configuration name nic-host-selection]
```

Description

Configure the mechanism that a NIC proxy uses to select NIC system if multiple systems are available. You use NIC host selection when you use NIC replication.

Options

`groups groups`—(Optional) List of groups of NIC hosts that the NIC proxy can contact for resolution requests.

Value— Names of groups.

Default— No value

Editing Level—Advanced

`selection-criteria (roundRobin | randomPick | priorityList)`—
Selection criteria that the NIC proxy uses to determine which NIC host to contact. Configure selection criteria if you configure more than one group.

Value— One of the following criteria:

- `roundRobin`—NIC proxy selects NIC hosts in a fixed, cyclic order. The NIC proxy always selects the next host in the list.
- `randomPick`—NIC proxy selects NIC hosts randomly from the list.
- `priorityList`—NIC proxy selects NIC hosts according to their assigned priorities in the list. If the host with the highest priority in the list is not available, the NIC proxy tries the host with the next-highest priority, and so on.

Use round-robin or random pick to distribute resolution requests among

NIC hosts. Use priority list if you prefer to use a particular NIC host; for example, you may reduce operating cost by using a local NIC host.

Default—round-

Editing Level—Advanced

Required Privilege Level

system

Required Editing Level

Advanced

shared sae configuration nic-proxy-configuration *name* nic-host-selection blacklisting

Syntax

```
shared sae configuration nic-proxy-configuration name nic-host-
selection blacklisting {
    try-next-system-on-error;
    number-of-retries-before-blacklisting number-of-retries-before-
blacklisting;
    blacklist-retry-interval blacklist-retry-interval;
}
```

Hierarchy Level

```
[edit shared sae configuration nic-proxy-configuration name nic-host-
selection blacklisting]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure how to handle nonresponsive NIC hosts. When a NIC host does not respond, it is blacklisted which means that other NIC hosts are contacted until the blacklisted host becomes available again.

Options

try-next-system-on-error—(Optional) Specifies whether or not the NIC proxy should contact the next specified NIC host if a NIC host is determined to be unavailable. Configure this property only if you configure more than one group.

Default—true

Editing Level—Advanced

number-of-retries-before-blacklisting *number-of-retries-before-blacklisting*— Number of times the NIC proxy tries to communicate with a NIC host before the NIC proxy stops communicating with the NIC host for a period of time.

Value—Integer in the range 0–2147483647

Default—3

Editing Level—Advanced

`blacklist-retry-interval` *blacklist-retry-interval*—Interval at which the NIC proxy attempts to connect to an unavailable NIC host.

Value—Integer in the range 15–2147483647 s

Default—15

Editing Level—Advanced

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration nic-proxy-configuration *name* resolution

Syntax

```
shared sae configuration nic-proxy-configuration name resolution {
    resolver-name resolver-name;
    key-type key-type;
    value-type value-type;
    expect-multiple-values;
    constraints constraints;
}
```

Hierarchy Level

```
[edit shared sae configuration nic-proxy-configuration name resolution]
```

Description

Configure properties for a NIC proxy (NIC locator), the NIC component that requests information on behalf of an application.

Options

`resolver-name resolver-name`— NIC resolver that the NIC proxy uses. This resolver must be the same as one that is configured on the NIC host.

Value— Path to the NIC resolver.

Example—`/realms/ip/A1,/realms/dn/A1`.

Default— No value

Editing Level—Basic

`key-type key-type`— Type of data used that the key provides for the NIC resolution. You can provide a qualifier to a data type to distinguish between different instances of a data type in a resolution scenario, or to provide information about a data type to clarify the use of that data type in a resolution.

Value— One of the following types:

- `Ip` —Subscriber's IP address

- Vr—Virtual router
- Interface—Name of router's interface
- InterfaceId—Identifier of an interface on the router
- Dn—LDAP distinguished name for subscriber
- LoginName—Subscriber login ID
- AnyString—Other information

To qualify data types, enter a qualifier within parentheses.

Example—LoginName(username).

Default— No value

Editing Level—Basic

value-type value-type— Type of value to be returned in the resolution. The value type varies according to the application that uses the NIC proxy.

Value— One of the following types:

- SaeId—SAE server ID
- LoginName—Subscriber login ID
- AnyString—Other information

To qualify data types, enter a qualifier within parentheses.

Example—LoginName(username).

Default— No value

Editing Level—Basic

expect-multiple-values—(Optional) Specifies whether or not the key can have multiple corresponding values.

Editing Level—Basic

constraints constraints—(Optional) Data type that a resolver uses during the resolution process. A constraint represents a condition that must or may be satisfied before the next stage of the resolution process can proceed.

Configure a constraint only if the constraint will be provided by the application in the resolution request. Typically, you do not need to configure constraints.

Value— Data types of constraints specified for the NIC resolution.

Separate data types with commas.

Default— No value

Editing Level—Advanced

Required Privilege Level

system

Required Editing Level

Normal

shared sae configuration nic-proxy-configuration *name* test-nic-bindings

Syntax

```
shared sae configuration nic-proxy-configuration name test-nic-bindings {
    use-test-bindings;
}
```

Hierarchy Level

```
[edit shared sae configuration nic-proxy-configuration name test-nic-bindings]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure key-value mappings to be used to test a NIC resolution.

Options

`use-test-bindings`—(Optional) Test the NIC resolutions without having to configure or run a NIC host. The values returned are those configured in the key-values property.

Default—false

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration nic-proxy-configuration *name* test-nic-bindings key-values

Syntax

```
shared sae configuration nic-proxy-configuration name test-nic-bindings key-
values name {
    value;
}
```

Hierarchy Level

```
[edit shared sae configuration nic-proxy-configuration name test-nic-
bindings key-values]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure keys and associated values to use for testing. Define all of values to be returned for specified keys.

Options

name *name*—

Value—Text

value—

Value—Text

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Advanced

shared sae configuration plug-ins

Syntax

```
shared sae configuration plug-ins {  
}
```

Hierarchy Level

```
[edit shared sae configuration plug-ins]
```

Required Privilege Level

system

Required Editing Level

Normal

shared sae configuration plug-ins event-publishers

Syntax

```
shared sae configuration plug-ins event-publishers {
    subscriber-authorization [subscriber-authorization...];
    default-retailer-authentication [default-retailer-authentication...];
    default-retailer-dhcp-authentication [default-retailer-dhcp-
authentication...];
    dhcp-authorization [dhcp-authorization...];
    service-authorization [service-authorization...];
    subscription-authorization [subscription-authorization...];
    subscriber-tracking [subscriber-tracking...];
    service-tracking [service-tracking...];
    interface-tracking [interface-tracking...];
    embedded-admin-server-authorization [embedded-admin-server-
authorization...];
}
```

Hierarchy Level

```
[edit shared sae configuration plug-ins event-publishers]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure event publishers. Event publishers tell the SAE which events to send to which plug-in.

Options

subscriber-authorization [*subscriber-authorization...*]— Authorize all subscriber sessions. These plug-in instances are called after a subscriber profile is loaded but before a subscriber session is started. The SAE calls these plug-ins for each subscriber who logs in to a portal.

These plug-in instances cannot perform authentication because passwords are not available at this point in the login process. Therefore if you specify plug-ins that perform authentication, the login process will fail.

Value— Comma-separated list of plug-ins enclosed in double-quotation marks

Default— No value

Introduced in—1.0.0
Editing Level—Normal

`default-retailer-authentication` [*default-retailer-authentication...*]—Authenticate subscribers who are assigned to retailer objects that do not specify an authentication plug-in. These plug-ins are called when the subscriber logs in to a domain. The authentication process for portal logins maps the supplied domain name to a retailer object.

If you do not specify default retailer authentication plug-ins or retailer-specific plug-ins, subscribers are admitted without authentication.

Value— Comma-separated list of plug-ins enclosed in double-quotation marks
Default— No value
Editing Level—Normal

`default-retailer-dhcp-authentication` [*default-retailer-dhcp-authentication...*]—Authenticate DHCP address requests for subscribers who are assigned to retailer objects that do not specify a DHCP authentication plug-in. These plug-ins are called when the SAE receives a DHCP discover request from a client that has its username and password cached in the SAE. The username and password can either be cached persistently in the directory or temporarily in memory during a switch from an unauthenticated to an authenticated address.

Value— Comma-separated list of plug-ins enclosed in double-quotation marks
Default— No value
Editing Level—Normal

`dhcp-authorization` [*dhcp-authorization...*]—Authorize all DHCP address requests for all DHCP subscribers who log in to a portal. These plug-ins are called for both authenticated and unauthenticated address requests.

Value— Comma-separated list of plug-ins enclosed in double-quotation marks
Default— No value
Editing Level—Normal

`service-authorization` [*service-authorization...*]—Authorize all service sessions. These plug-ins are called before a service session is started, and are called for every service session started by any subscriber.

Value— Comma-separated list of plug-ins enclosed in double-quotation marks
Default— No value

Editing Level—Normal

`subscription-authorization [subscription-authorization...]`—
 Authorize subscribers to change their subscriptions. These plug-ins are called when a subscriber tries to modify, subscribe to, or unsubscribe from a subscription.

Value— Comma-separated list of plug-ins enclosed in double-quotation marks

Default— No value

Editing Level—Normal

`subscriber-tracking [subscriber-tracking...]`— Collect accounting data for all subscriber sessions. These plug-ins are called for every subscriber session that is started and stopped. They are called after a subscriber session has started and when the session is stopped.

Value— Comma-separated list of plug-ins enclosed in double-quotation marks

Default— No value

Editing Level—Normal

`service-tracking [service-tracking...]`— Collect accounting data for all service sessions. These plug-ins are called for every service session that is started and stopped. They are called after a service session starts, when the service session stops, and during interim updates.

Value— Comma-separated list of plug-ins enclosed in double-quotation marks

Default— No value

Editing Level—Normal

`interface-tracking [interface-tracking...]`— Collect accounting data for all interfaces that the SAE manages. These plug-ins are called for every managed interface that is started and stopped. They are called after an interface comes up, when new policies are installed on the interface, and when the interface goes down. You can include NIC SAE plug-ins, which cause the SAE to send interface tracking events to the NIC SAE plug-in agent.

Value— Comma-separated list of plug-ins enclosed in double-quotation marks

Default— No value

Editing Level—Normal

`embedded-admin-server-authorization [embedded-admin-server-authorization...]`— Authorize administrators to connect to the embedded Web

server, which is used to access SAE Web Admin.

Value— Comma-separated list of plug-ins enclosed in double-quotation marks

Default— No value

Editing Level—Normal

Required Privilege Level

system

Required Editing Level

Normal

shared sae configuration plug-ins manager

Syntax

```
shared sae configuration plug-ins manager {
    threads threads;
}
```

Hierarchy Level

```
[edit shared sae configuration plug-ins manager]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the number of threads used for plug-in synchronization.

Options

`threads threads`— Number of threads that the SAE maintains for plug-in synchronization.

Value— Integer in the range 0–100

Default— 5

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Expert

shared sae configuration plug-ins pool

Syntax

```
shared sae configuration plug-ins pool name ...
```

Hierarchy Level

```
[edit shared sae configuration plug-ins pool]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a plug-in pool. A plug-in pool consists of plug-in configurations. A plug-in configuration describes a particular plug-in that can handle events that it receives from the SAE.

- An authorization plug-in configuration might perform RADIUS authentication when it receives a subscriber login event.
- A tracking plug-in might write accounting information to a file when it receives service session events.

For each type of plug-in you can create multiple instances that contain different configurations of the plug-in.

Options

name name— Name of the plug-in pool configuration.

Value—Text

Required Privilege Level

system

Required Editing Level

Normal

shared sae configuration plug-ins pool *name* acp-interface-listener

Syntax

```
shared sae configuration plug-ins pool name acp-interface-listener {
    ldap-server ldap-server;
    bind-dn bind-dn;
    bind-password bind-password;
    (ldaps);
    congestion-points-base-dn congestion-points-base-dn;
    admission-control-base-dn admission-control-base-dn;
    timeout timeout;
    acp-remote-corba-ior acp-remote-corba-ior;
}
```

Hierarchy Level

```
[edit shared sae configuration plug-ins pool name acp-interface-listener]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a hosted internal plug-in for SRC-ACP that the SAE uses to monitor the state of interfaces on a VR for backbone congestion points.

Options

`ldap-server ldap-server`— IP address or name of the host that supports the directory that contains backbone service definitions and network interfaces.

Value— IP address or name of the host optionally followed by a port number. Use the format `< host > : < port number >` . For example, `10.227.0.0:389`

Default— No value

Editing Level—Normal

`bind-dn bind-dn`— DN of the directory entry that defines the username with which the plug-in accesses the directory.

Value— <DN> . You can use the special value <base> to refer to the globally configured base DN. The string <base> is replaced with the directory base DN.

Default— No value

Editing Level—Normal

`bind-password` *bind-password*— Password with which the plug-in accesses the directory.

Value— Text string

Default— No value

Editing Level—Normal

`ldaps`—Enables LDAPS as the secure protocol for connections to the directory server.

Value— `ldaps`—Enable LDAPS

Default— Disabled

Editing Level—Advanced

`congestion-points-base-dn` *congestion-points-base-dn*— DN at which SRC-ACP stores backbone congestion points.

Value— <DN> . You can use the special value <base> to refer to the globally configured base DN. The string <base> is replaced with the directory base DN.

Default— No value

Editing Level—Normal

`admission-control-base-dn` *admission-control-base-dn*— DN at which SRC-ACP stores edge congestion points.

Value— <DN> . You can use the special value <base> to refer to the globally configured base DN. The string <base> is replaced with the directory base DN.

Default— No value

Editing Level—Normal

`timeout` *timeout*—(Optional) Maximum time that the plug-in waits for the router to respond.

Value— Number of milliseconds in the range 0–2147483647. A zero means there is no timeout.

Default— 5000

Editing Level—Advanced

`acp-remote-corba-ior` *acp-remote-corba-ior*— Object reference for the ACP plug-in.

Value— ACP CORBA reference that is defined with the **edit shared acp configuration corba acp-ior** statement.

Default— No value

Editing Level—Advanced

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration plug-ins pool *name* custom-radius-accounting

Syntax

```
shared sae configuration plug-ins pool name custom-radius-accounting {
    java-class-radius-packet-handler java-class-radius-packet-handler;
    class-path-radius-packet-handler class-path-radius-packet-handler;
    append-acct-status-type-attribute;
    require-mandatory-attributes;
    load-balancing-mode (failover | roundRobin);
    failback-timer failback-timer;
    timeout timeout;
    retry-interval retry-interval;
    maximum-queue-length maximum-queue-length;
    bind-address bind-address;
    udp-port udp-port;
    default-peer default-peer;
}
```

Hierarchy Level

```
[edit shared sae configuration plug-ins pool name custom-radius-accounting]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a custom RADIUS accounting plug-in.

Options

java-class-radius-packet-handler java-class-radius-packet-handler
 — Name of the Java class that implements the RadiusPacketHandler interface in the RADIUS client library.

Value— Java class name. For example, net.juniper.smgd.radius.
 RadiusPacketHandlerImpl

Default— No value

Editing Level—Basic

`class-path-radius-packet-handler` *class-path-radius-packet-handler*
 —(Optional) List of URLs that identify a location from which Java classes are loaded when the plug-in is initialized.

Value— Comma-separated list of URLs

Default— No value

Editing Level—Basic

`append-acct-status-type-attribute`—(Optional) Enable or disable whether or not the plug-in includes the Acct-Status-Type attribute in a RADIUS accounting request packet.

Default— Enabled

Editing Level—Normal

`require-mandatory-attributes`—(Optional) Enable or disable whether or not a RADIUS authentication or accounting request must contain all mandatory RADIUS attributes before sending the request packet.

Default— Enabled

Editing Level—Normal

`load-balancing-mode` (`failover` | `roundRobin`)— Mode for load-balancing RADIUS servers. You can set up the plug-in to switch between RADIUS servers in case of failure or to load-balance every request.

Value— One of the following:

- **Failover**—The SAE sends requests to the RADIUS server that is configured as the default peer. If the default peer fails, the SAE uses the next server configured in the peer group. The SAE cycles through the configured RADIUS servers as needed.
- **Round-robin**—The SAE alternates requests between all RADIUS servers configured in the peer group.

Default— Failover

Editing Level—Normal

`failback-timer` *failback-timer*— Controls if and when the SAE attempts to fail back to the default peer.

Value— One of the following:

- Number of seconds after a failover that the SAE attempts to fail back; range is -1–2147483647

- 0—SAE always attempts to fail back
- -1—SAE never attempts to fail back

Default— -1

Editing Level—Normal

`timeout timeout`— Maximum time the SAE waits for a response from a RADIUS server. If the RADIUS server does not respond to the request, the request fails and the SAE logs an error message.

Value— Number of milliseconds in the range -1–9223372036854775807. -1 means that there is no timeout.

Default— 15000

Editing Level—Normal

`retry-interval retry-interval`— Time the SAE waits for a response from a RADIUS server before it resends the RADIUS packet. The SAE keeps sending RADIUS packets until either the server acknowledges the packet or the maximum timeout is reached.

Value— Number of milliseconds in the range 0–9223372036854775807.

Default— 3000

Editing Level—Normal

`maximum-queue-length maximum-queue-length`— Maximum number of unacknowledged RADIUS messages that the plug-in receives from the RADIUS server before it discards new messages.

Value— Integer in the range 0–2147483647

Default— 10000

Editing Level—Normal

`bind-address bind-address`—(Optional) Source IP address that the plug-in uses to communicate with the RADIUS server. If you do not specify an address, the global default address is used. You configure the global default address with the **slot number sae radius local-address** command.

Value— IP address

Default— No value

Editing Level—Advanced

`udp-port udp-port`—(Optional) Source UDP port used for communication with the RADIUS server. If not specified, the global default is used.

Value— One of the following:

- Port number in the range 1–65535
- A range of ports in the format port-port; for example, 7000-7003
- A comma-separated list of port numbers and port ranges enclosed in double quotation marks. For example, "7000-7003, 7006, 7007-7009".

Default— No value

Editing Level—Advanced

`default-peer` *default-peer*— Name of the RADIUS server to which the SAE sends packets for this plug-in.

Value— Name of the server as defined with the **shared sae configuration plug-ins pool name custom-radius-accounting peer-group** command.

Default— No value

Editing Level—Normal

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration plug-ins pool *name* custom-radius-accounting peer-group

Syntax

```
shared sae configuration plug-ins pool name custom-radius-accounting peer-
group name {
    server-address server-address;
    server-port server-port;
    secret secret;
}
```

Hierarchy Level

```
[edit shared sae configuration plug-ins pool name custom-radius-
accounting peer-group]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a RADIUS peer, which is an instance of a RADIUS server. If you define multiple servers, the SAE uses them in cases of failover or as alternate servers for load-balancing purposes.

Note that if you configure more than one RADIUS peer in a plug-in instance that has the same properties, the SNMP counters for the plug-in will not update correctly. The reason is that the software does not know which RADIUS peer to send updates to.

Options

name *name*— Name of the RADIUS peer.

Value—Text

server-address *server-address*— IP address of the RADIUS server to which the SAE sends accounting data or that the SAE uses for authentication and authorization.

Value— IP address

Default— No value

Editing Level—Normal

`server-port` *server-port*— Port used for RADIUS packets.

Value— Port number in the range 0–65535.

- RADIUS accounting servers typically use ports 1813 or 1646.
- RADIUS authentication servers typically use ports 1812 or 1645.

Default— 1812

Editing Level—Normal

`secret` *secret*— Password that is shared with the RADIUS server. You must configure the same secret on the RADIUS server.

Value— Shared secret; the software encodes the secret using BASE-64.

Default— 10000

Editing Level—Normal

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration plug-ins pool *name* custom-radius-authentication

Syntax

```
shared sae configuration plug-ins pool name custom-radius-authentication {
    java-class-radius-packet-handler java-class-radius-packet-handler;
    class-path-radius-packet-handler class-path-radius-packet-handler;
    require-mandatory-attributes;
    load-balancing-mode (failover | roundRobin);
    failback-timer failback-timer;
    timeout timeout;
    retry-interval retry-interval;
    maximum-queue-length maximum-queue-length;
    bind-address bind-address;
    udp-port udp-port;
    default-peer default-peer;
}
```

Hierarchy Level

```
[edit shared sae configuration plug-ins pool name custom-radius-authentication]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a custom RADIUS authentication plug-in.

Options

java-class-radius-packet-handler java-class-radius-packet-handler
 — Name of the Java class that implements the RadiusPacketHandler interface in the RADIUS client library.

Value— Java class name. For example, net.juniper.smgmt.radius.
 RadiusPacketHandlerImpl

Default— No value

Editing Level—Basic

class-path-radius-packet-handler class-path-radius-packet-handler

—(Optional) List of URLs that identify a location from which Java classes are loaded when the plug-in is initialized.

Value— Comma-separated list of URLs

Default— No value

Editing Level—Basic

`require-mandatory-attributes`—(Optional) Specifies whether or not a RADIUS authentication or accounting request must contain all mandatory RADIUS attributes before sending the request packet.

Value— true or false

Default— true

Editing Level—Normal

`load-balancing-mode (failover | roundRobin)`— Mode for load-balancing RADIUS servers. You can set up the plug-in to switch between RADIUS servers in case of failure or to load-balance every request.

Value— One of the following:

- Failover—The SAE sends requests to the RADIUS server that is configured as the default peer. If the default peer fails, the SAE uses the next server configured in the peer group. The SAE cycles through the configured RADIUS servers as needed.
- Round-robin—The SAE alternates requests between all RADIUS servers configured in the peer group.

Default— Failover

Editing Level—Normal

`failback-timer` *failback-timer*— Controls if and when the SAE attempts to fail back to the default peer.

Value— One of the following:

- Number of seconds after a failover that the SAE attempts to fail back; range is -1-2147483647
- 0—SAE always attempts to fail back
- -1—SAE never attempts to fail back

Default— -1

Editing Level—Normal

`timeout timeout`— Maximum time the SAE waits for a response from a RADIUS server. If the RADIUS server does not respond to the request, the request fails and the SAE logs an error message.

Value— Number of milliseconds in the range -1–9223372036854775807. -1 means that there is no timeout.
Default— 15000
Editing Level—Normal

`retry-interval retry-interval`— Time the SAE waits for a response from a RADIUS server before it resends the RADIUS packet. The SAE keeps sending RADIUS packets until either the server acknowledges the packet or the maximum timeout is reached.

Value— Number of milliseconds in the range 0–9223372036854775807
Default— 3000
Editing Level—Normal

`maximum-queue-length maximum-queue-length`— Maximum number of unacknowledged RADIUS messages that the plug-in receives from the RADIUS server before it discards new messages.

Value— Integer in the range 0–2147483647
Default— 10000
Editing Level—Normal

`bind-address bind-address`—(Optional) Source IP address that the plug-in uses to communicate with the RADIUS server. If you do not specify an address, the global default address is used. You configure the global default address with the **slot number sae radius local-address** command.

Value— IP address
Default— No value
Editing Level—Advanced

`udp-port udp-port`—(Optional) Source UDP port or a range of source UDP ports used for communication with the RADIUS server. If you do not specify a UDP port, the global UDP port is used. You configure the global UDP port with the **shared sae configuration global-radius-udp-port** command.

Value— One of the following:

- Port number in the range 1–65535
- A range of ports in the format port-port; for example, 7000-

7003

- A comma-separated list of port numbers and port ranges enclosed in double quotation marks. For example, 7000-7003, 7006, 7007-7009

Default— No value

Editing Level—Advanced

`default-peer` *default-peer*— Name of the RADIUS server to which the SAE sends packets for this plug-in.

Value— Name of the server as defined with the **shared sae configuration plug-ins pool *name* custom-radius-authentication peer-group** command.

Default— No value

Editing Level—Normal

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration plug-ins pool *name* custom-radius-authentication peer-group

Syntax

```
shared sae configuration plug-ins pool name custom-radius-authentication peer-
group name {
    server-address server-address;
    server-port server-port;
    secret secret;
}
```

Hierarchy Level

```
[edit shared sae configuration plug-ins pool name custom-radius-
authentication peer-group]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a RADIUS peer, which is an instance of a RADIUS server. If you define multiple servers, the SAE uses them in cases of failover or as alternate servers for load-balancing purposes.

Note that if you configure more than one RADIUS peer in a plug-in instance that has the same properties, the SNMP counters for the plug-in will not update correctly. The reason is that the software does not know which RADIUS peer to send updates to.

Options

name *name*— Name of the RADIUS peer.

Value—Text

server-address *server-address*— IP address of the RADIUS server to which the SAE sends accounting data or that the SAE uses for authentication and authorization.

Value— IP address

Default— No value

Editing Level—Normal

`server-port` *server-port*— Port used for RADIUS packets.

Value— Port number in the range 0–65535.

- RADIUS accounting servers typically use ports 1813 or 1646.
- RADIUS authentication servers typically use ports 1812 or 1645.

Default— 1812

Editing Level—Normal

`secret` *secret*— Password that is shared with the RADIUS server. You must configure the same secret on the RADIUS server.

Value— Shared secret; the software encodes the secret using BASE-64.

Default— 10000

Editing Level—Normal

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration plug-ins pool *name* ejb-adaptor

Syntax

```
shared sae configuration plug-ins pool name ejb-adaptor {
    jndi-service-provider jndi-service-provider;
    application-server-url application-server-url;
    jndi-sae-event-listener jndi-sae-event-listener;
    event-admitter event-admitter;
    use-ejb-cluster;
    ejb-clustering-strategy (EJBObjectClustering | EJBHomeClustering |
JNDIClustering);
    attributes [(host | router-name | interface-name | interface-alias |
interface-descr | port-id | user-ip-address | login-name | accounting-id |
auth-user-id | if-radius-class | if-session-id | service-name | radius-class |
event-time | session-id | terminate-cause | session-time | in-octets | out-
octets | in-packets | out-packets | nas-ip | user-mac-address | service-
session-name | service-session-tag | user-type | user-radius-class | user-
session-id | primary-user-name | subscription-name | login-id | if-index |
event-time-millisecond | nas-port | operational | user-inet-address | nas-inet-
address | router-type | interface-speed | service-bundle | user-dn | uid |
domain | retailer-dn | password | service-scope | session-timeout | downstream-
bandwidth | upstream-bandwidth | dhcp-packet | aggr-session-id | aggr-login-
name | aggr-user-dn | aggr-user-inet-address | aggr-accounting-id | aggr-auth-
user-id)...];
}
```

Hierarchy Level

```
[edit shared sae configuration plug-ins pool name ejb-adaptor]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Note that the EJB adapter plug-in works only with the SRC-VTA, which is not yet supported on the C-series platform.

Configure an EJB adapter plug-in that the SRC-VTA uses to communicate with the SAE. The plug-in performs the following fuctions:

- Filters SAE plug-in events for the SRC-VTA.
- Adapts internal SAE events to EJB-compatible methods.
- Sends SAE tracking events to the SRC-VTA.

Options

`jndi-service-provider` *jndi-service-provider*— Class name of the J2EE application server's JNDI service provider

Value— Depends on the type of J2EE application server. Consult documentation for the J2EE application server.

Default— `org.jnp.interfaces.NamingContextFactory`

Editing Level—Advanced

`application-server-url` *application-server-url*— URL of J2EE application server that is running the JNDI service.

Value— Depends on the type of J2EE application server. Consult the documentation for the J2EE application server.

Default— `jnp://127.0.0.1:1099`

Editing Level—Normal

`jndi-sae-event-listener` *jndi-sae-event-listener*— JNDI name of SAEEventListener EJB of the peer SRC-VTA.

Value— JNDI name. For example, `Quota/SAEEventListenerBean`.

Default— No value

Editing Level—Normal

`event-admitter` *event-admitter*—(Optional) LDAP filter that determines the subscriber and service events that the EJB adapter plug-in sends to the SRC-VTA.

Value— See *Installing and Initially Configuring the SRC-VTA* in the *SRC Application Library Guide*.

Default— No value

Editing Level—Normal

`use-ejb-cluster`—(Optional) Property that specifies whether or not the J2EE application server uses EJB cluster.

Default— Disabled

Editing Level—Advanced

`ejb-clustering-strategy` (`EJBObjectClustering` | `EJBHomeClustering` | `JNDIClustering`)— Load-balancing scheme of the J2EE application server that hosts the SRC-VTA. See the documentation for the J2EE application server to determine which load-balancing scheme it supports.

Value— One of the following:

- EJBObjectClustering—load balancing by means of object stubs.
- EJBHomeClustering—load balancing by means of home interface.
- JNDIClustering—Load balancing by means of JNDI

Default— EJBObjectClustering

Editing Level—Advanced

```
attributes [(host | router-name | interface-name | interface-
alias | interface-descr | port-id | user-ip-address | login-name
| accounting-id | auth-user-id | if-radius-class | if-session-id
| service-name | radius-class | event-time | session-id |
terminate-cause | session-time | in-octets | out-octets | in-
packets | out-packets | nas-ip | user-mac-address | service-
session-name | service-session-tag | user-type | user-radius-
class | user-session-id | primary-user-name | subscription-name |
login-id | if-index | event-time-millisecond | nas-port |
operational | user-inet-address | nas-inet-address | router-type
| interface-speed | service-bundle | user-dn | uid | domain |
retailer-dn | password | service-scope | session-timeout |
downstream-bandwidth | upstream-bandwidth | dhcp-packet | aggr-
session-id | aggr-login-name | aggr-user-dn | aggr-user-inet-
address | aggr-accounting-id | aggr-auth-user-id)...]—(Optional)
```

Attributes that are sent to the plug-in. We recommend that you configure only the required attributes. If you do not specify attributes, all attributes are sent. Specifying fewer attributes improves the performance of the SRC network.

Value

- host—Name of the SAE host
- router-name—Name of the virtual router
- interface-name—Name of the router interface
- interface-alias—Alias of the router interface
- interface-descr—Description of the router interface
- port-id—NAS port ID of the physical interface
- user-ip-address—IP address of the subscriber
- login-name—Login name of the subscriber
- accounting-id—Accounting ID attribute
- auth-user-id—Subscriber ID used for service authentication
- if-radius-class—RADIUS class of the router interface
- if-session-id—Interface session ID assigned by the router
- service-name—Name of the service
- radius-class—RADIUS class attribute
- event-time—Timestamp when the event was created
- session-id—Session ID assigned by the SAE
- terminate-cause—RADIUS termination cause
- session-time—Length of the session in seconds

- `in-octets`—Number of octets received from the subscriber
- `out-octets`—Number of octets sent to the subscriber
- `in-packets`—Number of packets received from the subscriber
- `out-packets`—Number of packets sent to the subscriber
- `nas-ip`—NAS IP address that router uses for accounting messages
- `user-mac-address`—MAC address of subscriber session
- `service-session-name`—Name of the service session
- `service-session-tag`—Tag assigned to the service session
- `user-type`—Subscriber session type
- `user-radius-class`—RADIUS class of the subscriber session that is associated with the service session
- `user-session-id`—RADIUS session ID for the subscriber session
- `primary-user-name`—`pppLoginName` or `public Dhcp userName`
- `subscription-name`—Name of the subscription
- `login-id`—Login ID of the subscriber
- `if-index`—SNMP index of the router interface
- `event-time-millisecond`—Event time in milliseconds
- `nas-port`—ID that the router uses to identify interface to RADIUS
- `operational`—Flag that identifies whether an interface was operational at the time of the tracking event
- `user-inet-address`—Subscriber INET address
- `nas-inet-address`—NAS INET address of the router
- `router-type`—Type of device driver
- `interface-speed`—Speed of the interface
- `service-bundle`—RADIUS vendor-specific attribute that a subscriber authorization plug-in returns to the SAE
- `user-dn`—DN of the subscriber profile
- `uid`—Subscriber ID used for secondary authentication
- `domain`—Subscriber domain used for secondary authentication
- `retailer-dn`—Retailer DN associated with the domain
- `password`—Password used for secondary authentication
- `service-scope`—List of service scopes
- `session-timeout`—Session timeout in seconds
- `downstream-bandwidth`—Downstream bandwidth for the service
- `upstream-bandwidth`—Upstream bandwidth for the service
- `dhcp-packet`—Contents of the DHCP discover request
- `aggr-session-id`—Accounting session ID of the aggregate service session
- `aggr-login-name`—Login name of the subscriber who started the session
- `aggr-user-dn`—Aggregate service subscriber DN
- `aggr-user-inet-address`—Aggregate service subscriber INET address

- `aggr-accounting-id`—Aggregate service accounting ID
- `aggr-auth-user-id`—Aggregate service subscriber ID

Default— List of all attributes

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration plug-ins pool *name* external

Syntax

```
shared sae configuration plug-ins pool name external {
    corba-object-reference corba-object-reference;
    attributes [(host | router-name | interface-name | interface-alias |
interface-descr | port-id | user-ip-address | login-name | accounting-id |
auth-user-id | if-radius-class | if-session-id | service-name | radius-class |
event-time | session-id | terminate-cause | session-time | in-octets | out-
octets | in-packets | out-packets | nas-ip | user-mac-address | service-
session-name | service-session-tag | user-type | user-radius-class | user-
session-id | primary-user-name | subscription-name | login-id | if-index |
event-time-millisecond | nas-port | operational | user-inet-address | nas-inet-
address | router-type | interface-speed | service-bundle | user-dn | uid |
domain | retailer-dn | password | service-scope | session-timeout | downstream-
bandwidth | upstream-bandwidth | dhcp-packet | aggr-session-id | aggr-login-
name | aggr-user-dn | aggr-user-inet-address | aggr-accounting-id | aggr-auth-
user-id)...];
}
```

Hierarchy Level

```
[edit shared sae configuration plug-ins pool name external]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure SAE external plug-ins. You need to configure external plug-ins for SAE plug-in agents for the NIC, for Admission Control Plug-Ins, and for custom plug-ins developed in Common Object Request Broker Architecture (CORBA).

Options

corba-object-reference corba-object-reference— Object reference of the external plug-in that is exported to the SAE. When the SAE sends the first event to a registered plug-in, it resolves the object reference.

Value— Object reference in one of the following formats:

- The absolute path to the interoperable object reference (IOR) file in the format: "file:// < absolute path > "
- The corbaloc URL in the format corbaloc:: < host > :

< portNumber > / < path > where:

- host is the name or IP address of the host that supports the plug-in
- portNumber is the port number of the host
- path is the absolute path to the plug-in
- Common Object Services (COS) in the format corbaname::
 < host > [: < port >][/serviceName]# < key > where the key is provided by the publisher of the IOR to the COS naming service.
- The actual IOR in the form IOR: < objectReference >

Default— No value

Editing Level—Normal

attributes [(host | router-name | interface-name | interface-alias | interface-descr | port-id | user-ip-address | login-name | accounting-id | auth-user-id | if-radius-class | if-session-id | service-name | radius-class | event-time | session-id | terminate-cause | session-time | in-octets | out-octets | in-packets | out-packets | nas-ip | user-mac-address | service-session-name | service-session-tag | user-type | user-radius-class | user-session-id | primary-user-name | subscription-name | login-id | if-index | event-time-millisecond | nas-port | operational | user-inet-address | nas-inet-address | router-type | interface-speed | service-bundle | user-dn | uid | domain | retailer-dn | password | service-scope | session-timeout | downstream-bandwidth | upstream-bandwidth | dhcp-packet | aggr-session-id | aggr-login-name | aggr-user-dn | aggr-user-inet-address | aggr-accounting-id | aggr-auth-user-id)...]—(Optional)

Attributes that are sent to the plug-in. We recommend that you configure only the required attributes. If you do not specify attributes, all attributes are sent. Specifying fewer attributes improves the performance of the SRC network.

Value

- host—Name of the SAE host
- router-name—Name of the virtual router
- interface-name—Name of the router interface
- interface-alias—Alias of the router interface
- interface-descr—Description of the router interface
- port-id—NAS port ID of the physical interface
- user-ip-address—IP address of the subscriber
- login-name—Login name of the subscriber
- accounting-id—Accounting ID attribute
- auth-user-id—Subscriber ID used for service authentication
- if-radius-class—RADIUS class of the router interface
- if-session-id—Interface session ID assigned by the router
- service-name—Name of the service
- radius-class—RADIUS class attribute
- event-time—Timestamp when the event was created

- `session-id`—Session ID assigned by the SAE
- `terminate-cause`—RADIUS termination cause
- `session-time`—Length of the session in seconds
- `in-octets`—Number of octets received from the subscriber
- `out-octets`—Number of octets sent to the subscriber
- `in-packets`—Number of packets received from the subscriber
- `out-packets`—Number of packets sent to the subscriber
- `nas-ip`—NAS IP address that router uses for accounting messages
- `user-mac-address`—MAC address of subscriber session
- `service-session-name`—Name of the service session
- `service-session-tag`—Tag assigned to the service session
- `user-type`—Subscriber session type
- `user-radius-class`— RADIUS class of the subscriber session that is associated with the service session
- `user-session-id`—RADIUS session ID for the subscriber session
- `primary-user-name`— pppLoginName or public Dhcp userName
- `subscription-name`—Name of the subscription
- `login-id`—Login ID of the subscriber
- `if-index`—SNMP index of the router interface
- `event-time-millisecond`—Event time in milliseconds
- `nas-port`—ID that the router uses to identify interface to RADIUS
- `operational`— Flag that identifies whether an interface was operational at the time of the tracking event
- `user-inet-address`—Subscriber INET address
- `nas-inet-address`—NAS INET address of the router
- `router-type`—Type of device driver
- `interface-speed`—Speed of the interface
- `service-bundle`— RADIUS vendor-specific attribute that a subscriber authorization plug-in returns to the SAE
- `user-dn`—DN of the subscriber profile
- `uid`—Subscriber ID used for secondary authentication
- `domain`—Subscriber domain used for secondary authentication
- `retailer-dn`—Retailer DN associated with the domain
- `password`—Password used for secondary authentication
- `service-scope`—List of service scopes
- `session-timeout`—Session timeout in seconds
- `downstream-bandwidth`—Downstream bandwidth for the service
- `upstream-bandwidth`—Upstream bandwidth for the service
- `dhcp-packet`—Contents of the DHCP discover request
- `aggr-session-id`—Accounting session ID of the aggregate service session
- `aggr-login-name`—Login name of the subscriber who started the session

- `aggr-user-dn`—Aggregate service subscriber DN
- `aggr-user-inet-address`—Aggregate service subscriber INET address
- `aggr-accounting-id`—Aggregate service accounting ID
- `aggr-auth-user-id`—Aggregate service subscriber ID

Default— List of all attributes

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration plug-ins pool *name* file-accounting

Syntax

```
shared sae configuration plug-ins pool name file-accounting {
    filename filename;
    template template;
    interval interval;
    fields [(status | nas-id | host | router-name | interface-name |
interface-alias | interface-descr | port-id | user-ip-address | login-name |
accounting-id | auth-user-id | if-radius-class | if-session-id | service-name
| radius-class | event-time | session-id | terminate-cause | session-time | in-
octets | out-octets | in-packets | out-packets | nas-ip | user-mac-address |
service-session-name | service-session-tag | user-type | user-radius-class |
user-session-id | primary-user-name | subscription-name | login-id | if-index
| event-time-millisecond | nas-port | operational | user-inet-address | nas-
inet-address | router-type | interface-speed)...];
}
```

Hierarchy Level

```
[edit shared sae configuration plug-ins pool name file-accounting]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a file accounting plug-in, which writes information to a file in a comma-separated format.

Options

filename filename— Name and location of the file to which the SAE writes accounting information. The SAE names accounting files by appending the timestamp for the start of the accounting period.

Value— Path and name of file

Default— */var/acct/log*

Editing Level—Normal

template template— Name of the template that defines header names for the attributes written to the accounting file.

Value— Template name

Default— std

Editing Level—Normal

`interval interval`— Number of hours of information stored in each accounting file. When the interval expires, the SAE closes the file, renames it to the archive name, and creates a new file.

Accounting files are aligned with midnight of the day the SAE process starts. If the interval is 24 hours, the SAE starts a new file at midnight every day beginning on the day the SAE process starts.

- If the interval is a divisor of 24 hours (for example, 15 minutes, 30 minutes, 1 hour), there is a repeatable pattern of file starts. For example, if the interval is set to 6 hours, the SAE creates a new file at midnight, 6 am, 12 pm, and 6 pm every day.
- If the interval is not a divisor of 24 hours, then the file start times shift each day to different times of the day.

If the SAE is restarted, the schedule for creating accounting files is reset to start at midnight.

Value— Interval in the format hour:minutes

Default— 24

Editing Level—Normal

`fields [(status | nas-id | host | router-name | interface-name | interface-alias | interface-descr | port-id | user-ip-address | login-name | accounting-id | auth-user-id | if-radius-class | if-session-id | service-name | radius-class | event-time | session-id | terminate-cause | session-time | in-octets | out-octets | in-packets | out-packets | nas-ip | user-mac-address | service-session-name | service-session-tag | user-type | user-radius-class | user-session-id | primary-user-name | subscription-name | login-id | if-index | event-time-millisecond | nas-port | operational | user-inet-address | nas-inet-address | router-type | interface-speed) ...]`—(Optional) List of accounting attributes that are written to the accounting file.

Value

- `status`—Accounting status
- `nas-id`—NAS identifier
- `host`—Hostname of the SAE
- `router-name`—Router name
- `interface-name`—Interface name
- `interface-alias`—Interface alias
- `interface-descr`—Interface description
- `port-id`—NAS port ID

- user-ip-address—Subscriber IP address
- login-name—Login name
- accounting-id—Accounting ID
- auth-user-id—User authentication ID
- if-radius-class—Interface RADIUS class
- if-session-id—Interface session ID
- service-name—Service name
- radius-class—RADIUS class
- event-time—Event time (s)
- session-id—Session ID
- terminate-cause—Terminate cause
- session-time—Session time
- in-octets—Number of input octets
- out-octets—Number of output octets
- in-packets—Number of input packets
- out-packets—Number of output packets
- nas-ip—NAS IP address
- user-mac-address—Subscriber MAC address
- service-session-name—Service session name
- service-session-tag—Service session tag
- user-type—Subscriber session type
- user-radius-class—Subscriber session RADIUS class
- user-session-id—Subscriber session ID
- primary-user-name—Primary subscriber name
- subscription-name—Subscription name
- login-id—Login ID
- if-index—Interface index
- event-time-millisecond—Event time (ms)
- nas-port—NAS port
- operational—Operational flag
- user-inet-address—Subscriber INET address
- nas-inet-address—NAS INET address
- router-type—Router type
- interface-speed—Interface speed

Default— status,nas-id,host,router-name,interface-name,interface-alias,interface-descr,port-id,user-ip-address, login-name,accounting-id, auth-user-id,if-radius-class,if-session-id,service-name,radius-class, event-time,session-id, terminate-cause,session-time,in-octets,out-octets, in-packets,out-packets,nas-ip,user-mac-address,service-session-name, service-session-tag,user-type,user-radius-class,user-session-id

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration plug-ins pool *name* flex-radius-accounting

Syntax

```
shared sae configuration plug-ins pool name flex-radius-accounting {
    load-balancing-mode (failover | roundRobin);
    failback-timer failback-timer;
    timeout timeout;
    retry-interval retry-interval;
    maximum-queue-length maximum-queue-length;
    bind-address bind-address;
    udp-port udp-port;
    error-handling (0 | 1);
    default-peer default-peer;
    template template;
}
```

Hierarchy Level

```
[edit shared sae configuration plug-ins pool name flex-radius-accounting]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a flexible RADIUS accounting plug-in.

Options

`load-balancing-mode (failover | roundRobin)`— Mode for load-balancing RADIUS servers. You can set up the plug-in to switch between RADIUS servers in case of failure or to load-balance every request.

Value— One of the following:

- Failover—The SAE sends requests to the RADIUS server that is configured as the default peer. If the default peer fails, the SAE uses the next server configured in the peer group. The SAE cycles through the configured RADIUS servers as needed.
- Round-robin—The SAE alternates requests between all RADIUS servers configured in the peer group.

Default— Failover
Editing Level—Normal

`failback-timer` *failback-timer*— Controls if and when the SAE attempts to fail back to the default peer.

Value— One of the following:

- Number of seconds after a failover that the SAE attempts to fail back; range is -1–2147483647
- 0—SAE always attempts to fail back
- -1—SAE never attempts to fail back

Default— -1
Editing Level—Normal

`timeout` *timeout*— Maximum time the SAE waits for a response from a RADIUS server. If the RADIUS server does not respond to the request, the request fails and the SAE logs an error message.

Value— Number of milliseconds in the range -1–9223372036854775807. -1 means that there is no timeout.

Default— 15000
Editing Level—Normal

`retry-interval` *retry-interval*— Time the SAE waits for a response from a RADIUS server before it resends the RADIUS packet. The SAE keeps sending RADIUS packets until either the server acknowledges the packet or the maximum timeout is reached.

Value— Number of milliseconds in the range 0–9223372036854775807

Default— 3000
Editing Level—Normal

`maximum-queue-length` *maximum-queue-length*— Maximum number of unacknowledged RADIUS messages that the plug-in receives from the RADIUS server before it discards new messages.

Value— Integer in the range 0–2147483647

Default— 10000
Editing Level—Normal

`bind-address` *bind-address*—(Optional) Source IP address that the plug-in uses to communicate with the RADIUS server. If you do not specify an address, the global default address is used. You configure the global default address with the **slot number sae radius local-address** command.

Value— IP address

Default— No value

Editing Level—Advanced

`udp-port` *udp-port*—(Optional) Source UDP port or a range of source UDP ports used for communication with the RADIUS server. If you do not specify a UDP port, the global UDP port is used. You configure the global UDP port with the **shared sae configuration global-radius-udp-port** command.

Value— One of the following:

- Port number in the range 1–65535
- A range of ports in the format port-port; for example, 7000-7003
- A comma-separated list of port numbers and port ranges enclosed in double quotation marks. For example, "7000-7003, 7006, 7007-7009".

Default— No value

Editing Level—Advanced

`error-handling` (0 | 1)— Configures the way the SAE handles errors.

Value— One of the following:

- 0—Ignores incorrect definitions and logs them for debugging purposes
- 1—Logs errors and discards the affected RADIUS packet

Default— 0 (Ignore)

Editing Level—Normal

`default-peer` *default-peer*— Name of the RADIUS server to which the SAE sends packets for this plug-in.

Value— Name of the server as defined with the **shared sae configuration plug-ins pool name flex-radius-accounting peer-group** command.

Default— No value

Editing Level—Normal

template *template*— Name of RADIUS packet template.

Value— Name of template

Default— No value

Editing Level—Normal

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration plug-ins pool *name* flex-radius-accounting peer-group

Syntax

```
shared sae configuration plug-ins pool name flex-radius-accounting peer-
group name {
    server-address server-address;
    server-port server-port;
    secret secret;
}
```

Hierarchy Level

```
[edit shared sae configuration plug-ins pool name flex-radius-accounting peer-
group]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a RADIUS peer, which is an instance of a RADIUS server. If you define multiple servers, the SAE uses them in cases of failover or as alternate servers for load-balancing purposes.

Note that if you configure more than one RADIUS peer in a plug-in instance that has the same properties, the SNMP counters for the plug-in will not update correctly. The reason is that the software does not know which RADIUS peer to send updates to.

Options

name *name*— Name of the RADIUS peer.

Value—Text

server-address *server-address*— IP address of the RADIUS server to which the SAE sends accounting data or that the SAE uses for authentication and authorization.

Value— IP address

Default— No value

Editing Level—Normal

`server-port` *server-port*— Port used for RADIUS packets.

Value— Port number in the range 0–65535.

- RADIUS accounting servers typically use ports 1813 or 1646.
- RADIUS authentication servers typically use ports 1812 or 1645.

Default— 1812

Editing Level—Normal

`secret` *secret*— Password that is shared with the RADIUS server. You must configure the same secret on the RADIUS server.

Value— Shared secret; the software encodes the secret using BASE-64.

Default— 10000

Editing Level—Normal

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration plug-ins pool *name* flex-radius-accounting radius-packet-definition

Syntax

```
shared sae configuration plug-ins pool name flex-radius-accounting radius-  
packet-definition name ...
```

Hierarchy Level

```
[edit shared sae configuration plug-ins pool name flex-radius-  
accounting radius-packet-definition]
```

Release Information

Statement introduced in SRC Release 7.0.0

Description

Configure a RADIUS packet definition for the plug-in.

Options

name *name*— Name of the RADIUS attribute instance.

Value— The name that you assign to an attribute instance specifies the type of packet to which the attribute definition is applied. For a list of names, see *Configuring Accounting and Authentication Plug-Ins with the SRC CLI* in *SRC-PE Subscribers and Subscriptions Guide*.

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration plug-ins pool *name* flex-radius-accounting radius-packet-definition *name* attributes

Syntax

```
shared sae configuration plug-ins pool name flex-radius-accounting radius-
packet-definition name attributes name {
    value;
}
```

Hierarchy Level

```
[edit shared sae configuration plug-ins pool name flex-radius-
accounting radius-packet-definition name attributes]
```

Description

Configure a RADIUS packet definition within a plug-in.

Options

name *name*— Name of the RADIUS attribute.

Value—Text

value— Value of the RADIUS attribute.

Value— Value can be a standard value or an expression. For a list of standard values, see *Configuring Accounting and Authentication Plug-Ins with the SRC CLI* in the *SCR-PE Subscribers and Subscriptions Guide*.

Default— No value

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration plug-ins pool *name* flex-radius-authentication

Syntax

```
shared sae configuration plug-ins pool name flex-radius-authentication {
    load-balancing-mode (failover | roundRobin);
    failback-timer failback-timer;
    timeout timeout;
    retry-interval retry-interval;
    maximum-queue-length maximum-queue-length;
    bind-address bind-address;
    udp-port udp-port;
    error-handling (0 | 1);
    default-peer default-peer;
    template template;
}
```

Hierarchy Level

```
[edit shared sae configuration plug-ins pool name flex-radius-authentication]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a flexible RADIUS authentication plug-in.

Options

`load-balancing-mode (failover | roundRobin)`— Mode for load-balancing RADIUS servers. You can set up the plug-in to switch between RADIUS servers in case of failure or to load-balance every request.

Value— One of the following:

- Failover—The SAE sends requests to the RADIUS server that is configured as the default peer. If the default peer fails, the SAE uses the next server configured in the peer group. The SAE cycles through the configured RADIUS servers as needed.
- Round-robin—The SAE alternates requests between all RADIUS servers configured in the peer group.

Default— Failover
Editing Level—Normal

`failback-timer` *failback-timer*— Controls if and when the SAE attempts to fail back to the default peer.

Value— One of the following:

- Number of seconds after a failover that the SAE attempts to fail back; range is -1-2147483647
- 0—SAE always attempts to fail back
- -1—SAE never attempts to fail back

Default— -1
Editing Level—Normal

`timeout` *timeout*— Maximum time the SAE waits for a response from a RADIUS server. If the RADIUS server does not respond to the request, the request fails and the SAE logs an error message.

Value— Number of milliseconds in the range -1-9223372036854775807. -1 means that there is no timeout.

Default— 15000
Editing Level—Normal

`retry-interval` *retry-interval*— Time the SAE waits for a response from a RADIUS server before it resends the RADIUS packet. The SAE keeps sending RADIUS packets until either the server acknowledges the packet or the maximum timeout is reached.

Value— Number of milliseconds in the range 0-9223372036854775807

Default— 3000
Editing Level—Normal

`maximum-queue-length` *maximum-queue-length*— Maximum number of unacknowledged RADIUS messages that the plug-in receives from the RADIUS server before it discards new messages.

Value— Integer in the range 0-2147483647

Default— 10000
Editing Level—Normal

`bind-address` *bind-address*—(Optional) Source IP address that the plug-in uses to communicate with the RADIUS server. If you do not specify an address, the global default address is used. You configure the global default address with the **slot number sae radius local-address** command.

Value— IP address

Default— No value

Editing Level—Advanced

`udp-port` *udp-port*—(Optional) Source UDP port or a range of source UDP ports used for communication with the RADIUS server. If you do not specify a UDP port, the global UDP port is used. You configure the global UDP port with the **shared sae configuration global-radius-udp-port** command.

Value— One of the following:

- Port number in the range 1–65535
- A range of ports in the format port-port; for example, 7000-7003
- A comma-separated list of port numbers and port ranges enclosed in double quotation marks. For example, "7000-7003, 7006, 7007-7009".

Default— No value

Editing Level—Advanced

`error-handling` (0 | 1)— Configure the way the SAE handles errors.

Value— One of the following:

- 0—Ignores incorrect definitions and logs them for debugging purposes
- 1—Logs errors and discards the affected RADIUS packet

Default— 0 (Ignore)

Editing Level—Normal

`default-peer` *default-peer*— Name of the RADIUS server to which the SAE sends packets for this plug-in.

Value— Name of the server as defined with the **shared sae configuration plug-ins pool name flex-radius-authentication peer-group** command.

Default— No value

Editing Level—Normal

template *template*— Name of RADIUS packet template.

Value— Name of template

Default— No value

Editing Level—Normal

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration plug-ins pool *name* flex-radius-authentication peer-group

Syntax

```
shared sae configuration plug-ins pool name flex-radius-authentication peer-
group name {
    server-address server-address;
    server-port server-port;
    secret secret;
}
```

Hierarchy Level

```
[edit shared sae configuration plug-ins pool name flex-radius-
authentication peer-group]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a RADIUS peer, which is an instance of a RADIUS server. If you define multiple servers, the SAE uses them in cases of failover or as alternate servers for load-balancing purposes.

Note that if you configure more than one RADIUS peer in a plug-in instance that has the same properties, the SNMP counters for the plug-in will not update correctly. The reason is that the software does not know which RADIUS peer to send updates to.

Options

name *name*— Name of the RADIUS peer.

Value—Text

server-address *server-address*— IP address of the RADIUS server to which the SAE sends accounting data or that the SAE uses for authentication and authorization.

Value— IP address

Default— No value

Editing Level—Normal

`server-port` *server-port*— Port used for RADIUS packets.

Value— Port number in the range 0–65535.

- RADIUS accounting servers typically use ports 1813 or 1646.
- RADIUS authentication servers typically use ports 1812 or 1645.

Default— 1812

Editing Level—Normal

`secret` *secret*— Password that is shared with the RADIUS server. You must configure the same secret on the RADIUS server.

Value— Shared secret; the software encodes the secret using BASE-64.

Default— 10000

Editing Level—Normal

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration plug-ins pool *name* flex-radius-authentication radius-packet-definition

Syntax

```
shared sae configuration plug-ins pool name flex-radius-authentication radius-  
packet-definition name ...
```

Hierarchy Level

```
[edit shared sae configuration plug-ins pool name flex-radius-  
authentication radius-packet-definition]
```

Release Information

Statement introduced in SRC Release 7.0.0

Description

Configure a RADIUS packet definition for the plug-in.

Options

name *name*— Name of the RADIUS attribute instance.

Value— The name that you assign to an attribute instance specifies the type of packet to which the attribute definition is applied. For a list of names, see *Configuring Accounting and Authentication Plug-Ins with the SRC CLI* in *SRC-PE Subscribers and Subscriptions Guide*.

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration plug-ins pool *name* flex-radius-authentication radius-packet-definition *name* attributes

Syntax

```
shared sae configuration plug-ins pool name flex-radius-authentication radius-
packet-definition name attributes name {
    value;
}
```

Hierarchy Level

```
[edit shared sae configuration plug-ins pool name flex-radius-
authentication radius-packet-definition name attributes]
```

Description

Configure a RADIUS packet definition within a plug-in.

Options

name *name*— Name of the RADIUS attribute.

Value—Text

value— Value of the RADIUS attribute.

Value— Value can be a standard value or an expression. For a list of standard values, see *Configuring Accounting and Authentication Plug-Ins with the SRC CLI* in the *SCR-PE Subscribers and Subscriptions Guide*.

Default— No value

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration plug-ins pool *name* interface-subscriber-limit

Syntax

```
shared sae configuration plug-ins pool name interface-subscriber-limit {
    concurrent-subscribers concurrent-subscribers;
}
```

Hierarchy Level

```
[edit shared sae configuration plug-ins pool name interface-subscriber-limit]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a plug-in that limits the number of authenticated subscribers who connect to an IP interface on the router.

Options

concurrent-subscribers *concurrent-subscribers*— Number of authenticated subscribers who can connect to an IP interface on the router simultaneously.

Value— Integer in the range 0–2147483647

Default— 1

Editing Level—Normal

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration plug-ins pool *name* internal

Syntax

```
shared sae configuration plug-ins pool name internal {
    plug-in-class plug-in-class;
}
```

Hierarchy Level

```
[edit shared sae configuration plug-ins pool name internal]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure an internal plug-in.

Options

`plug-in-class plug-in-class`— Class name of the plug-in.

Value— Fully qualified name of the Java class

Default— No value

Editing Level—Normal

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration plug-ins pool *name* internal properties

Syntax

```
shared sae configuration plug-ins pool name internal properties name {
    value;
}
```

Hierarchy Level

```
[edit shared sae configuration plug-ins pool name internal properties]
```

Description

Configure the property name and value pairs that make up the plug-in.

Options

name *name*— Name of the property for which you want to define a value.

Value—Text

value— Value for the property.

Value— Value for the property.

Default— No value

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Normal

shared sae configuration plug-ins pool *name* ldap-authentication

Syntax

```
shared sae configuration plug-ins pool name ldap-authentication {
    method (search | bind);
    server server;
    bind-dn bind-dn;
    bind-password bind-password;
    search-filter search-filter;
    (ldaps);
    search-base-dn search-base-dn;
    name-attribute name-attribute;
    password-attribute password-attribute;
    service-bundle-attribute service-bundle-attribute;
    session-volume-quota session-volume-quota;
    timeout timeout;
    signature-dn signature-dn;
    blacklist;
}
```

Hierarchy Level

```
[edit shared sae configuration plug-ins pool name ldap-authentication]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure an LDAP authentication plug-in. This plug-in performs authentication against different directories using different authentication methods.

Options

`method (search | bind)`—LDAP authentication method that the SAE uses. Both search and bind have different implications for system security and performance. When you design the system, consider:

- Search—Because the SAE retrieves passwords from the directory, the directory must allow read access to the password. Allowing read access can be a security risk because an attacker may be able to read passwords in subscriber profiles. However, to lower the risk of password exposure, you can store passwords in encrypted (hashed) form.
- Bind—The SAE sends the password to the directory for authentication. The advantage is

that passwords never need to be read from the directory. However, passwords are sent in clear text, and an attacker could intercept them. Bind is a relatively expensive operation that can affect system performance.

Value— One of the following:

- **Search**—The SAE searches the directory for the username that the subscriber enters, retrieves the found object, and compares the password stored in the object with the provided password. You can store passwords in clear text or encrypted (hashed) format by using the crypt (UNIX */etc/passwd*), SHA, or MD5 algorithms. The format for a hashed password is: *{crypt} hashed password*, *{sha} base64 SHA password*, or *{md5} base64 MD5 password*.
- **Bind**—The SAE performs a directory search, retrieves the DN of the found object, and tries to bind this DN and the password that the subscriber provides. If you specify the bind method, the plug-in uses the provided username and password to authenticate the directory (bind). You can store passwords in clear text or encrypted (hashed) format by using the crypt (UNIX */etc/passwd*), SHA, or MD5 algorithms. You must use an encryption method that the directory supports.

Default— Search

Editing Level—Normal

`server server`—(Optional) List of IP addresses of the LDAP authentication server(s).

Value— Comma-separated list of IP addresses

Default— 127.0.0.1

Editing Level—Normal

`bind-dn bind-dn`—(Optional) DN used to authenticate access to the directory.

Value— DN

Default— cn = ssp, ou = Components, o = Operators, < base >

Editing Level—Normal

`bind-password bind-password`—(Optional) Password that the SAE uses to authenticate its access to the directory to search for the subscriber profile. If you do not specify a bind DN or bind password, the SAE uses anonymous access.

Value— Characters that make up the password. The SRC software encodes the secret using base64.

Default— ssp

Editing Level—Normal

`search-filter` *search-filter*—(Optional) Additional LDAP search filter that the SAE uses to search the directory for the subscriber profile. The initial search uses a search filter in the form (&(nameAttribute = userName) filter). The search is successful when the username and the filter match.

Value— Search filter syntax defined in RFC 2254—The String Representation of LDAP Search Filters (December 1997)
Default— (objectClass = umcSubscriber)
Editing Level—Normal

`ldaps`—Enables LDAPS as the secure protocol used for LDAP connections with the directory. Enabling LDAPS causes communication with the directory to be encrypted with Secure Sockets Layer (SSL).

Value— `ldaps`—Enable LDAPS
Default— Disabled
Editing Level—Advanced

`search-base-dn` *search-base-dn*—(Optional) Base DN for searching entries in the directory. If you do not specify a base DN, the SAE uses the DN of the associated retailer object.

Also, if you do not specify the base DN, the SAE takes a username in the form `subscriber@domain` and maps domain to a retailer object by comparing domain with the domain names stored in the retailer object. There are two special cases:

- If domain is empty, first the virtual router name and then the name default are tried.
- If a retailer defines * (asterisk) as a domain name, it is used to map all domains that cannot be mapped directly.

Value— DN
Default— No value
Editing Level—Normal

`name-attribute` *name-attribute*—(Optional) Name of the directory attribute that holds the username.

Value— Attribute name
Default— `uniqueID`
Editing Level—Normal

`password-attribute` *password-attribute*—(Optional) Name of the directory attribute that stores the password.

Value— Directory attribute name

Default— userPassword

Editing Level—Normal

`service-bundle-attribute` *service-bundle-attribute*—(Optional) Name of the directory attribute that contains the name of the service bundle that is used for subscriber authentication. This value is made available to the subscriber classification process and can be used to select the subscriber profile to load.

Value— Directory attribute name

Default— No value

Editing Level—Normal

`session-volume-quota` *session-volume-quota*—(Optional) Name of the LDAP attribute that contains the value of the session volume quota. The LDAP plug-in sets the session volume quota to this value.

Value— Name of LDAP attribute

Default— No value

Editing Level—Normal

`timeout` *timeout*—(Optional) Maximum time the SAE waits for a response from a directory server. If the directory server does not respond to the request, the request fails and the SAE logs an error message.

Value— Number of milliseconds in the range 0–2147483647

Default— 5000

Editing Level—Advanced

`signature-dn` *signature-dn*—DES Signature DN

Value—Text

Default—o = umc

Editing Level—Expert

`blacklist`—Directory blacklisting

Default—true

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration plug-ins pool *name* pcmm-rks

Syntax

```
shared sae configuration plug-ins pool name pcmm-rks {
    load-balancing-mode (failover | roundRobin);
    failback-timer failback-timer;
    retry-interval retry-interval;
    maximum-queue-length maximum-queue-length;
    bind-address bind-address;
    udp-port udp-port;
    feid-mso-data feid-mso-data;
    feid-mso-domain-name feid-mso-domain-name;
    trusted-element;
    default-peer default-peer;
}
```

Hierarchy Level

```
[edit shared sae configuration plug-ins pool name pcmm-rks]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a PCMM record-keeping server plug-in.

Options

`load-balancing-mode (failover | roundRobin)`— Mode for load-balancing RADIUS servers. You can set up the plug-in to switch between RADIUS servers in case of failure or to load-balance every request.

Value— One of the following:

- **Failover**—The SAE sends requests to the RADIUS server that is configured as the default peer. If the default peer fails, the SAE uses the next server configured in the peer group. The SAE cycles through the configured RADIUS servers as needed.
- **Round-robin**—The SAE alternates requests between all RADIUS servers configured in the peer group.

Default— Failover
Editing Level—Normal

`failback-timer` *failback-timer*— Controls if and when the SAE attempts to fail back to the default peer.

Value— One of the following:

- Number of seconds after a failover that the SAE attempts to fail back; range is -1-2147483647
- 0—SAE always attempts to fail back
- -1—SAE never attempts to fail back

Default— -1
Editing Level—Normal

`retry-interval` *retry-interval*— Time the SAE waits for a response from a RADIUS server before it resends the RADIUS packet. The SAE keeps sending RADIUS packets until either the server acknowledges the packet or the maximum timeout is reached.

Value— Number of milliseconds in the range 0–9223372036854775807
Default— 3000
Editing Level—Normal

`maximum-queue-length` *maximum-queue-length*— Maximum number of unacknowledged RADIUS messages that the plug-in receives from the RADIUS server before it discards new messages.

Value— Integer in the range 0–2147483647
Default— 10000
Editing Level—Normal

`bind-address` *bind-address*—(Optional) Source IP address that the plug-in uses to communicate with the RADIUS server. If you do not specify an address, the global default address is used. You configure the global default address with the **slot number sae radius local-address** command.

Value— IP address
Default— No value
Editing Level—Advanced

`udp-port` *udp-port*—(Optional) Source UDP port or a range of source UDP ports used for communication with the RADIUS server. If you do not specify a UDP port, the global UDP port is used. You configure the global UDP port with the **shared sae configuration global-radius-udp-port** command.

Value— One of the following:

- Port number in the range 1–65535
- A range of ports in the format port-port; for example, 7000-7003
- A comma-separated list of port numbers and port ranges enclosed in double quotation marks. For example, "7000-7003, 7006, 7007-7009".

Default— No value

Editing Level—Advanced

`feid-mso-data` *feid-mso-data*—(Optional) MSO-defined data in the financial entity ID (FEID) attribute, which is included in event messages.

Value— First eight bytes of the FEID attribute

Default— The first eight bytes are filled with zeros.

Editing Level—Normal

`feid-mso-domain-name` *feid-mso-domain-name*— The MSO domain name that uniquely identifies the MSO for billing and settlement purposes.

Value— Domain name up to 239 bytes; begins at the ninth byte of the FEID attribute

Default— No value

Editing Level—Normal

`trusted-element`—(Optional) When the SAE is running as a policy server—which means that the SAE sends event messages directly to the RKS—enables the SAE as a trusted network element.

Default— Enabled

Editing Level—Normal

`default-peer` *default-peer*— Configure an RKS peer, which is an instance of an RKS. You must configure at least one RKS peer.

Value— Name of the server as defined with the **shared sae configuration plug-ins pool PccmRKSPugin peer-group** command.

Default— No value
Editing Level—Normal

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration plug-ins pool *name* pcmm-rks peer-group

Syntax

```
shared sae configuration plug-ins pool name pcmm-rks peer-group name {
    server-address server-address;
    server-port server-port;
}
```

Hierarchy Level

```
[edit shared sae configuration plug-ins pool name pcmm-rks peer-group]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a RADIUS peer, which is an instance of a RADIUS server. If you define multiple servers, the SAE uses them in cases of failover or as alternate servers for load-balancing purposes.

Note that if you configure more than one RADIUS peer in a plug-in instance that has the same properties, the SNMP counters for the plug-in will not update correctly. The reason is that the software does not know which RADIUS peer to send updates to.

Options

name *name*— Name of the RADIUS peer.

Value—Text

server-address *server-address*— IP address of the RKS server to which the SAE sends accounting data

Value— IP address

Default— No value

Editing Level—Normal

server-port *server-port*— Port used for sending accounting packets.

Value— Port number in the range 0–65535

Default— 1813

Editing Level—Normal

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration plug-ins pool *name* qos-profile-tracking

Syntax

```
shared sae configuration plug-ins pool name qos-profile-tracking {
    threads threads;
    default-qos-profile default-qos-profile;
    separator separator;
    qos-profile-prefix qos-profile-prefix;
    service-selection-attribute service-selection-attribute;
    search-filter search-filter;
    invisible-qos-service invisible-qos-service;
    qos-profile-parameter-name qos-profile-parameter-name;
}
```

Hierarchy Level

```
[edit shared sae configuration plug-ins pool name qos-profile-tracking]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a QoS-tracking plug-in that you can use to ensure that, as a subscriber activates and deactivates services, the required QoS profile is attached to the subscriber interface.

Options

`threads threads`— Number of working threads that all QTP instances share when they process QTP events.

Value— Integer in the range 1–100.

Default— 1

Editing Level—Advanced

`default-qos-profile default-qos-profile`—(Optional) Name of the QoS profile that is attached to the interface when QoS services have been deactivated.

Value— Name of QoS profile

Default— No value

Editing Level—Normal

`separator separator`— Character that is placed between QoS profile input values when the system concatenates the values during the process of creating QoS profile names.

Value— Any character that is valid in QoS profile names on the router.

Default— A single hyphen (-)

Editing Level—Advanced

`qos-profile-prefix qos-profile-prefix`— Prefix added to the QoS service name as part of the process to determine the name of the QoS profile that needs to be attached to an interface for a particular service.

Value— Prefix that, when combined with QoS profile input values, matches a QoS profile on the router.

Default— qos-profile

Editing Level—Normal

`service-selection-attribute service-selection-attribute`— Name of the attribute in the service definition that you want the QTP to use as QoS profile input values. The QTP uses these values to determine the name of the QoS profile that needs to be attached to an interface for a group of QoS services.

Value— Name of any attribute in the service object; for example, `serviceCategory`, `sspDesignAndGraphics`. For a list of attribute names for the `sspService` object class, see the documentation for the LDAP schema in the SRC software distribution in the folder *SDK/doc/ldap* or on the Juniper Networks Web site at

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

Default— `serviceName`

Editing Level—Normal

`search-filter search-filter`— Search filter that the SAE uses to search service objects in the directory to find QoS services. You can set up the filter to search the values of any attribute in the service object, such as service name, category, or tracking plug-in. The search is successful when a value matches the filter.

Value— Search filter in a format similar to the LDAP search filter. See *Managing Tiered and Premium Services with QoS on JUNOS Routers* in the *SRC Solutions Guide* for a list of the values that you can use for filters.

Default— `(attribute.trackPlugin =)` Note that you must add a search value after the equal sign.

Editing Level—Normal

`invisible-qos-service` *invisible-qos-service*— Name of the hidden QoS profile attachment service that the QTP uses to attach QoS profiles to and remove QoS profiles from a router interface.

Value— Name of the configured service

Default— `svc-qos-attach`

Editing Level—Normal

`qos-profile-parameter-name` *qos-profile-parameter-name*— Name of the variable parameter used in the QoS profile name field in the QoS profile attachment action of the policy group that is assigned to the hidden QoS service. When the QTP obtains the name of the required QoS profile, it substitutes that value for the variable parameter.

Value— Valid parameter name

Default— `qpName`

Editing Level—Advanced

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration plug-ins pool *name* radius-accounting

Syntax

```
shared sae configuration plug-ins pool name radius-accounting {
    load-balancing-mode (failover | roundRobin);
    failback-timer failback-timer;
    nas-ip (SspIp | ErxIp);
    retry-interval retry-interval;
    maximum-queue-length maximum-queue-length;
    bind-address bind-address;
    udp-port udp-port;
    username (login-name | accounting-id | auth-user-name | manager-id);
    calling-station-id (mac | no);
    default-peer default-peer;
}
```

Hierarchy Level

```
[edit shared sae configuration plug-ins pool name radius-accounting]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a basic RADIUS accounting plug-in. This plug-in sends accounting information to an external RADIUS accounting server or a group of accounting servers.

Options

`load-balancing-mode (failover | roundRobin)`— Mode for load-balancing RADIUS servers. You can set up the plug-in to switch between RADIUS servers in case of failure or to load-balance every request.

Value— One of the following:

- **Failover**—The SAE sends requests to the RADIUS server that is configured as the default peer. If the default peer fails, the SAE uses the next server configured in the peer group. The SAE cycles through the configured RADIUS servers as needed.
- **Round-robin**—The SAE alternates requests between all RADIUS servers configured in the peer group.

Default— Failover
Editing Level—Normal

`failback-timer` *failback-timer*— Controls if and when the SAE attempts to fail back to the default peer.

Value— One of the following:

- Number of seconds after a failover that the SAE attempts to fail back; range is -1-2147483647
- 0—SAE always attempts to fail back
- -1—SAE never attempts to fail back

Default— -1
Editing Level—Normal

`nas-ip` (`SspIp` | `ErxIp`)—(Optional) Value of the NAS-Ip attribute.

Value— One of the following:

- SSP local IP—IP address of the SAE
- RADIUS client IP—IP address of the virtual router

Default— No value
Editing Level—Normal

`retry-interval` *retry-interval*— Time the SAE waits for a response from a RADIUS server before it resends the RADIUS packet. The SAE keeps sending RADIUS packets until either the server acknowledges the packet or the maximum timeout is reached.

Value— Number of milliseconds in the range 0-9223372036854775807
Default— 3000
Editing Level—Normal

`maximum-queue-length` *maximum-queue-length*— Maximum number of unacknowledged RADIUS messages that the plug-in receives from the RADIUS server before it discards new messages.

Value— Integer in the range 0-2147483647
Default— 10000

Editing Level—Normal

`bind-address bind-address`—(Optional) Source IP address that the plug-in uses to communicate with the RADIUS server. If you do not specify an address, the global default address is used. You configure the global default address with the **slot number sae radius local-address** command.

Value— IP address

Default— No value

Editing Level—Advanced

`udp-port udp-port`—(Optional) Source UDP port or a range of source UDP ports used for communication with the RADIUS server. If you do not specify a UDP port, the global UDP port is used. You configure the global UDP port with the **shared sae configuration global-radius-udp-port** command.

Value— One of the following:

- Port number in the range 1–65535
- A range of ports in the format port-port; for example, 7000-7003
- A comma-separated list of port numbers and port ranges enclosed in quotation marks. For example, "7000-7003, 7006, 7007-7009".

Default— No value

Editing Level—Advanced

`username (login-name | accounting-id | auth-user-name | manager-id)`— Value of the User-Name attribute (RADIUS attribute [1]).

Value— One of the following:

- login-name—Name used for login
- accounting-id—Value stored in the subscriber profile
- auth-user-name—Name used to authenticate a service
- manager-id—Value of the manager ID in the service subscription; use this setting to identify subscribers to enterprise services. Manager ID is the value of modifiersName (DN of the administrator who last modified the entry in the directory) in the subscription. If modifiersName does not exist, manager ID is the value of creatorsName (DN of the administrator who created the entry in the directory).

Default— login-name

Editing Level—Normal

`calling-station-id (mac | no)`— Specifies whether the SAE sends the MAC address of the subscriber in the Calling-Station-Id attribute.

Value— One of the following:

- `mac`—Sends the MAC address in the Calling-Station-Id attribute
- `no`—Does not send the MAC address in the Calling-Station-Id attribute

Default— `no`

Editing Level—Normal

`default-peer default-peer`— Name of the RADIUS server to which the SAE sends packets for this plug-in.

Value— Name of the server as defined with the **shared sae configuration plug-ins pool RadiusAcctPlugin peer-group** command.

Default— No value

Editing Level—Normal

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration plug-ins pool *name* radius-accounting peer-group

Syntax

```
shared sae configuration plug-ins pool name radius-accounting peer-group name {
    server-address server-address;
    server-port server-port;
    secret secret;
}
```

Hierarchy Level

```
[edit shared sae configuration plug-ins pool name radius-accounting peer-group]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a RADIUS peer, which is an instance of a RADIUS server. If you define multiple servers, the SAE uses them in cases of failover or as alternate servers for load-balancing purposes.

Note that if you configure more than one RADIUS peer in a plug-in instance that has the same properties, the SNMP counters for the plug-in will not update correctly. The reason is that the software does not know which RADIUS peer to send updates to.

Options

name *name*— Name of the RADIUS peer.

Value—Text

server-address *server-address*— IP address of the RADIUS server to which the SAE sends accounting data or that the SAE uses for authentication and authorization.

Value— IP address

Default— No value

Editing Level—Normal

server-port *server-port*— Port used for RADIUS packets.

Value— Port number in the range 0–65535.

- RADIUS accounting servers typically use ports 1813 or 1646.
- RADIUS authentication servers typically use ports 1812 or 1645.

Default— 1812

Editing Level—Normal

`secret` *secret*— Password that is shared with the RADIUS server. You must configure the same secret on the RADIUS server.

Value— Shared secret; the software encodes the secret using BASE-64.

Default— 10000

Editing Level—Normal

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration plug-ins pool *name* radius-authentication

Syntax

```
shared sae configuration plug-ins pool name radius-authentication {
    load-balancing-mode (failover | roundRobin);
    failback-timer failback-timer;
    nas-ip (SspIp | ErxIp);
    retry-interval retry-interval;
    maximum-queue-length maximum-queue-length;
    bind-address bind-address;
    udp-port udp-port;
    default-peer default-peer;
}
```

Hierarchy Level

```
[edit shared sae configuration plug-ins pool name radius-authentication]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a basic RADIUS accounting plug-in. This plug-in sends authentication information to an external RADIUS authentication server or a group of redundant servers.

Options

`load-balancing-mode (failover | roundRobin)`— Mode for load-balancing RADIUS servers. You can set up the plug-in to switch between RADIUS servers in case of failure or to load-balance every request.

Value— One of the following:

- Failover—The SAE sends requests to the RADIUS server that is configured as the default peer. If the default peer fails, the SAE uses the next server configured in the peer group. The SAE cycles through the configured RADIUS servers as needed.
- Round-robin—The SAE alternates requests between all RADIUS servers configured in the peer group.

Default— Failover
Editing Level—Normal

`failback-timer` *failback-timer*— Controls if and when the SAE attempts to fail back to the default peer.

Value— One of the following:

- Number of seconds after a failover that the SAE attempts to fail back; range is -1-2147483647
- 0—SAE always attempts to fail back
- -1—SAE never attempts to fail back

Default— -1
Editing Level—Normal

`nas-ip` (`SspIp` | `ErxCip`)—(Optional) Value of the NAS-Ip attribute.

Value— One of the following:

- SSP local IP—IP address of the SAE
- RADIUS client IP—IP address of the virtual router

Default— No value
Editing Level—Normal

`retry-interval` *retry-interval*— Time the SAE waits for a response from a RADIUS server before it resends the RADIUS packet. The SAE keeps sending RADIUS packets until either the server acknowledges the packet or the maximum timeout is reached.

Value— Number of milliseconds in the range 0-9223372036854775807
Default— 3000
Editing Level—Normal

`maximum-queue-length` *maximum-queue-length*— Maximum number of unacknowledged RADIUS messages that the plug-in receives from the RADIUS server before it discards new messages.

Value— Integer in the range 0-2147483647
Default— 10000

Editing Level—Normal

`bind-address` *bind-address*—(Optional) Source IP address that the plug-in uses to communicate with the RADIUS server. If you do not specify an address, the global default address is used. You configure the global default address with the **slot number sae radius local-address** command.

Value— IP address

Default— No value

Editing Level—Advanced

`udp-port` *udp-port*—(Optional) Source UDP port or a range of source UDP ports used for communication with the RADIUS server. If you do not specify a UDP port, the global UDP port is used. You configure the global UDP port with the **shared sae configuration global-radius-udp-port** command.

Value— One of the following:

- Port number in the range 1–65535
- A range of ports in the format port-port; for example, 7000-7003
- A comma-separated list of port numbers and port ranges enclosed in double quotation marks. For example, "7000-7003, 7006, 7007-7009".

Default— No value

Editing Level—Advanced

`default-peer` *default-peer*— Name of the RADIUS server to which the SAE sends packets for this plug-in.

Value— Name of the server as defined with the **shared sae configuration plug-ins pool RadiusAuthPlugin peer-group** command.

Default— No value

Editing Level—Normal

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration plug-ins pool *name* radius-authentication peer-group

Syntax

```
shared sae configuration plug-ins pool name radius-authentication peer-
group name {
    server-address server-address;
    server-port server-port;
    secret secret;
}
```

Hierarchy Level

```
[edit shared sae configuration plug-ins pool name radius-authentication peer-
group]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a RADIUS peer, which is an instance of a RADIUS server. If you define multiple servers, the SAE uses them in cases of failover or as alternate servers for load-balancing purposes.

Note that if you configure more than one RADIUS peer in a plug-in instance that has the same properties, the SNMP counters for the plug-in will not update correctly. The reason is that the software does not know which RADIUS peer to send updates to.

Options

name name— Name of the RADIUS peer.

Value—Text

server-address server-address— IP address of the RADIUS server to which the SAE sends accounting data or that the SAE uses for authentication and authorization.

Value— IP address

Default— No value

Editing Level—Normal

`server-port` *server-port*— Port used for RADIUS packets.

Value— Port number in the range 0–65535.

- RADIUS accounting servers typically use ports 1813 or 1646.
- RADIUS authentication servers typically use ports 1812 or 1645.

Default— 1812

Editing Level— Normal

`secret` *secret*— Password that is shared with the RADIUS server. You must configure the same secret on the RADIUS server.

Value— Shared secret; the software encodes the secret using BASE-64.

Default— 10000

Editing Level— Normal

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration plug-ins pool *name* schedule-authorization

Syntax

```
shared sae configuration plug-ins pool name schedule-authorization {  
}
```

Hierarchy Level

```
[edit shared sae configuration plug-ins pool name schedule-authorization]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Create an authorization plug-in that authorizes a scheduled service.

Options

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration plug-ins state-synchronization

Syntax

```
shared sae configuration plug-ins state-synchronization {
    fail-queue-size fail-queue-size;
    fail-queue-age fail-queue-age;
    batch-time batch-time;
    keepalive-time keepalive-time;
}
```

Hierarchy Level

```
[edit shared sae configuration plug-ins state-synchronization]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a state synchronization plug-in. Some plug-ins, such as the ACP plug-in and the SAE plug-in agent for the NIC, support state synchronization with the SAE. The state synchronization plug-in allows external plug-ins to maintain the state of active subscriber, service, and interface sessions without having to store intermediate versions of the state locally.

Options

fail-queue-size fail-queue-size— Maximum number of plug-in events that are stored while the communication with a state synchronization plug-in is interrupted.

Value— Integer in the range -1-2147483647. -1 means unlimited.

Default— 5000

Editing Level—Basic

fail-queue-age fail-queue-age— Mximum time for which plug-in events are stored while the communication with a state synchronization plug-in is interrupted.

Value— Integer in the range -1-2147483647. -1 means unlimited.

Default— -1

Editing Level—Basic

batch-time batch-time— Time the SAE waits for other plug-ins to become ready

before starting a synchronization sequence.

Value— Number of seconds in the range 0–2147483647

Default— 60

Editing Level—Basic

`keepalive-time` *keepalive-time*— Time the SAE waits after an event before sending a ping to the remote plug-in.

Value— Number of seconds in the range 0–2147483647

Default— 60

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Normal

shared sae configuration policy-management-configuration

Syntax

```
shared sae configuration policy-management-configuration {
    enable-junose-classifier-expansion;
}
```

Hierarchy Level

```
[edit shared sae configuration policy-management-configuration]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Specify whether or not the SAE expands the JUNOSE classify-traffic conditions into multiple classifiers before it installs the policy on the router.

Options

`enable-junose-classifier-expansion`—(Optional) Enables or disables the expansion of JUNOSE classify-traffic conditions into multiple classifiers before it installs the policy on the router.

You would use this feature in policies that are used in IP multimedia subsystem (IMS) environments. You can also use it to simplify the configuration of JUNOSE policies.

Because classifier expansion uses processing resources when the policy is created, you should set this property to true only if you are going to use the feature.

Default— Disabled

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Normal

shared sae configuration radius-packet-template

Syntax

```
shared sae configuration radius-packet-template name ...
```

Hierarchy Level

```
[edit shared sae configuration radius-packet-template]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a RADIUS packet template that contains the definition of RADIUS packets. You can use the template to define the content of RADIUS packets that the SAE sends to RADIUS servers. You can then apply the template to flexible RADIUS plug-ins.

Options

`name name`— Name of the RADIUS packet template.

Value—Text

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration radius-packet-template *name* radius-attributes

Syntax

```
shared sae configuration radius-packet-template name radius-attributes name ...
```

Hierarchy Level

```
[edit shared sae configuration radius-packet-template name radius-attributes]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Create a RADIUS attribute instance.

Options

name name— Name of the file-accounting template. RADIUS attribute instance. The name you assign to the RADIUS attribute instance must match a RADIUS attribute instance name listed in *Configuring Accounting and Authentication Plug-Ins with the SRC CLI* in the *SCR-PE Subscribers and Subscriptions Guide*.

Value—Text

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration radius-packet-template *name* radius-attributes *name* attributes

Syntax

```
shared sae configuration radius-packet-template name radius-
attributes name attributes name {
    value;
}
```

Hierarchy Level

```
[edit shared sae configuration radius-packet-template name radius-
attributes name attributes]
```

Description

Configure a RADIUS packet definition within a plug-in.

Options

name *name*— Name of the RADIUS attribute.

Value—Text

value— Value of the RADIUS attribute.

Value— Value can be a standard value or an expression. For a list of standard values, see *Configuring Accounting and Authentication Plug-Ins with the SRC CLI* in the *SCR-PE Subscribers and Subscriptions Guide*.

Default— No value

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

shared sae configuration script-extension

Syntax

```
shared sae configuration script-extension {
    flexible-radius-script flexible-radius-script;
    dynamic-radius-script dynamic-radius-script;
}
```

Hierarchy Level

```
[edit shared sae configuration script-extension]
```

Release Information

Statement introduced in SRC Release 1.0.0

Options

`flexible-radius-script` *flexible-radius-script*— Python script name of flexible radius plug-in

Value—

Default— flexRadius

Editing Level—Basic

`dynamic-radius-script` *dynamic-radius-script*— Python script name of local dynamic radius server

Value—

Default— dynRadius

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Expert

shared sae configuration service-activation

Syntax

```
shared sae configuration service-activation {
    retry-time retry-time;
    retry-limit retry-limit;
}
```

Hierarchy Level

```
[edit shared sae configuration service-activation]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure session reactivation behavior. If a service session fails unexpectedly, the SAE tries to start the session again in the background. You can change how many times the SAE tries to activate the session and the interval between these attempts. In most instances, the default values do not need to be changed.

Options

`retry-time retry-time`— Time between attempts to activate a service session if activation fails or to deactivate a service session if deactivation fails. This process takes place in the background.

Value— Number of seconds in the range -1-9223372036854775807; -1 indicates no limit

Default— 60

Editing Level—Basic

`retry-limit retry-limit`— Number of times the SAE tries to activate a service session if activation fails or to deactivate a service session if deactivation fails. This process takes place in the background. Limit number of times to retry service failed background activation.

Value— Integer in the range -1-2147483647; -1 indicates no limit

Default— -1

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Expert

shared sae configuration service-schedule

Syntax

```
shared sae configuration service-schedule {
    years-in-future years-in-future;
    years-in-past years-in-past;
}
```

Hierarchy Level

```
[edit shared sae configuration service-schedule]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure parameters related to service schedules.

Options

years-in-future years-in-future—(Optional) Amount of time in the future from the year that the SRC system is started, that the scheduler can see.

Value— Integer in the range 1–100

Default— No value

Editing Level—Basic

years-in-past years-in-past—(Optional) Amount of time in the past, from the year that the SRC system is started, that the scheduler can see.

Value— Integer in the range 1–100

Default— No value

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Expert

shared sae configuration session-job-manager

Syntax

```
shared sae configuration session-job-manager {
    number-of-threads number-of-threads;
}
```

Hierarchy Level

```
[edit shared sae configuration session-job-manager]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the number of threads used for session-related activity; for example, interim accounting, subscriber and service session timeout, idle timeouts, aggregate service keepalives, and remote session monitoring.

Options

`number-of-threads` *number-of-threads*— Number of threads used for session-related activity.

Value— Integer in the range 1–50

Default— 10

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Expert

shared sae configuration subscriber-sessions

Syntax

```
shared sae configuration subscriber-sessions {
    assigned-ip-idle-timeout assigned-ip-idle-timeout;
    allow-same-ip-login;
}
```

Hierarchy Level

```
[edit shared sae configuration subscriber-sessions]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure an idle timeout for sessions of assigned IP subscribers, and specify whether or not the SAE allows multiple logins from the same IP address.

Options

`assigned-ip-idle-timeout` *assigned-ip-idle-timeout*—Interval after which assigned IP subscriber sessions are deactivated if no service session is active.

Value— Number of seconds in the range 0–2147483647

Default— 900

Editing Level—Basic

`allow-same-ip-login`—(Optional) Enables or disables whether the SAE allows a login from the same IP address without requiring that the previous session logs out first.

- If enabled, the SAE logs in the new subscriber session and automatically logs out the previous session.
- If disabled, the SAE denies login requests if a subscriber session for an IP address is active.

Default— Disabled

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Normal

shared sae configuration time-based-policies

Syntax

```
shared sae configuration time-based-policies {
    action-threshold action-threshold;
    preparation-time preparation-time;
    max-worker-threads max-worker-threads;
}
```

Hierarchy Level

```
[edit shared sae configuration time-based-policies]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the action threshold and preparation time for all schedules. You cannot set these values for individual schedules.

Options

`action-threshold action-threshold`— Maximum delay that the service allows for a time-related change to occur.

Value— Number of milliseconds in the range 0–9223372036854775807. The recommended range is 60000-300000 milliseconds

Default— 300000 (5 minutes)

Editing Level—Basic

`preparation-time preparation-time`— Preparation time allowed for a state transition. When you set the preparation time, take into consideration system load and performance. Factors such as the number of subscribers, the number of active services, the number of schedule services, the speed of the processor on the system, as well as other conditions might affect the amount of time to process all the scheduled actions at a specified scheduled time.

Value— Number of milliseconds in the range 0–9223372036854775807

Default— 300000 (5 minutes)

Editing Level—Basic

`max-worker-threads` *max-worker-threads*—(Optional) The maximum number of worker threads for service scheduling.

Value— Integer in the range 0–2147483647

Default—

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Normal

shared sae dhcp-classifier rule

Syntax

```
shared sae dhcp-classifier rule name {
    target target;
    script script;
}
```

Hierarchy Level

```
[edit shared sae dhcp-classifier rule]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a rule in a classifier script.

Options

name *name*— Name of a classification script.

Value—Text

target *target*—(Optional) Result of the classification script that is returned to the SAE.

Value— The result depends on the type of classification script:

- Subscriber classification script—An LDAP query that uniquely identifies a subscriber entry in the directory.
- DHCP classification script—DHCP profile.

Default— Not applicable

Editing Level—Basic

script *script*—(Optional) Script target. A script that can contain definitions of custom functions that can be called during the matching process. The complete content of the script is interpreted when the classifier is initially loaded. Because you can insert code into

a script target, you can use the classification script to perform various tasks.

Value— Script enclosed in quotation marks.

Default— No value

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

shared sae dhcp-classifier rule *name* condition

Syntax

```
shared sae dhcp-classifier rule name condition name ...
```

Hierarchy Level

```
[edit shared sae dhcp-classifier rule name condition]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure match conditions used to find a target. You can configure multiple conditions for each classifier rule.

Options

name name— Match conditions used to find a target. For information about configuring match conditions, see *Classifying Interfaces and Subscribers with the SRC CLI* in *SRC-PE Subscribers and Subscriptions Guide*.

Value—Text

Required Privilege Level

system

Required Editing Level

Basic

shared sae group

Syntax

```
shared sae group name ...
```

Hierarchy Level

```
[edit shared sae group]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a group of SAE configuration properties.

Options

name *name*— Name of a shared SAE configuration.

Value— Text

Required Privilege Level

system

Required Editing Level

Basic

shared sae subscriber-classifier rule

Syntax

```
shared sae subscriber-classifier rule name {
    target target;
    script script;
}
```

Hierarchy Level

```
[edit shared sae subscriber-classifier rule]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a rule in a classifier script.

Options

name name— Name of a classification script.

Value—Text

target target—(Optional) Result of the classification script that is returned to the SAE.

Value— The result depends on the type of classification script:

- Subscriber classification script—An LDAP query that uniquely identifies a subscriber entry in the directory.
- DHCP classification script—DHCP profile.

Default— Not applicable

Editing Level—Basic

script script—(Optional) Script target. A script that can contain definitions of custom functions that can be called during the matching process. The complete content of the script is interpreted when the classifier is initially loaded. Because you can insert code into

a script target, you can use the classification script to perform various tasks.

Value— Script enclosed in quotation marks.

Default— No value

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

shared sae subscriber-classifier rule *name* condition

Syntax

```
shared sae subscriber-classifier rule name condition name ...
```

Hierarchy Level

```
[edit shared sae subscriber-classifier rule name condition]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure match conditions used to find a target. You can configure multiple conditions for each classifier rule.

Options

name name— Match conditions used to find a target. For information about configuring match conditions, see *Classifying Interfaces and Subscribers with the SRC CLI* in *SRC-PE Subscribers and Subscriptions Guide*.

Value—Text

Required Privilege Level

system

Required Editing Level

Basic

slot *number* sae

Syntax

```
slot number sae {
    base-dn base-dn;
    real-portal-address real-portal-address;
    java-runtime-environment java-runtime-environment;
    java-heap-size java-heap-size;
    java-new-size java-new-size;
    java-garbage-collection-options java-garbage-collection-options;
    port-offset port-offset;
    snmp-agent;
    shared shared;
}
```

Hierarchy Level

```
[edit slot number sae]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure local properties for the SAE, including the base DN, interface the SAE uses to communicate with the router, path to the JRE, Java heap size, Java garbage collection options, and port offset. The statement also specifies the shared configuration object that holds the shared SAE configuration, and it enables or disables SNMP.

Options

base-dn base-dn— Distinguished name (DN) of the root directory for the SAE. You must set this attribute if you use a directory-naming scheme different from the default.

Value— DN of the root directory for the SAE.

Default— *o= umc*

Editing Level—Advanced

real-portal-address real-portal-address— Interface on the SAE that the SAE uses for communication with the router. If you clear this field, the interface is assumed to be the interface that was used to connect the router driver to the SAE. If the SAE has multiple network interfaces, you must specify the interfaces that are used to communicate

with the router.

Value— IP address of the interface

Default— One of the IP addresses configured on the host (except 127.0.0.1)

Editing Level—Basic

`java-runtime-environment` *java-runtime-environment*— Path to the Java runtime environment (JRE) The SRC software requires a JRE that conforms to the Java 2 specification. The SRC software has been tested with Sun's JRE. See the SRC Release Notes for information about which version of the Sun JRE is distributed with the SRC software. We expect other JREs to work, but have not verified whether they do.

Value— Absolute or relative directory path. This path is the default installation path for the JRE that is distributed with the SRC software and installed with the other SRC components.

Default— `../jre/bin/java`

Editing Level—Expert

`java-heap-size` *java-heap-size*— Maximum Java heap (memory) size available to the JRE.

Value— Number of megabytes followed by m. For example, 896m. Change this value if you experience problems caused by lack of memory. Set the value lower than the available physical memory to avoid low performance caused by disk swapping. See the documentation for the JRE for valid values.

Default— The value is calculated dynamically to 70 % of the available real memory when you first run the SAE local configuration tool.

Editing Level—Advanced

`java-new-size` *java-new-size*— Maximum Java new generation heap (memory) size available to the JRE when the SAE starts.

Value— Integer in the range 0– < Java heap size > . Specify the value in bytes or add m for megabytes, k for kilobytes, or g for gigabytes. For example, 24m. See the documentation for the JRE for valid values.

Default— 24m

Editing Level—Advanced

`java-garbage-collection-options` *java-garbage-collection-options*— Garbage collection functionality of the Java Virtual Machine.

Value—

Default— `-Xbatch -XX: + UseConcMarkSweepGC -XX:`

`CMSInitiatingOccupancyFraction = 80 -XX: + UseParNewGC -XX:`

SurvivorRatio = 1 -XX:InitialTenuringThreshold = 8 -XX:
 MaxTenuringThreshold = 10 -XX:TargetSurvivorRatio = 90 -XX:
 + UseCMSCompactAtFullCollection -XX:
 CMSFullGCsBeforeCompaction = 0 -XX:
 + CMSPermGenSweepingEnabled -XX: + CMSClassUnloadingEnabled -
 XX: + CMSParallelRemarkEnabled

Editing Level—Advanced

`port-offset port-offset`— Port offset for SAE instances. The offset is added to the OA port, RADIUS socket, and administration HTTPS server ports.

Value— Integer in the range 0–65535. Set to 0 if you install multiple SAE instances on the same host.

Default— 0

Editing Level—Expert

`snmp-agent`—(Optional) Enables the SAE to communicate with the SNMP agent.

Editing Level—Basic

`shared shared`— Shared configuration object that holds most of the SAE specific configuration.

Value— Name of the object in the format `"/SAE/< path > "`. The `< path >` is separated by `/` and can contain multiple levels. The effective configuration is combined by all configuration objects in the path, with more specific configuration in the lower levels of the path.

Default— `/SAE/POP-ID;`

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

slot *number* sae initial

Syntax

```
slot number sae initial {
    static-dn static-dn;
    dynamic-dn dynamic-dn;
}
```

Hierarchy Level

```
[edit slot number sae initial]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure initial properties for SRC components.

Options

`static-dn static-dn`—(Optional) Location of administrator-defined configuration data in the directory.

Value—Text

Default—ou = staticConfiguration,ou = Configuration,o = Management,
o = umc

Editing Level—Expert

`dynamic-dn dynamic-dn`—(Optional) Location of programmatically-defined configuration data in the directory.

Value—Text

Default—ou = dynamicConfiguration,ou = Configuration,
o = Management,o = umc

Editing Level—Expert

Required Privilege Level

system

Required Editing Level

Basic

slot *number* sae initial directory-connection

Syntax

```
slot number sae initial directory-connection {
    url url;
    backup-urls [backup-urls...];
    principal principal;
    credentials credentials;
    protocol (ldaps);
    timeout timeout;
    check-interval check-interval;
    blacklist;
    snmp-agent;
}
```

Hierarchy Level

```
[edit slot number sae initial directory-connection]
```

Description

Configure properties for the directory connection.

Options

`url url`—(Optional) URL that identifies the location of the primary directory server.

Value— URL

Default—`ldap://127.0.0.1:389`

Editing Level—Basic

`backup-urls [backup-urls...]`—(Optional) URLs that identify the locations of backup directory servers. Backup servers are used if the primary directory server is not accessible.

Value— List of URLs

Editing Level—Basic

`principal principal`— DN that the SRC component uses for authentication to access the directory.

Value— DN.

When you specify the DN, you can use `< base >` to indicate the base DN.

Editing Level—Basic

`credentials credentials`— Password with which the SRC component accesses the directory.

Value— Password

Editing Level—Basic

`protocol (ldaps)`—(Optional) Security protocol used to connect to the directory. If you do not configure a security protocol, plain socket is used.

Value

- `ldaps`— LDAPS which uses SSL.

Editing Level—Expert

`timeout timeout`—(Optional) Maximum amount of time during which the directory must respond to a connection request.

Value—Integer in the range 1–2147483647 s

Default—10

Editing Level—Expert

`check-interval check-interval`—(Optional) Time interval at which the directory monitoring system verifies its connection to the directory. If the directory connection fails after this interval, the directory monitoring system initiates a connection to another directory.

Value—Integer in the range 15–2147483647 s

Default—60

Editing Level—Expert

`blacklist`—(Optional) Specifies whether the directory monitoring system prevents connection to a directory if the directory fails to respond during 10 polling intervals.

Default—false

Editing Level—Basic

`snmp-agent`—(Optional) Specifies whether the SDX SNMP agent exports MIBs for this directory connection.

Default—false

Editing Level—Expert

Required Privilege Level

system

Required Editing Level

Basic

slot *number* sae initial directory-eventing

Syntax

```
slot number sae initial directory-eventing {
    eventing;
    signature-dn signature-dn;
    polling-interval polling-interval;
    event-base-dn event-base-dn;
    dispatcher-pool-size dispatcher-pool-size;
}
```

Hierarchy Level

```
[edit slot number sae initial directory-eventing]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Change configuration for directory eventing properties. In most cases, you can use the default configuration for these properties.

Options

`eventing`—(Optional) Enable an SRC component to poll the directory for changes.

Default—true

Editing Level—Normal

`signature-dn signature-dn`—(Optional) DN of the directory entry that specifies the `usedDirectory` attribute for the SRC CLI. The `usedDirectory` attribute identifies the vendor of the directory server.

Value— DN

Default—o = umc

Editing Level—Expert

`polling-interval polling-interval`—(Optional) Interval at which an SRC component polls the directory to check for directory changes.

Value—Integer in the range 15–2147483647 s

Default—30

Editing Level—Normal

`event-base-dn` *event-base-dn*—(Optional)

DN of an entry superior to the data associated with an SRC component in the directory.

If you are storing non-SRC data in the directory, and that data changes frequently whereas the SRC data does not, you may need to adjust the default value to improve performance. For optimal performance, set the value to the DN of an entry superior to both the SRC data and the changing non-SRC data.

Value— DN

Default—o = UMC

Editing Level—Expert

`dispatcher-pool-size` *dispatcher-pool-size*—(Optional) Number of directory change notifications that can be sent simultaneously to the SRC component.

Value—Integer in the range 0–2147483647

Default—1

Editing Level—Expert

Required Privilege Level

system

Required Editing Level

Basic

slot *number* sae radius

Syntax

```
slot number sae radius {
    local-address local-address;
    local-nas-id local-nas-id;
}
```

Hierarchy Level

```
[edit slot number sae radius]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the local address that the SAE uses to communicate with RADIUS servers, the network access server (NAS) ID that identifies the SAE when it sends RADIUS messages, and the real portal address that the SAE uses to communicate with the router.

Options

local-address local-address— Local IP address on the SAE host used for communication with RADIUS servers.

Value— IP address; should be a unique NAS IP address.

In an installation in which the SAE is equipped with multiple network interfaces, you must specify the interface that communicates with external RADIUS servers. Typically, you must configure the RADIUS server to accept requests from a client; use this IP address for the RADIUS client configuration. Even if the RADIUS server is running on the same server as the SAE, do not use 127.0.0.1 as the local address, because this address is typically the loopback address for a server.

Default— One of the IP addresses configured on the host (except 127.0.0.1)

Editing Level—Basic

local-nas-id local-nas-id— String that identifies the SAE when it sends RADIUS

authentication and accounting messages.

Value— Text string that identifies the SAE. Typically, the string is the name of the SAE host.

Default— SAE. < hostname >

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

clear sae directory-blacklist

Syntax

```
clear sae directory-blacklist
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Delete directory blacklist or remove a server from the directory blacklist. A server is added to the blacklist if it repeatedly fails to respond while the server is running and accepting requests.

Required Privilege Level

```
clear
```


clear sae registered equipment

Syntax

```
clear sae registered equipment <mac-address mac-address> <force> <persistent>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Delete entries in the equipment registration cache.

Options

`mac-address mac-address`—(Optional) MAC address of equipment registrations.

Value— MAC address in the format `xx:xx:xx:xx:xx:x`

Default— No value

`force`—(Optional) Flag indicating that no confirmation is requested before the software clears the equipment registration.

Default— Disabled

`persistent`—(Optional) Flag indicating that equipment registration is also removed from the directory. If you do not set this flag, the equipment registration is removed only from the memory. Disabled

Default—false

Required Privilege Level

clear

clear sae registered login

Syntax

```
clear sae registered login <mac-address mac-address> <force> <persistent>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Delete entries in the login registration cache.

Options

`mac-address mac-address`—(Optional) MAC address of login registrations.

Value— MAC address in the format `xx:xx:xx:xx:xx:xx`

Default— No value

`force`—(Optional) Flag indicating that no confirmation is requested before the software clears the login registration.

Default— Disabled

`persistent`—(Optional) Flag indicating that login registration is also removed from the directory. If you do not set this flag, the login registration is removed only from the memory.

Default— Disabled

Required Privilege Level

clear

request sae import-pilot-license

Syntax

```
request sae import-pilot-license file-name file-name <server-address server-address> <name-space name-space> <authentication-dn authentication-dn> <password password>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Import the pilot license into the directory.

Options

file-name file-name— Name of the file that contains the license.

Value— Text
Default— No value

server-address server-address—(Optional) IP address of server to which you want to import the pilot license.

Value— IP address
Default— No value

name-space name-space—(Optional) The string < base > is replaced with this value.

Value— Text
Default— No value

authentication-dn authentication-dn—(Optional) DN used for authentication with the directory.

Value— Text
Default— No Value

`password password`—(Optional) Password used for authentication with the directory.

Value— Text

Default— No value

Required Privilege Level

maintenance

request sae java-garbage-collection

Syntax

```
request sae java-garbage-collection
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Entering this command suggests to the Java Virtual Machine that it should run its garbage collector. Running the garbage collector frees memory and results in a more accurate Heap in Use statistics.

Required Privilege Level

maintenance

request sae load configuration

Syntax

```
request sae load configuration
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Reload SAE configuration data from the directory. The new configuration takes effect immediately.

Required Privilege Level

maintenance

request sae load domain-map

Syntax

```
request sae load domain-map
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Reload the mapping of domain names to retailer entries. This mapping is made available to the SAE's subscriber classification script.

Required Privilege Level

maintenance

request sae load interface-classification

Syntax

```
request sae load interface-classification
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Reload the interface classification scripts from the directory, and apply the result of the interface classification changes to the router as follows:

- For every unmanaged interface that becomes managed, new default policies are downloaded to the router.
- For every managed interface whose default policy group has changed, the old default policies are replaced by the new ones.
- For every managed interface that becomes unmanaged, an error message in the error log is displayed and no changes are applied until the interface goes down.

Required Privilege Level

maintenance

request sae load services

Syntax

```
request sae load services
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Reload the following objects from the directory: services, scopes, virtual routers, policies, service mutex groups, and service schedules. Related service sessions are activated, deactivated, or reactivated, as needed.

Required Privilege Level

maintenance

request sae load subscriptions

Syntax

```
request sae load subscriptions
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Reload all subscriptions from the directory. Related service sessions are activated, deactivated, or reactivated as needed.

Required Privilege Level

maintenance

request sae login ipv4 authenticated-dhcp

Syntax

```
request sae login ipv4 authenticated-dhcp virtual-router virtual-router
address address login-name login-name mac-address mac-address <service-bundle
service-bundle> <radius-class radius-class> <interface-name interface-name>
<interface-alias interface-alias> <interface-description interface-
description> <nas-port-id nas-port-id>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Log in a simulated subscriber that is an authenticated DHCP subscriber. Logging in simulated subscribers allows you to test your SRC application without the need for a router or other device.

Options

virtual-router virtual-router— Name of a simulated virtual router that you want to appear in the simulated subscriber session.

Value— Text

Default— No value

address address— IP address from which you log in simulated subscribers.

Value— IP address

Default— No value

login-name login-name— Fully qualified name used to log in simulated subscribers.

Value— Fully qualified name

Default— No value

mac-address mac-address— MAC address used to log in simulated subscribers.

Value— MAC address in the format xx:xx:xx:xx:xx:xx

Default— 00:00:00:00:00:01

`service-bundle` *service-bundle*—(Optional) Service bundle used when logging in simulated subscribers.

Value— Service bundle name

Default— No value

`radius-class` *radius-class*—(Optional) RADIUS class used when logging in simulated subscribers.

Value— RADIUS class

Default— No value

`interface-name` *interface-name*—(Optional) Virtual interface used when logging in simulated subscribers.

Value— Virtual router name

Default— No value

`interface-alias` *interface-alias*—(Optional) Interface description used when logging in simulated subscribers. If you are simulating JUNOSe routers, interface alias is the description that is configured on JUNOSe routers with the **interface description** command.

Value— Text

Default— No value

`interface-description` *interface-description*—(Optional) Alternate interface name used when logging in simulated subscribers. This is the interface name that is used by SNMP.

Value— If you are simulating a:

- JUNOSe router, the format of the description is `ip < slot > / < port > . < subinterface >`
- JUNOS routing platform, ifDesc is the same as interfaceName.

Default— No value

`nas-port-id` *nas-port-id*—(Optional) Port identifier of an interface used when logging in simulated subscribers.

Value— Includes interface name and additional layer 2 information. For example, fastEthernet 3/1.

Default— No value

Required Privilege Level

maintenance

request sae login ipv4 authenticated-interface

Syntax

```
request sae login ipv4 authenticated-interface virtual-router virtual-router
address address login-name login-name <service-bundle service-bundle> <radius-
class radius-class> <interface-name interface-name> <interface-alias interface-
alias> <interface-description interface-description> <nas-port-id nas-port-id>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Log in a simulated subscriber that is an authenticated interface subscriber. Logging in simulated subscribers allows you to test your SRC application without the need for a router or other device.

Options

virtual-router virtual-router— Name of a simulated virtual router that you want to appear in the simulated subscriber session.

Value— Text

Default— No value

address address— IP address from which you log in simulated subscribers.

Value— IP address

Default— No value

login-name login-name— Fully qualified name used to log in simulated subscribers.

Value— Fully qualified name

Default— No value

service-bundle service-bundle—(Optional) Service bundle used when logging in simulated subscribers.

Value— Service bundle name

Default— No value

`radius-class` *radius-class*—(Optional) RADIUS class used when logging in simulated subscribers.

Value— RADIUS class

Default— No value

`interface-name` *interface-name*—(Optional) Virtual interface used when logging in simulated subscribers.

Value— Virtual router name

Default— No value

`interface-alias` *interface-alias*—(Optional) Interface description used when logging in simulated subscribers. If you are simulating JUNOS routers, interface alias is the description that is configured on JUNOS routers with the **interface description** command.

Value— Text

Default— No value

`interface-description` *interface-description*—(Optional) Alternate interface name used when logging in simulated subscribers. This is the interface name that is used by SNMP.

Value— If you are simulating a:

- JUNOS router, the format of the description is `ip < slot > / < port > . < subinterface >`
- JUNOS routing platform, ifDesc is the same as interfaceName.

Default— No value

`nas-port-id` *nas-port-id*—(Optional) Port identifier of an interface used when logging in simulated subscribers.

Value— Includes interface name and additional layer 2 information. For example, `fastEthernet 3/1`.

Default— No value

Required Privilege Level

maintenance

request sae login ipv4 unauthenticated-dhcp

Syntax

```
request sae login ipv4 unauthenticated-dhcp virtual-router virtual-router
address address mac-address mac-address <login-name login-name> <service-
bundle service-bundle> <radius-class radius-class> <interface-name interface-
name> <interface-alias interface-alias> <interface-description interface-
description> <nas-port-id nas-port-id>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Log in a simulated subscriber that is an unauthenticated DHCP subscriber. Logging in simulated subscribers allows you to test your SRC application without the need for a router or other device.

Options

virtual-router virtual-router— Name of a simulated virtual router that you want to appear in the simulated subscriber session.

Value— Text

Default— No value

address address— IP address from which you log in simulated subscribers.

Value— IP address

Default— No value

mac-address mac-address— MAC address used to log in simulated subscribers.

Value— MAC address in the format xx:xx:xx:xx:xx:xx

Default— 00:00:00:00:00:01

login-name login-name—(Optional) Fully qualified name used to log in simulated subscribers.

Value— Fully qualified name

Default— No value

`service-bundle` *service-bundle*—(Optional) Service bundle used when logging in simulated subscribers.

Value— Service bundle name

Default— No value

`radius-class` *radius-class*—(Optional) RADIUS class used when logging in simulated subscribers.

Value— RADIUS class

Default— No value

`interface-name` *interface-name*—(Optional) Virtual interface used when logging in simulated subscribers.

Value— Virtual router name

Default— No value

`interface-alias` *interface-alias*—(Optional) Interface description used when logging in simulated subscribers. If you are simulating JUNOS routers, interface alias is the description that is configured on JUNOS routers with the **interface description** command.

Value— Text

Default— No value

`interface-description` *interface-description*—(Optional) Alternate interface name used when logging in simulated subscribers. This is the interface name that is used by SNMP.

Value— If you are simulating a:

- JUNOS router, the format of the description is `ip < slot > / < port > . < subinterface >`
- JUNOS routing platform, ifDesc is the same as interfaceName.

Default— No value

`nas-port-id` *nas-port-id*—(Optional) Port identifier of an interface used when

logging in simulated subscribers.

Value— Includes interface name and additional layer 2 information. For example, fastEthernet 3/1.

Default— No value

Required Privilege Level

maintenance

request sae login ipv4 unauthenticated-interface

Syntax

```
request sae login ipv4 unauthenticated-interface virtual-router virtual-router
interface-name interface-name <address address> <login-name login-name>
<service-bundle service-bundle> <radius-class radius-class> <interface-alias
interface-alias> <interface-description interface-description> <nas-port-id
nas-port-id>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Log in a simulated subscriber that is an unauthenticated interface subscriber. Logging in simulated subscribers allows you to test your SRC application without the need for a router or other device.

Options

virtual-router virtual-router— Name of a simulated virtual router that you want to appear in the simulated subscriber session.

Value— Text

Default— No value

interface-name interface-name— Virtual interface used when logging in simulated subscribers.

Value— Virtual interface name

Default— No value

address address—(Optional) IP address from which you log in simulated subscribers.

Value— IP address

Default— No value

login-name login-name—(Optional) Fully qualified name used to log in simulated subscribers.

Value— Fully qualified name

Default— No value

`service-bundle` *service-bundle*—(Optional) Service bundle used when logging in simulated subscribers.

Value— Service bundle name

Default— No value

`radius-class` *radius-class*—(Optional) RADIUS class used when logging in simulated subscribers.

Value— RADIUS class

Default— No value

`interface-alias` *interface-alias*—(Optional) Interface description used when logging in simulated subscribers. If you are simulating JUNOS routers, interface alias is the description that is configured on JUNOS routers with the **interface description** command.

Value— Text

Default— No value

`interface-description` *interface-description*—(Optional) Alternate interface name used when logging in simulated subscribers. This is the interface name that is used by SNMP.

Value— If you are simulating a:

- JUNOS router, the format of the description is `ip < slot > / < port > . < subinterface >`
- JUNOS routing platform, ifDesc is the same as interfaceName.

Default— No value

`nas-port-id` *nas-port-id*—(Optional) Port identifier of an interface used when logging in simulated subscribers.

Value— Includes interface name and additional layer 2 information. For example, `fastEthernet 3/1`.

Default— No value

Required Privilege Level

maintenance

request sae logout dn

Syntax

```
request sae logout dn <filter filter> <force>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Log out subscribers who are accessible by DN. All subscribers who have a subscriber profile in the directory are accessible by DN.

Options

filter filter—(Optional) DN or DNs of subscribers that you want to log out.

Value— All or part of the subscriber DN

Default— No value

force—(Optional) Flag indicating that no confirmation is requested before the software logs out subscribers.

Default— Disabled

Required Privilege Level

clear

request sae logout ip

Syntax

```
request sae logout ip <filter filter> <force>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Log out subscribers who are accessible by IP address. The following types of subscribers are accessible by IP address: DHCP subscribers, authenticated PPP subscribers, and static IP subscribers who have logged in through a portal.

Options

filter filter—(Optional) IP address or addresses of subscribers that you want to log out.

Value— All or part of the subscriber IP address

Default— No value

force—(Optional) Flag indicating that no confirmation is requested before the software logs out subscribers.

Default— Disabled

Required Privilege Level

clear

request sae logout login-name

Syntax

```
request sae logout login-name <filter filter> <force>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Log out subscribers who are accessible by login name. All authenticated subscribers are accessible by login name.

Options

filter filter—(Optional) Login name or names of subscribers that you want to log out.

Value— All or part of the login name

Default— No value

force—(Optional) Flag indicating that no confirmation is requested before the software logs out subscribers.

Default— Disabled

Required Privilege Level

clear

request sae logout session-id

Syntax

```
request sae logout session-id <filter filter> <force>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Log out subscribers who are accessible by session ID. All subscribers are accessible by session ID.

Options

filter filter—(Optional) Session ID or IDs of subscribers that you want to log out.

Value— All or part of the subscriber session ID

Default— No value

force—(Optional) Flag indicating that no confirmation is requested before the software logs out subscribers.

Default— Disabled

Required Privilege Level

clear

request sae modify device failover

Syntax

```
request sae modify device failover <ip-address ip-address> <tcp-port tcp-port>
<use-failover-server> virtual-router virtual-router <force>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Modify failover server parameters.

Options

ip-address ip-address—(Optional) IP address of an alternate SAE server to which a router or other device can reconnect when the device driver closes its connection. If the driver is configured to use this failover IP address, it sends this IP address to the router or other device when it closes its connection. The device then attempts to open a new connection to the failover IP address. This address is not applicable to the PCMM driver.

Value— IP address

Default— 0.0.0.0

tcp-port tcp-port—(Optional) Port of an alternate SAE server to which a router or other device can reconnect when the device driver closes its connection. If the driver is configured to use this failover port, it sends this failover port to the router or other device when it closes its connection. The device then attempts to open a new connection to this failover port. This TCP port is not applicable to the PCMM driver.

Value— Port number

Default— 0

use-failover-server—(Optional) If you set this flag, then the device driver sends its own failover IP address and port to the router or other device when it closes its connection. The device then attempts to open a new connection to the failover IP address and port. This flag is not applicable to the PCMM router driver.

Default— Disabled

`virtual-router virtual-router`— Virtual router name.

Value— Name of the virtual router.

- For JUNOSe router drivers, use the format `virtualRouterName@routerName`.
- For JUNOS router drivers and PCMM drivers, use the format `default@routerName`.

Default— No value

`force`—(Optional) Flag indicating that no confirmation is requested before the software proceeds with the modification.

Default— Disabled

Required Privilege Level

reset

request sae shutdown device

Syntax

```
request sae shutdown device <name name> <force>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Shut down the specified device driver.

Options

name *name*—(Optional) Device name or names that are managing the drivers that you want to shut down.

Value— All or part of the device name.

- For JUNOSe router drivers, use the format `virtualRouterName@routerName`.
- For JUNOS router drivers and PCMM drivers, use the format `default@routerName`.

Default— No value

force—(Optional) Flag indicating that no confirmation is requested before proceeding with the device driver shutdown.

Default— Disabled

Required Privilege Level

maintenance

show sae directory-blacklist

Syntax

```
show sae directory-blacklist
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display the directory blacklist.

Required Privilege Level

view

show sae drivers

Syntax

```
show sae drivers <device-name device-name> < (brief) > <maximum-results
maximum-results>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display the state of SAE device drivers. Each device driver manages one logical router instance. For example, a JUNOS routing platform, a JUNOS virtual router, a PCMM device, or another third-party device.

Options

`device-name device-name`—(Optional) Name of a device.

Value— All or part of the device name.

- For JUNOS virtual router drivers, use the format `virtualRouterName@routerName`.
- For JUNOS router drivers and PCMM drivers, use the format `default@routerName`.

Default— No value

(Optional) Output style

Value

- `brief`— Display only virtual router names.

Default— Detail

`maximum-results maximum-results`—(Optional) Number of results to be displayed.

Value—Integer in the range 1-2147483647

Default— 25

Required Privilege Level

view

show sae interfaces

Syntax

```
show sae interfaces <interface-name interface-name> <virtual-router virtual-router> < (brief) > <maximum-results maximum-results>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display information about router interfaces that the SAE is managing.

Options

interface-name interface-name—(Optional) Name of router interface.

Value— All or part of the interface name

Default— No value

virtual-router virtual-router—(Optional) Name of virtual router.

Value— All or part of the virtual router name

Default— No value

(Optional) Output style.

Value

- **brief**— Display only interface names.

Default— Detail

maximum-results maximum-results—(Optional) Number of results to be displayed.

Value— Integer in the range 1–2147483647

Default— 25

Required Privilege Level

view

show sae licenses

Syntax

```
show sae licenses
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display licenses and the status of licenses running on the SAE.

Required Privilege Level

view

show sae policies

Syntax

```
show sae policies <group group> < (brief) > <maximum-results maximum-results>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display policy groups.

Options

group group—(Optional) Name of a policy group.

Value— All or part of the policy group name

Default— No value

(Optional) Output style.

Value

- *brief*— Display only policy group names.

Default—*detail*

maximum-results maximum-results—(Optional) Number of results to be displayed.

Value—Integer in the range 1-2147483647

Default— 25

Required Privilege Level

view

show sae registered equipment

Syntax

```
show sae registered equipment <mac-address mac-address> < (brief) > <maximum-  
results maximum-results>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display equipment registrations.

Options

mac-address mac-address—(Optional) MAC address of equipment registrations.

Value— MAC address in the format xx:xx:xx:xx:xx:xx

Default— No value

(Optional) Output style.

Value

- **brief**— Display only the MAC address of registered equipment.

Default— Detail

maximum-results maximum-results—(Optional) Number of results to be displayed.

Value—Integer in the range 1-2147483647

Default— 25

Required Privilege Level

view

show sae registered login

Syntax

```
show sae registered login <mac-address mac-address> < (brief) > <maximum-  
results maximum-results>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display login registrations.

Options

mac-address mac-address—(Optional) MAC address of login registrations.

Value— MAC address in the format xx:xx:xx:xx:xx:xx

Default— No value

(Optional) Output style

Value

- **brief**— Display only the MAC address of login registrations.

Default— Detail

maximum-results maximum-results—(Optional) Number of results to be displayed.

Value—Integer in the range 1-2147483647

Default— 25

Required Privilege Level

view

show sae services

Syntax

```
show sae services <name name> <secret> < (brief) > <maximum-results maximum-
results>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display the state of services running on the SAE.

Options

name name—(Optional) Name of service.

Value— All or part of the service name

Default— No value

secret—(Optional) Display subscriber sessions and service sessions for hidden services.

Default— Disabled

(Optional) Output style

Value

- *brief*— Display only service names.

Default— Detail

maximum-results maximum-results—(Optional) Number of results to be displayed.

Value—Integer in the range 1-2147483647

Default— 25

Required Privilege Level

view

show sae statistics device

Syntax

```
show sae statistics device <name name> < (brief) >
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display SNMP information for routers and other devices that the SAE is managing. For example, Juniper Networks routers, PCMM devices, and other third-party devices.

Options

name *name*—(Optional) Name of a device.

Value— All or part of the device name.

- For JUNOSe router drivers, use the format `virtualRouterName@routerName`.
- For JUNOS router drivers and PCMM drivers, use the format `default@routerName`.

Default— No value

(Optional) Output style

Value

- `brief`— Display only device names.

Default— Detail

Required Privilege Level

view

show sae statistics device common

Syntax

```
show sae statistics device common < (junos | junose-cops | packetcable-cops | proxy) >
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display SNMP statistics for all device drivers of a particular type.

Options

(Optional) Display SNMP statistics for a specified device driver type.

Value

- `junos`— JUNOS router drivers.
- `junose-cops`— JUNOSe router drivers.
- `packetcable-cops`— PCMM device drivers.
- `proxy`— Third-party device drivers.

Default— No value

Required Privilege Level

view

show sae statistics directory

Syntax

```
show sae statistics directory
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display SNMP statistics about the directory.

Required Privilege Level

view

show sae statistics directory connections

Syntax

```
show sae statistics directory connections <id id> < (brief) >
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display SNMP statistics for directory connections.

Options

`id id`—(Optional) Directory connection ID.

Value— All or part of the connection ID

Default— No value

(Optional) Output style

Value

- `brief`— Display only directory connection IDs.

Default— Detail

Required Privilege Level

view

show sae statistics license client

Syntax

```
show sae statistics license client
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display SNMP information about the state of client licenses.

Required Privilege Level

view

show sae statistics license device

Syntax

```
show sae statistics license device <name name> < (brief) >
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display SNMP information about the state of licenses on specified devices.

Options

name *name*—(Optional) Name of a device.

Value— All or part of the device name.

- For JUNOSe router drivers, use the format `virtualRouterName@routerName`.
- For JUNOS router drivers and PCMM drivers, use the format `default@routerName`.

Default— No value

(Optional) Output style

Value

- `brief`— Display only device names.

Default— Detail

Required Privilege Level

view

show sae statistics license local

Syntax

```
show sae statistics license local
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display SNMP information about the state of local licenses.

Required Privilege Level

view

show sae statistics policy-management

Syntax

```
show sae statistics policy-management
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display SNMP information about the policy engine, policy decision point, and the shared object repository where the policy objects are stored.

Required Privilege Level

view

show sae statistics process

Syntax

```
show sae statistics process
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display SNMP information about the SAE server process.

Required Privilege Level

view

show sae statistics radius

Syntax

```
show sae statistics radius
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display SNMP RADIUS information. Display SNMP statistics for RADIUS clients.

Required Privilege Level

view

show sae statistics radius client

Syntax

```
show sae statistics radius client (accounting | authentication) <ip-address ip-  
address> <udp-port udp-port> < (brief) >
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display SNMP information about RADIUS clients.

Options

Display SNMP information for either RADIUS accounting clients or RADIUS authentication clients.

Value

- **accounting**— Display SNMP information for RADIUS accounting clients.
- **authentication**— Display SNMP information for RADIUS authentication clients.

Default— No value

ip-address *ip-address*—(Optional) IP address or addresses of RADIUS clients.

Value— All or part of the client IP address

Default— No value

udp-port *udp-port*—(Optional) Port number for RADIUS clients.

Value— All or part of the client port number

Default— No value

(Optional) Output style.

Value

- **brief**— Display only a list of the clients that are accessible by IP address and port number.

Default— Detail

Required Privilege Level

view

show sae statistics sessions

Syntax

```
show sae statistics sessions
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display SNMP statistics for subscriber sessions and service sessions.

Required Privilege Level

view

show sae subscribers

Syntax

```
show sae subscribers <maximum-results maximum-results> <secret> < (brief |
terse) >
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display information about subscriber sessions.

Options

maximum-results maximum-results—(Optional) Number of results to be displayed.

Value—Integer in the range 1–2147483647

Default— 25

secret—(Optional) Display subscriber sessions and service sessions for hidden services.

Default— Disabled

(Optional) Output style

Value

- *brief*— Display subscriber session information. Service sessions are not displayed.
- *terse*— Display subscriber session ID, login name, and IP address.

Default— Detail

Required Privilege Level

view

show sae subscribers dn

Syntax

```
show sae subscribers dn <filter filter>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display subscriber sessions accessible by DN. All subscribers who have a subscriber profile in the directory are accessible by DN.

Options

`filter filter`—(Optional) DN of the subscribers.

Value— All or part of the subscriber DN

Default— No value

Required Privilege Level

view

show sae subscribers ip

Syntax

```
show sae subscribers ip <address address>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display subscriber sessions that are accessible by IP address. The following subscribers are accessible by IP address: DHCP subscribers, authenticated PPP subscribers, and static IP subscribers who have logged in through a portal.

Options

`address address`—(Optional) IP address of subscriber sessions.

Value— All or part of the subscriber IP address

Default— No value

Required Privilege Level

view

show sae subscribers login-name

Syntax

```
show sae subscribers login-name <filter filter>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display subscriber sessions accessible by login name. All authenticated subscribers are accessible by login name.

Options

`filter filter`—(Optional) Login name of subscriber sessions.

Value— All or part of the subscriber login name

Default— No value

Required Privilege Level

view

show sae subscribers service-name

Syntax

```
show sae subscribers service-name <filter filter>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display all active subscriber sessions activated from a subscription to the specified service name.

Options

`filter filter`—(Optional) Service name of subscriber sessions.

Value— All or part of the service name

Default— No value

Required Privilege Level

view

show sae subscribers session-id

Syntax

```
show sae subscribers session-id <filter filter>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display subscriber sessions by session ID.

Options

`filter filter`—(Optional) ID of subscriber sessions.

Value— All or part of the subscriber session ID

Default— No value

Required Privilege Level

view

show sae threads

Syntax

```
show sae threads
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display information about threads and their priority on the SAE.

Required Privilege Level

view

Network Information Collector (NIC)

The following table summarizes the SRC command-line interface (SRC CLI) for the network information collector (NIC). Configuration statements and operational commands are listed in alphabetical order.

NIC
Configuration Statements
shared_nic_scenario
shared_nic_scenario_name_agents
shared_nic_scenario_name_agents_name_configuration consolidator
shared_nic_scenario_name_agents_name_configuration_directory
shared_nic_scenario_name_agents_name_configuration_properties
shared_nic_scenario_name_agents_name_configuration_sae-plug-in
shared_nic_scenario_name_agents_name_configuration_xml
shared_nic_scenario_name_hosts
shared_nic_scenario_name_hosts_logger
shared_nic_scenario_name_hosts_logger_name_file
shared_nic_scenario_name_hosts_logger_name_syslog
shared_nic_scenario_name_hosts_name_configuration
shared_nic_scenario_name_hosts_name_configuration_logger
shared_nic_scenario_name_hosts_name_configuration_logger_name_file
shared_nic_scenario_name_hosts_name_configuration_logger_name_syslog
shared_nic_scenario_name_nic-locators
shared_nic_scenario_name_nic-locators_name_resolution
shared_nic_scenario_name_realms
shared_nic_scenario_name_realms_name_configuration_custom-resolver_classname
shared_nic_scenario_name_realms_name_configuration_transitions

shared_nic_scenario_name_realms_name_resolvers
shared_nic_scenario_name_realms_name_resolvers_name_configuration
slot_number_nic
slot_number_nic_initial
slot_number_nic_initial_directory-connection
slot_number_nic_initial_directory-eventing
Operational Commands
request_nic_clear_scenario-data
request_nic_restart_agent
request_nic_restart_resolver
show_nic_data
show_nic_data_agent
show_nic_data_resolver
show_nic_statistics
show_nic_statistics_agent
show_nic_statistics_host
show_nic_statistics_process
show_nic_statistics_resolver
test_nic_resolve

shared nic scenario

Syntax

```
shared nic scenario name ...
```

Hierarchy Level

```
[edit shared nic scenario]
```

Description

Configure a NIC configuration scenario to use. A configuration scenario defines the type of resolution to be performed.

Options

`name name`— Name of a NIC configuration scenario.

Value— Name of a configuration scenario that has been established for the NIC.

Required Privilege Level

system

Required Editing Level

Basic

shared nic scenario *name* agents

Syntax

```
shared nic scenario name agents name ...
```

Hierarchy Level

```
[edit shared nic scenario name agents]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a NIC agent in a NIC configuration scenario.

Options

name *name*— Name of a NIC agent in a configuration scenario.

Value— Agent name

Required Privilege Level

system

Required Editing Level

Basic

shared nic scenario *name* agents *name* configuration consolidator

Syntax

```
shared nic scenario name agents name configuration consolidator {
    resolvers-list resolvers-list;
    roles-list roles-list;
    source-agent source-agent;
    agent-processor agent-processor;
    network-data-types network-data-types;
    publishingInterval publishingInterval;
    event-life-expectancy event-life-expectancy;
}
```

Hierarchy Level

```
[edit shared nic scenario name agents name configuration consolidator]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure properties for consolidator agents. When you use a configuration scenario, you typically change the source-agent option.

Before you change the value of this statement or the value of any of the options for this statement, contact Juniper Networks Professional Services or Juniper Networks Customer Support.

Options

resolvers-list resolvers-list—(Optional) Names of NIC resolvers to which this agent sends events. If you do not define a list of NIC resolvers, you must define a list of roles.

Value— List of paths to NIC resolvers; paths are relative to the static configuration object. Separate resolvers with commas.

Default— No value

Editing Level—Expert

roles-list roles-list—(Optional) Names of NIC roles to which this agent sends events. All resolvers that participate in a role receive events.

If you do not define the names of the NIC roles, you must define a list of resolvers.

Value— Names of NIC roles in the format *realmName* : *roleName* . Use commas to separate one role from another in the list.

Default— No value

Editing Level—Expert

`source-agent` *source-agent*— Path to the agent for which this consolidator agent publishes data.

Value— Text

Example—/agents/InterfaceIdInterface

Default— No value

Editing Level—Basic

`agent-processor` *agent-processor*— Name of the Java class that the NIC agent uses to generate the data value object.

Value— Path to Java class

Default— `net.juniper.smgmt.gateway.nic.agent.dir consolidator.`

`RouterEventProcessor`

Editing Level—Expert

`network-data-types` *network-data-types*— Data types that the agent publishes.

For more information, see the documentation for the NIC resolution process.

If the agent publishes mappings, specify two data types in the format *key* , *value* . Use commas to separate entries.

Value— Data type in the format *key* or *key* , *value* , where

- *key* —Name of data key
- *value* — Name of data value

Example—IpPool, InterfaceId

Default— No value

Editing Level—Expert

`publishingInterval` *publishingInterval*—(Optional) Interval at which the NIC agent sends updates to the NIC resolvers.

Value— Number of seconds in the range 0–2147483647

Default—60

Editing Level—Expert

`event-life-expectancy` *event-life-expectancy*—(Optional) Length of time that data is valid after the NIC proxy receives data associated with events published by this agent.

Value— Number of seconds in the range 0–4294967295

- 0—Data does not expire
- Other values—Actual life expectancy of data

Default—0

Editing Level—Expert

Required Privilege Level

system

Required Editing Level

Basic

shared nic scenario *name* agents *name* configuration directory

Syntax

```
shared nic scenario name agents name configuration directory {
    resolvers-list resolvers-list;
    roles-list roles-list;
    search-base search-base;
    search-filter search-filter;
    search-scope (object | one-level | sub-tree);
    server-url server-url;
    directory-backup-urls directory-backup-urls;
    principal principal;
    credentials credentials;
    key-attribute-name key-attribute-name;
    key-attribute-processor key-attribute-processor;
    value-attribute-name value-attribute-name;
    value-attribute-processor value-attribute-processor;
    mapping-attribute-processor mapping-attribute-processor;
    network-data-types network-data-types;
    publishing-interval publishing-interval;
    event-life-expectancy event-life-expectancy;
    enable-directory-eventing;
    directory-connection-id directory-connection-id;
    dispatcher-pool-size dispatcher-pool-size;
    snmp-agent;
    share-directory-connection;
    polling-interval polling-interval;
    des-event-base-dn des-event-base-dn;
    connection-timeout connection-timeout;
    retry-interval retry-interval;
    connection-check-interval connection-check-interval;
}
```

Hierarchy Level

```
[edit shared nic scenario name agents name configuration directory]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure properties for directory agents. When you use a configuration scenario provided in the SRC software, you typically change only the following options:

- `search-base`
- `search-filter`
- `search-scope`
- `server-url`
- `backup-servers-url`
- `authentication-dn`
- `password`

Options

`resolvers-list` *resolvers-list*—(Optional) Names of NIC resolvers to which this agent sends events. If you do not define a list of the NIC resolvers, you must define a list of roles.

Before you change the value of this option, contact Juniper Networks Professional Services or Juniper Networks Customer Support.

Value— List of paths to NIC resolvers; paths are relative to the static configuration object. Separate resolvers with commas.

Example—`/realms/ip/B1, /realms/sharedIp/B1, /realms/login/D1`

Default— No value

Editing Level—Expert

`roles-list` *roles-list*—(Optional) Names of NIC roles to which this agent sends events. All resolvers that participate in a role receive events. If you do not define the names of the NIC roles, you must define a list of resolvers.

Before you change the value of this option, contact Juniper Networks Professional Services or Juniper Networks Customer Support.

Value— Names of NIC roles in the format *realmName: roleName*. Use commas to separate one role from another in the list.

Default— No value

Editing Level—Expert

`search-base` *search-base*— DN of the location in the directory from which the agent should read information.

Value— *DN, base*

Default— *o= Network, base*

Editing Level—Basic

`search-filter` *search-filter*—(Optional) Directory search filter that the agent should use.

Value— LDAP search filter

Default— No value

Editing Level—Basic

`search-scope` (`object` | `one-level` | `sub-tree`)—(Optional) Location in the directory relative to the base DN from which the NIC agent can retrieve information.

Value— One of the following options:

- 0—Object; entry specified in the Search Base field only
- 1—One level; entry specified in the Search Base field and objects that are subordinate by one level
- 2—Subtree of entry specified in the Search Base field

Default— `sub-tree`

Editing Level—Basic

`server-url` *server-url*— URL that identifies the location of the primary directory server to which this NIC agent connects.

Value— Location of the directory that stores configuration information in URL string format `protocol:// host :portNumber` where:

- `> protocol` —`ldap` or `ldaps`
- `host` —IP address or name of directory host
- `portNumber` —Number of TCP/IP port

Example—`ldap://127.0.0.1:389/`

Default— No value

Editing Level—Basic

`directory-backup-urls` *directory-backup-urls*—(Optional) URLs that identify the locations of backup directory servers. Backup servers are used if the primary directory server is not accessible.

Value— URLs of redundant directories separated by semicolons.

Example—`ldap://127.0.0.1:389/`

Default— No value

Editing Level—Basic

`principal principal`— DN that the NIC agent uses for authentication to access the directory.

Value— *DN, base*

Example—`cn= nic,ou= Components,o= Operators,base`

Default— No value

Editing Level—Basic

`credentials credentials`— Password with which the NIC agent accesses the directory.

Value— *password*

Default— No value

Editing Level—Basic

`key-attribute-name key-attribute-name`— Name of the directory attribute that the NIC agent uses for the network data object called key. You can define these attribute names if you use a customized key attribute processor.

Before you change the value of this option, contact Juniper Networks Professional Services or Juniper Networks Customer Support.

Value— Name of one or more attributes in the directory. Use commas to separate attribute names.

Example—`virtualRouterName`

Default— No value

Editing Level—Expert

`key-attribute-processor key-attribute-processor`—(Optional) Java class that the NIC agent uses to generate the network data object named key.

The object includes a list of attributes from the directory. If no class is specified, there can

be only one key attribute (in the `key.attrNames` property).

This value is ignored if a mapping processor is specified.

Before you change the value of this option, contact Juniper Networks Professional Services or Juniper Networks Customer Support.

Value— Path to Java class

Example—`net.juniper.smgt.gateway.nic.agent.dir.DnAttributeProcessor`

Default— No value

Editing Level—Expert

`value-attribute-name` *value-attribute-name*—(Optional) Directory attribute that the NIC agent uses for the network data object called `value`. Specify only if the agent publishes mappings.

Before you change the value of this option, contact Juniper Networks Professional Services or Juniper Networks Customer Support.

Value— Name of an attribute in the directory.

Example—`SaeId`

Default— No value

Editing Level—Expert

`value-attribute-processor` *value-attribute-processor*—(Optional) Name of the Java class that the NIC agent uses to generate the data value object. Specify only if the agent publishes mappings.

If no class is specified, there can be only one value attribute (in the `value.attrNames` property).

Before you change the value of this option, contact Juniper Networks Professional Services or Juniper Networks Customer Support.

Value— Path to Java class

Default— No value

Editing Level—Expert

`mapping-attribute-processor` *mapping-attribute-processor*—(Optional)

Name of the Java class that the NIC agent uses to process the key object and the value object, and to produce the mapping object `DataPair`. If no class is specified, NIC uses the key and value attribute processors.

Before you change the value of this option, contact Juniper Networks Professional Services or Juniper Networks Customer Support.

Value— Path to Java class

Default— No value

Editing Level—Expert

`network-data-types` *network-data-types*— Names of the data types that this NIC agent publishes.

Before you change the value of this option, contact Juniper Networks Professional Services or Juniper Networks Customer Support.

Value— Data type in the form *key, value* . If there is more than one data type, separate entries with commas.

Example

- Agent to publish IP pools—`networkDataTypes = IpPool`
- Agent is to publish mappings between IP pools and VRs—`networkDataTypes = IpPool, Vr`

Default— No value

Editing Level—Expert

`publishing-interval` *publishing-interval*—(Optional) Interval at which the NIC agent sends updates to the NIC resolvers.

Before you change the value of this option, contact Juniper Networks Professional Services or Juniper Networks Customer Support.

Value— Number of seconds in the range 0–2147483647

Default— 60

Editing Level—Expert

`event-life-expectancy` *event-life-expectancy*—(Optional) Length of time that data is valid after the NIC proxy receives data associated with events published by this agent.

Before you change the value of this option, contact Juniper Networks Professional Services or Juniper Networks Customer Support.

Value— Number of seconds in the range 0–4294967295

- 0—Data does not expire
- Other values—Actual life expectancy of data

Default— 0

Editing Level—Expert

`enable-directory-eventing`—(Optional) Specifies whether NIC polls the directory for changes.

Value—

- `true`—Enable polling.
- `false`—Disable polling

Default—`true`

Editing Level—Normal

`directory-connection-id` *directory-connection-id*— Name for directory connection in SNMP agent view.

Value— ID for connection manager.

Example—`DIRAGENT_POOL_VR`

Default— No value

Editing Level—Expert

`dispatcher-pool-size` *dispatcher-pool-size*— Number of directory change notifications that can be sent simultaneously to the SRC component.

Value—Integer in the range -2147483648–2147483647

Default—1

Editing Level—Expert

`snmp-agent`—(Optional) Enable the SDX SNMP agent to export MIBs for this directory connection.

Editing Level—Expert

`share-directory-connection`—(Optional) Enable DES listeners of NIC agents to share a connection to the directory.

Do not change this value unless instructed to do so by Juniper Networks.

Editing Level—Expert

`polling-interval` *polling-interval*— Time interval at which the SRC component polls the directory.

Value—Integer in the range 30–2147483647

Default— No value

Editing Level—Advanced

`des-event-base-dn` *des-event-base-dn*— DN of an entry superior to the data associated with NIC in the directory.

If you are storing non-SRC data in the directory, and that data changes frequently whereas the SRC data does not, you may need to adjust the default value to improve performance. For optimal performance, set the value to the DN of an entry superior to both the SRC data and the changing non-SRC data.

Value—Text

Default— < base >

Editing Level—Expert

`connection-timeout` *connection-timeout*— Maximum amount of time that the directory eventing system waits for the directory to respond to a connection request.

Value—Integer in the range -2147483648–2147483647 s

Default— No value

Editing Level—Expert

`retry-interval` *retry-interval*— Length of time that the directory monitoring system waits to initiate a directory connection after an unsuccessful attempt to connect to the directory.

Value—Integer in the range -2147483648–2147483647 s

Default— No value

Editing Level—Expert

`connection-check-interval` *connection-check-interval*— Time interval at which the directory eventing system verifies its connection to the directory.

Value—Integer in the range -2147483648–2147483647

Default— No value

Editing Level—Expert

Required Privilege Level

system

Required Editing Level

Basic

shared nic scenario *name* agents *name* configuration properties

Syntax

```
shared nic scenario name agents name configuration properties {
    resolvers-list resolvers-list;
    roles-list roles-list;
    data-sources data-sources;
    network-data-types network-data-types;
    publishing-interval publishing-interval;
    event-life-expectancy event-life-expectancy;
    reverse-values;
}
```

Hierarchy Level

```
[edit shared nic scenario name agents name configuration properties]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure properties agents. A properties agent retrieves information from one or more specified property files and makes event information based on the information in the file available to the NIC.

Although a properties agent may be used by an SRC application, typically you do not need to configure it. Before you change the value of this statement or the value of any of the options for this statement, contact Juniper Networks Professional Services or Juniper Networks Customer Support.

Options

`resolvers-list resolvers-list`—(Optional) Names of NIC resolvers to which this agent sends events. If you do not define a list of the NIC resolvers, you must define a list of roles.

Value— List of paths to NIC resolvers; paths are relative to the static configuration object. Separate resolvers with commas.

Default— No value

Editing Level—Expert

`roles-list roles-list`—(Optional) Names of NIC roles to which this agent sends events. All resolvers that participate in a role receive events.

If you do not define the names of the NIC roles, you must define a list of resolvers.

Value— Names of NIC roles in the format *realmName* : *roleName* .

Use commas to separate one role from another in the list.

Default— No value

Editing Level—Expert

`data-sources` *data-sources*— List of URIs or filenames of property files that provides information about NIC events to the NIC system. You must provide at least one URI or filename.

At this time, the only supported format for the data source is a property file.

Value— URIs or filenames separated by commas

Default— No value

Editing Level—Basic

`network-data-types` *network-data-types*— Data types that the agent publishes.

For more information, see the documentation for the NIC resolution process.

If the agent publishes mappings, specify two data types in the format *key* , *value* . Use commas to separate entries.

Value— Data type in the format *key* or *key* , *value* , where

- *key* —Name of data key
- *value* — Name of data value

Example—IpPool, InterfaceId

Default— No value

Editing Level—Expert

`publishing-interval` *publishing-interval*—(Optional) Interval at which the NIC agent sends updates to the NIC resolvers.

Value— Number of seconds in the range 0-2147483647

Default—60

Editing Level—Expert

`event-life-expectancy` *event-life-expectancy*—(Optional) Length of time that data is valid after the NIC proxy receives data associated with events published by this agent.

Value— Number of seconds in the range 0–4294967295

- 0—Data does not expire
- Other values—Actual life expectancy of data

Default—0

Editing Level—Expert

`reverse-values`—(Optional) Specifies whether a property name is made available as a NIC key or a NIC value. If enabled, properties are published as keys.

Editing Level—Normal

Required Privilege Level

system

Required Editing Level

Basic

shared nic scenario *name* agents *name* configuration sae-plugin

Syntax

```
shared nic scenario name agents name configuration sae-plugin {
    resolvers-list resolvers-list;
    plug-in-event-type (Interface | User);
    key-attribute-name key-attribute-name;
    key-attribute-processor key-attribute-processor;
    value-attribute-name value-attribute-name;
    value-attribute-processor value-attribute-processor;
    naming-context naming-context;
    event-filter event-filter;
    share-the-event-system;
    number-of-events number-of-events;
    network-data-types network-data-types;
    event-life-expectancy event-life-expectancy;
}
```

Hierarchy Level

```
[edit shared nic scenario name agents name configuration sae-plugin]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure properties for SAE plug-in agents. When you use a configuration scenario provided in the SRC software, you typically change only the following options:

- event-filter
- number-of-events

Options

`resolvers-list resolvers-list`—(Optional) Names of NIC resolvers to which this agent sends events. If you do not define a list of the NIC resolvers, you must define a list of roles.

Before you change the value of this option, contact Juniper Networks Professional Services or Juniper Networks Customer Support.

Value— List of paths to NIC resolvers; paths are relative to the static configuration object. Separate resolvers with commas.

Example—/realms/dB/E1

Default— No value

Editing Level—Expert

`plug-in-event-type (Interface | User)`—(Optional) Types of plug-in events that the agent supports.

Before you change the value of this option, contact Juniper Networks Professional Services or Juniper Networks Customer Support.

Value— One of the following:

- User—Agent supports user-tracking plug-in events.
- Interface—Agent supports interface-tracking plug-in events.

Default—User

Editing Level—Expert

`key-attribute-name key-attribute-name`— Names of the plug-in attributes that provide information for the data key. You can define these attribute names if you use a customized key attribute processor.

The list can contain one or more plug-in attributes. If the format of the single plug-in attribute is not a string or you specify multiple plug-in attributes, the agent passes the data to the key processor to construct the data value in string format. In this case, you must specify the processor in the Key Attribute Processor field.

Before you change the value of this option, contact Juniper Networks Professional Services or Juniper Networks Customer Support.

Value— Name of one or more attributes in the directory. Use commas to separate attribute names.

Example—PA_USER_DN,PA_ROUTER_NAME

Default— No value

Editing Level—Expert

`key-attribute-processor` *key-attribute-processor*—(Optional) Name of the Java class that the agent uses to generate the data key object. If no class is specified, there can be only one key event attribute.

Configure a key attribute processor if the agent acquires for the key value either a single plug-in attribute that is not in string format or multiple plug-in attributes.

Before you change the value of this option, contact Juniper Networks Professional Services or Juniper Networks Customer Support.

Value— Path to Java class

Example—`net.juniper.smgmt.gateway.nic.agent.saeplugin.InterfaceIdProcessor`

Default— No value

Editing Level—Expert

`value-attribute-name` *value-attribute-name*— List of plug-in attributes that provide information for the data value.

The list can contain one or more plug-in attributes. If the format of the single plug-in attribute is not a string or you specify multiple plug-in attributes, the agent passes the data to the value processor to construct the data value in string format. In this case, you must specify the processor for the value attribute processor option.

Before you change the value of this option, contact Juniper Networks Professional Services or Juniper Networks Customer Support.

Value— List of comma-separated plug-in attributes.

Example—`PA_USER_DN, PA_ROUTER_NAME`

Default— No value

Editing Level—Expert

`value-attribute-processor` *value-attribute-processor*—(Optional) Name of the Java class that the agent uses to generate the data value object. If no class is specified, there can be only one value event attribute.

Configure a value attribute processor if the agent acquires for the data value either a single plug-in attribute that is not in string format or multiple plug-in attributes.

Before you change the value of this option, contact Juniper Networks Professional Services or Juniper Networks Customer Support.

Value— Path to Java class

Example—`net.juniper.smgmt.gateway.nic.agent.saeplugin.
InterfaceProcessor`

Default— No value

Editing Level—Expert

`naming-context` *naming-context*— CORBA naming context in which the agent publishes references.

If you configure event sharing for multiple SAE plug-in agents, this setting must be identical for all those agents.

The incoming interface is bound under the specified context with the name `saePort`. The mirror interface has the name `mirrorPort`.

Before you change the value of this option, contact Juniper Networks Professional Services or Juniper Networks Customer Support.

Value— String that must match the context name in the `objectref` property for this SAE plug-in. For more information, see the documentation for the NIC resolution process.

Example—`nicstaetestDNottawa`

This example matches the context name of the following `objectref` property:

`corbaname::10.10.10.10:900/NameService#nicstaetestDNottawa/saePort`

In this property:

- 10.10.10.10—Address of the machine running the CORBA naming server
- 900—TCP/IP port
- `saePort`—Name of plug-in (in this case, the agent eventing system)

Default— No value

Editing Level—Expert

`event-filter` *event-filter*—LDAP filter that restricts the events that the agent collects.

Value—*pluginAttribute* = *attributeValue*

where

- *pluginAttribute* — Plug-in attribute name
- *attributeValue* — Value of filter

Example—PA_USER_TYPE = INTF

Default—No value

Editing Level—Basic

`share-the-event-system`—(Optional) Enable an agent to share the event system with other agents in the same host. If you configure event sharing for multiple SAE plug-in agents, this setting must be identical for all those agents.

Before you change the value of this option, contact Juniper Networks Professional Services or Juniper Networks Customer Support.

Editing Level—Expert

`number-of-events` *number-of-events*—(Optional) Number of events that the SAE sends to the agent at one time during state synchronization. This value is used if state synchronization is enabled.

Value—Integer in the range 1–2147483647

Default—50

Editing Level—Basic

`network-data-types` *network-data-types*—Data types that the agent publishes.

For more information, see the documentation for the NIC resolution process.

If the agent publishes mappings, specify two data types in the format *key*, *value* . Use commas to separate entries.

Before you change the value of this option, contact Juniper Networks Professional Services or Juniper Networks Customer Support.

Value— Data type in the format *key* or *key , value* , where

- *key* —Name of data key
- *value* — Name of data value

Example—Dn, Vr

Default— No value

Editing Level—Expert

`event-life-expectancy event-life-expectancy`—(Optional) Length of time that data is valid after the NIC proxy receives data associated with events published by this agent.

Before you change the value of this option, contact Juniper Networks Professional Services or Juniper Networks Customer Support.

Value— Number of seconds in the range 0–4294967295

- 0—Data does not expire
- Other values—Actual life expectancy of data

Default— 0

Editing Level—Expert

Required Privilege Level

system

Required Editing Level

Basic

shared nic scenario *name* agents *name* configuration xml

Syntax

```
shared nic scenario name agents name configuration xml {
    resolvers-list resolvers-list;
    roles-list roles-list;
    data-source data-source;
    search-base search-base;
    search-filter search-filter;
    search-scope (0 | 1 | 2);
    mapping-file mapping-file;
    root-tag-name root-tag-name;
    key-attribute-name key-attribute-name;
    key-attribute-processor key-attribute-processor;
    value-attribute-name value-attribute-name;
    value-attribute-processor value-attribute-processor;
    network-data-types network-data-types;
    publishing-interval publishing-interval;
    event-life-expectancy event-life-expectancy;
    enable-eventing;
}
```

Hierarchy Level

```
[edit shared nic scenario name agents name configuration xml]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure an XML agent. An XML agent retrieves information from a specified XML document and makes information available to the NIC based on specified tags in the file. An XML agent provides information about one type of data or mappings.

Although an XML agent may be used by an SRC application, typically you do not need to configure it. Before you change the value of this statement or the value of any of the options for this statement, contact Juniper Networks Professional Services or Juniper Networks Customer Support.

Options

resolvers-list resolvers-list—(Optional) Names of NIC resolvers to which this agent sends events. If you do not define a list of the NIC resolvers, you must define a list of

roles.

Value— List of paths to NIC resolvers; paths are relative to the static configuration object. Separate resolvers with commas.

Default— No value

Editing Level—Expert

`roles-list` *roles-list*—(Optional) Names of NIC roles to which this agent sends events. All resolvers that participate in a role receive events.

If you do not define the names of the NIC roles, you must define a list of resolvers.

Value— Names of NIC roles in the format *realmName* : *roleName* .

Use commas to separate one role from another in the list.

Default— No value

Editing Level—Expert

`data-source` *data-source*— URI of the XML document that provides information about NIC events to the NIC system. You must provide a URI for the XML document.

At this time, the only supported schema is a file.

Value— URI

Default— No value

Editing Level—Basic

`search-base` *search-base*—(Optional) Root XML element in the specified XML document at which the agent starts to search the XML document. If you do not specify an element for the search base, the agent starts searching at the top of the file.

Value— XML element

Default— No value

Editing Level—Normal

`search-filter` *search-filter*—(Optional) Search filter that the agent uses to read entries in an XML document.

Value— Search filter syntax defined in RFC 2254— The String Representation of LDAP Search Filters (December 1997)

Default— No value

Editing Level—Normal

`search-scope` (0 | 1 | 2)—(Optional) Level at which the agent searches the XML

document.

Value— Search level:

- Object—Searches the object defined by the search base entry.
- One level—Specifies objects at the same level as the object defined by the search base entry.
- Subtree—Searches objects subordinate to the object defined by the search base entry.

Default— No value

Editing Level—Basic

`mapping-file` *mapping-file*—(Optional) Name of the property file that maps XML tag names to corresponding Java class names. Enter a value if the XML document does not conform to the SDX XML schema.

Value— Filename

Default— No value

Editing Level—Normal

`root-tag-name` *root-tag-name*—(Optional) Tag name of the root XML element in the data source. Enter a value if the XML document does not follow the SDX XML schema.

Value— Tag name

Default— No value

Editing Level—Normal

`key-attribute-name` *key-attribute-name*— List of XML attribute names to be used in constructing the key network data object for a custom processor.

Value—Text

Editing Level—Expert

`key-attribute-processor` *key-attribute-processor*—(Optional) The name of the Java class for processing the key object.

If specified, it will be used to produce the key network data object by using the list of attributes read from the directory. If no class is specified, there must be only one key LDAP attribute (in the `key.attrNames` property), and the attribute value must be in the proper format expected by the data type.

Value—Text

Editing Level—Expert

`value-attribute-name` *value-attribute-name*—(Optional) List of LDAP attribute names to be used in constructing a value for the network data object. Specified attribute names if the agent publishes mappings or if you use a custom processor.

Value— List of attribute names. Use commas to separate entries.

Editing Level—Expert

`value-attribute-processor` *value-attribute-processor*—(Optional) The name of the Java class for processing the value object.

If specified, it will be used to produce the value network data object by using the list of attributes read from the directory. If no class is specified, there must be only one value attribute (in the `value.attrNames` property), and the attribute value must be in the proper format expected by the data type.

Value—Text

Editing Level—Expert

`network-data-types` *network-data-types*— Data types that the agent publishes.

For more information, see the documentation for the NIC resolution process.

If the agent publishes mappings, specify two data types in the format *key* , *value* . Use commas to separate entries.

Value— Data type in the format *key* or *key* , *value* , where

- *key* —Name of data key
- *value* — Name of data value

Example—IpPool, InterfaceId

Default— No value

Editing Level—Expert

`publishing-interval` *publishing-interval*—(Optional) Interval at which the NIC agent sends updates to the NIC resolvers.

Value— Number of seconds in the range 0–2147483647

Default—60

Editing Level—Expert

`event-life-expectancy` *event-life-expectancy*—(Optional) Length of time that data is valid after the NIC proxy receives data associated with events published by this agent.

Value— Number of seconds in the range 0–4294967295

- 0—Data does not expire
- Other values—Actual life expectancy of data

Default—0

Editing Level—Expert

`enable-eventing`—(Optional) Enable Eventing

Default—true

Editing Level—Expert

Required Privilege Level

system

Required Editing Level

Basic

shared nic scenario *name* hosts

Syntax

```
shared nic scenario name hosts name ...
```

Hierarchy Level

```
[edit shared nic scenario name hosts]
```

Description

Configure a NIC host for a specified NIC configuration scenario.

Options

`name name`— Name of the NIC host.

Value— NIC host name. Most NIC configuration scenarios use the NIC host DemoHost.

Required Privilege Level

system

Required Editing Level

Basic

shared nic scenario *name* hosts logger

Syntax

```
shared nic scenario name hosts logger name ...
```

Hierarchy Level

```
[edit shared nic scenario name hosts logger]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a logging component for NIC. Logging can be to a file or to the system logging utility.

Options

name *name*— Name of a NIC logging component.

Value—Text

Required Privilege Level

system

Required Editing Level

Normal

shared nic scenario *name* hosts logger *name* file

Syntax

```
shared nic scenario name hosts logger name file {
    filter filter;
    filename filename;
    rollover-filename rollover-filename;
    maximum-file-size maximum-file-size;
}
```

Hierarchy Level

```
[edit shared nic scenario name hosts logger name file]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure logging of messages to a file.

Options

filter filter—(Optional) Filter to define which event messages the software logs or ignores. Filters can specify the logging level, such as debug, or can specify expressions. For information about expressions, see the documentation that describes how to configure logging.

Value— Log filter

Default— The default value is different for each type of component.

Editing Level—Basic

filename filename— Absolute path of the filename that contains the current logs.

Note: Make sure that the user under which the J2EE application server or Web application server runs has write access to this folder. If this user does not have write access to the default folder, configure the component or application to write logs in folders to which the user has write access.

Value— Filename

Default— By default, SRC components and applications write log files in the folder in which the component or application is started.

Editing Level—Basic

`rollover-filename` *rollover-filename*—(Optional) Absolute path of the filename that contains the log history. When the log file reaches the maximum size, the software closes the log file and renames it with the name you specify for the rollover file. If a previous rollover file exists, the software overwrites it. The software then reopens the log file and continues to save event messages in it.

Value— Path of filename

Example—`/opt/UMC/sae/var/log/sae.alt`

Default— The default value is different for each type of component.

Editing Level—Normal

`maximum-file-size` *maximum-file-size*—(Optional) Maximum size of the log file and the rollover file.

Do not set the maximum file size to a value greater than the available disk space.

Value—Integer in the range 0–2147483647 kbytes

Default— 1000000

Editing Level—Normal

Required Privilege Level

system

Required Editing Level

Basic

shared nic scenario *name* hosts logger *name* syslog

Syntax

```
shared nic scenario name hosts logger name syslog {
    filter filter;
    host host;
    facility facility;
    format format;
}
```

Hierarchy Level

```
[edit shared nic scenario name hosts logger name syslog]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure logging of messages to system logging.

Options

`filter filter`—(Optional) Filter to define which event messages the software logs or ignores. Filters can specify the logging level, such as debug, or can specify expressions. For information about expressions, see the documentation that describes how to configure logging.

Value— Log filter
 Default—/error-
 Editing Level—Basic

`host host`— IP address or name of a host that collects event messages by means of a standard system logging daemon.

Value— IP address or hostname
 Default—loghost
 Editing Level—Basic

`facility facility`—(Optional) Type of system log in accordance with the system logging protocol.

Value—Integer in the range 0–23

Default— 3

Editing Level—Advanced

`format` *format*—(Optional) MessageFormat string that specifies how the information in an event message is printed. (The strings {#} are replaced with the log information [...]).

Value— MessageFormat string as specified in <http://java.sun.com/j2se/1.4.2/docs/api/java/text/MessageFormat.html>.

The fields available for events are:

- 0—Time and date of the event
- 1—Name of the thread generating the event
- 2—Text message of the event
- 3—Category of the event
- 4—Priority of the event

Default— None

Editing Level—Advanced

Required Privilege Level

system

Required Editing Level

Basic

shared nic scenario *name* hosts *name* configuration

Syntax

```
shared nic scenario name hosts name configuration {
    hosted-resolvers hosted-resolvers;
    hosted-agents hosted-agents;
}
```

Hierarchy Level

```
[edit shared nic scenario name hosts name configuration]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure NIC hosts.

Options

`hosted-resolvers hosted-resolvers`— List of resolvers that should run on this host.

Value— Names of NIC resolvers which include the path of the locations of the NIC resolvers relative to the static configuration object. A forward slash (/) separates components in a path.

Example—/realms/sharedIp/A1,/realms/sharedIp/B1,/realms/sharedIp/C1,/realms/ip/A1,/realms/ip/B1,/realms/ip/C1,/realms/dn/A1,/realms/dn/B1,/realms/dn/C1,/realms/login/A1,/realms/login/B1,/realms/login/C1,/realms/login/D1

Default— No value
Editing Level—Basic

`hosted-agents hosted-agents`— List of paths to NIC agents that this host supports.

Value— Names of NIC agents that include the path of the locations of the NIC agents relative to the static configuration object. A forward slash (/)

separates components in a path.

Example—/agents/VrSaeId,/agents/Router, /agents/PoolInterfaceId,/agents/InterfaceIdInterface

Default— No value
Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Basic

shared nic scenario *name* hosts *name* configuration logger

Syntax

```
shared nic scenario name hosts name configuration logger name ...
```

Hierarchy Level

```
[edit shared nic scenario name hosts name configuration logger]
```

Release Information

Statement introduced in SRC Release 1.0.0

Options

name *name*—

Value—Text

Required Privilege Level

system

Required Editing Level

Normal

shared nic scenario *name* hosts *name* configuration logger *name* file

Syntax

```
shared nic scenario name hosts name configuration logger name file {
    filter filter;
    filename filename;
    rollover-filename rollover-filename;
    maximum-file-size maximum-file-size;
}
```

Hierarchy Level

```
[edit shared nic scenario name hosts name configuration logger name file]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure logging of messages to a file.

Options

filter filter—(Optional) Filter to define which event messages the software logs or ignores. Filters can specify the logging level, such as debug, or can specify expressions. For information about expressions, see the documentation that describes how to configure logging.

Value— Log filter

Default— The default value is different for each type of component.

Editing Level—Basic

filename filename— Absolute path of the filename that contains the current logs.

Note: Make sure that the user under which the J2EE application server or Web application server runs has write access to this folder. If this user does not have write access to the default folder, configure the component or application to write logs in folders to which the user has write access.

Value— Filename

Default— By default, SRC components and applications write log files in the folder in which the component or application is started.

Editing Level—Basic

rollover-filename rollover-filename—(Optional) Absolute path of the filename that

contains the log history. When the log file reaches the maximum size, the software closes the log file and renames it with the name you specify for the rollover file. If a previous rollover file exists, the software overwrites it. The software then reopens the log file and continues to save event messages in it.

Value— Path of filename

Example—`/opt/UMC/sae/var/log/sae.alt`

Default— The default value is different for each type of component.

Editing Level—Normal

`maximum-file-size` *maximum-file-size*—(Optional) Maximum size of the log file and the rollover file.

Do not set the maximum file size to a value greater than the available disk space.

Value—Integer in the range 0–2147483647 kbytes

Default— 1000000

Editing Level—Normal

Required Privilege Level

system

Required Editing Level

Basic

shared nic scenario *name* hosts *name* configuration logger *name* syslog

Syntax

```
shared nic scenario name hosts name configuration logger name syslog {
    filter filter;
    host host;
    facility facility;
    format format;
}
```

Hierarchy Level

```
[edit shared nic scenario name hosts name configuration logger name syslog]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure logging of messages to system logging.

Options

filter filter—(Optional) Filter to define which event messages the software logs or ignores. Filters can specify the logging level, such as debug, or can specify expressions. For information about expressions, see the documentation that describes how to configure logging.

Value— Log filter
Default—/error-
Editing Level—Basic

host host— IP address or name of a host that collects event messages by means of a standard system logging daemon.

Value— IP address or hostname
Default—loghost
Editing Level—Basic

facility facility—(Optional) Type of system log in accordance with the system logging protocol.

Value—Integer in the range 0–23
Default— 3
Editing Level—Advanced

`format` *format*—(Optional) MessageFormat string that specifies how the information in an event message is printed. (The strings {#} are replaced with the log information [...]).

Value— MessageFormat string as specified in <http://java.sun.com/j2se/1.4.2/docs/api/java/text/MessageFormat.html>.

The fields available for events are:

- 0—Time and date of the event
- 1—Name of the thread generating the event
- 2—Text message of the event
- 3—Category of the event
- 4—Priority of the event

Default— None

Editing Level—Advanced

Required Privilege Level

system

Required Editing Level

Basic

shared nic scenario *name* nic-locators

Syntax

```
shared nic scenario name nic-locators name ...
```

Hierarchy Level

```
[edit shared nic scenario name nic-locators]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a NIC locator or NIC proxy, a NIC component that requests data resolution.

Options

name name— Name of the NIC locator.

Value— NIC locator name

Required Privilege Level

system

Required Editing Level

Normal

shared nic scenario *name* nic-locators *name* resolution

Syntax

```
shared nic scenario name nic-locators name resolution {
    resolver-name resolver-name;
    key-type key-type;
    value-type value-type;
    expect-multiple-values;
    constraints constraints;
}
```

Hierarchy Level

```
[edit shared nic scenario name nic-locators name resolution]
```

Description

Configure properties for a NIC proxy (NIC locator), the NIC component that requests information on behalf of an application.

Options

`resolver-name resolver-name`— NIC resolver that the NIC proxy uses. This resolver must be the same as one that is configured on the NIC host.

Value— Path to the NIC resolver.

Example—`/realms/ip/A1,/realms/dn/A1`.

Default— No value

Editing Level—Basic

`key-type key-type`— Type of data used that the key provides for the NIC resolution. You can provide a qualifier to a data type to distinguish between different instances of a data type in a resolution scenario, or to provide information about a data type to clarify the use of that data type in a resolution.

Value— One of the following types:

- Ip —Subscriber's IP address
- Vr—Virtual router
- Interface—Name of router's interface

- **InterfaceId**—Identifier of an interface on the router
- **Dn**—LDAP distinguished name for subscriber
- **LoginName**—Subscriber login ID
- **AnyString**—Other information

To qualify data types, enter a qualifier within parentheses.

Example—**LoginName(username)**.

Default— No value

Editing Level—Basic

value-type *value-type*— Type of value to be returned in the resolution. The value type varies according to the application that uses the NIC proxy.

Value— One of the following types:

- **SaeId**—SAE server ID
- **LoginName**—Subscriber login ID
- **AnyString**—Other information

To qualify data types, enter a qualifier within parentheses.

Example—**LoginName(username)**.

Default— No value

Editing Level—Basic

expect-multiple-values—(Optional) Specifies whether or not the key can have multiple corresponding values.

Editing Level—Basic

constraints *constraints*—(Optional) Data type that a resolver uses during the resolution process. A constraint represents a condition that must or may be satisfied before the next stage of the resolution process can proceed.

Configure a constraint only if the constraint will be provided by the application in the resolution request. Typically, you do not need to configure constraints.

Value— Data types of constraints specified for the NIC resolution.

Separate data types with commas.

Default— No value

Editing Level—Advanced

Required Privilege Level

system

Required Editing Level

Normal

shared nic scenario *name* realms

Syntax

```
shared nic scenario name realms name ...
```

Hierarchy Level

```
[edit shared nic scenario name realms]
```

Description

Configure a NIC realm, the NIC component that consists of a group of resolvers that perform a series of resolution tasks to provide a mapping from a specified key to a specified data type.

Typically, you use the default realm configuration for the NIC configuration scenarios in the SRC software.

Options

name name— Name of the NIC realm.

Value— Realm name

Required Privilege Level

system

Required Editing Level

Basic

shared nic scenario *name* realms *name* configuration custom-resolver classname

Syntax

```
shared nic scenario name realms name configuration custom-
resolver classname name {
    value;
}
```

Hierarchy Level

```
[edit shared nic scenario name realms name configuration custom-
resolver classname]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure an identifier to distinguish between different instances of the same data type in a resolution sequence. For the value, enter the name of the data type.

Options

name *name*— Identifier to append to data type

Value—Text

value—

Value—Text

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Advanced

shared nic scenario *name* realms *name* configuration transitions

Syntax

```
shared nic scenario name realms name configuration transitions name {
    value;
}
```

Hierarchy Level

```
[edit shared nic scenario name realms name configuration transitions]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a set of resolution sequences that map a property to a value.

Options

name name— Identifier for a resolution that represents one transition, or step, in the resolution process. Use ? to view the list of transitions for this realm, a group of resolvers that perform a series of resolution tasks to provide a mapping from a specified key to a specified data type.

Value—Text

value—

Value—Text

Editing Level—Basic

Required Privilege Level

system

Required Editing Level

Normal

shared nic scenario *name* realms *name* resolvers

Syntax

```
shared nic scenario name realms name resolvers name ...
```

Hierarchy Level

```
[edit shared nic scenario name realms name resolvers]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure NIC resolvers— the components that process NIC resolution requests.

Before you change the value of this statement or the value of any of the options for this statement, contact Juniper Networks Professional Services or Juniper Networks Customer Support.

Options

`name name`— Name of the NIC resolver.

Value— Resolver name

Required Privilege Level

system

Required Editing Level

Basic

shared nic scenario *name* realms *name* resolvers *name* configuration

Syntax

```
shared nic scenario name realms name resolvers name configuration {
    resolver-role resolver-role;
    resolvers-list resolvers-list;
    roles-list roles-list;
}
```

Hierarchy Level

```
[edit shared nic scenario name realms name resolvers name configuration]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure resolution from a NIC key to a NIC value.

Options

`resolver-role resolver-role`—Configure a transition that defines a key to value mapping.

Value—Text

Editing Level—Normal

`resolvers-list resolvers-list`—(Optional) Names of NIC resolvers to which this agent sends events. If you do not define a list of the NIC resolvers, you must define a list of roles.

Value—List of paths to NIC resolvers; paths are relative to the static configuration object. Separate resolvers with commas.

Example—`/realms/ip/A1, /realms/ip/B1`

Default—No value

Editing Level—Normal

`roles-list roles-list`—(Optional) Names of NIC roles to which this agent sends events. All resolvers that participate in a role receive events.

If you do not define the names of the NIC roles, you must define a list of resolvers.

Value— Names of NIC roles in the format *realmName* : *roleName* . Use commas to separate one role from another in the list.

Default— No value

Editing Level—Normal

Required Privilege Level

system

Required Editing Level

Basic

slot *number* nic

Syntax

```
slot number nic {
    base-dn base-dn;
    java-runtime-environment java-runtime-environment;
    java-heap-size java-heap-size;
    snmp-agent;
    hostname hostname;
    runtime-group runtime-group;
}
```

Hierarchy Level

```
[edit slot number nic]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure NIC local operating properties.

Options

`base-dn base-dn`— Distinguished name (DN) of the root directory for the NIC.

Value— DN
 Default— `o = umc`
 Editing Level—Basic

`java-runtime-environment java-runtime-environment`— Path to the Java runtime environment (JRE).

Value— Directory path
 Default— `../jre/bin/java`
 Editing Level—Expert

`java-heap-size java-heap-size`— Maximum Java heap (memory) size available to the JRE. The value is inserted when the JRE starts. See documentation for the Java runtime

environment for valid values.

Value— Number of megabytes in the format ###m

Default— 128m

Editing Level—Advanced

`snmp-agent`—(Optional) Enable the NIC to communicate with the SNMP agent. By using SNMP, you can view SNMP counters with an SNMP browser.

Default—false

Editing Level—Basic

`hostname hostname`— Name of the NIC host. In most cases, use the name DemoHost because this is the hostname used in most NIC configuration scenarios. Refer to the documentation to verify that the NIC configuration scenario you use includes DemoHost as the NIC host.

Value— NIC hostname

Default— DemoHost for most configuration scenarios

Editing Level—Basic

`runtime-group runtime-group`—(Optional) Group to which this NIC host belongs for use with NIC replication. NIC hosts that run in the same system must specify the same runtime group. If you do not specify a value for the group, the NIC host creates the configuration.

Value— Group name

Default— No value

Editing Level—Basic

Required Privilege Level

No specific privilege required.

Required Editing Level

Basic

slot *number* nic initial

Syntax

```
slot number nic initial {
    static-dn static-dn;
    dynamic-dn dynamic-dn;
}
```

Hierarchy Level

```
[edit slot number nic initial]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure initial properties for SRC components.

Options

`static-dn static-dn`—(Optional) Location of administrator-defined configuration data in the directory.

Value—Text

Default—ou = staticConfiguration, ou = Configuration, o = Management,
o = umc

Editing Level—Expert

`dynamic-dn dynamic-dn`—(Optional) Location of programmatically defined configuration data in the directory.

Value—DN

Default— ou = dynamicConfiguration, ou = Configuration,
o = Management, < base >

Editing Level—Expert

Required Privilege Level

No specific privilege required.

Required Editing Level

Basic

slot *number* nic initial directory-connection

Syntax

```
slot number nic initial directory-connection {
    url url;
    backup-urls [backup-urls...];
    principal principal;
    credentials credentials;
    protocol (ldaps);
    timeout timeout;
    check-interval check-interval;
    blacklist;
    snmp-agent;
}
```

Hierarchy Level

```
[edit slot number nic initial directory-connection]
```

Description

Configure properties for the directory connection.

Options

`url url`—(Optional) URL that identifies the location of the primary directory server.

Value— URL
 Default—`ldap://127.0.0.1:389`
 Editing Level—Basic

`backup-urls [backup-urls...]`—(Optional) URLs that identify the locations of backup directory servers. Backup servers are used if the primary directory server is not accessible.

Value— List of URLs
 Editing Level—Basic

`principal principal`— DN that the SRC component uses for authentication to access the directory.

Value— DN.

When you specify the DN, you can use `< base >` to indicate the base DN.

Editing Level—Basic

`credentials credentials`— Password with which the SRC component accesses the directory.

Value— Password

Editing Level—Basic

`protocol (ldaps)`—(Optional) Security protocol used to connect to the directory. If you do not configure a security protocol, plain socket is used.

Value

- `ldaps`— LDAPS which uses SSL.

Editing Level—Expert

`timeout timeout`—(Optional) Maximum amount of time during which the directory must respond to a connection request.

Value—Integer in the range 1–2147483647 s

Default—10

Editing Level—Expert

`check-interval check-interval`—(Optional) Time interval at which the directory monitoring system verifies its connection to the directory. If the directory connection fails after this interval, the directory monitoring system initiates a connection to another directory.

Value—Integer in the range 15–2147483647 s

Default—60

Editing Level—Expert

`blacklist`—(Optional) Specifies whether the directory monitoring system prevents connection to a directory if the directory fails to respond during 10 polling intervals.

Default—false

Editing Level—Basic

`snmp-agent`—(Optional) Specifies whether the SDX SNMP agent exports MIBs for this directory connection.

Default—false

Editing Level—Expert

Required Privilege Level

No specific privilege required.

Required Editing Level

Basic

slot *number* nic initial directory-eventing

Syntax

```
slot number nic initial directory-eventing {
    eventing;
    signature-dn signature-dn;
    polling-interval polling-interval;
    event-base-dn event-base-dn;
    dispatcher-pool-size dispatcher-pool-size;
}
```

Hierarchy Level

```
[edit slot number nic initial directory-eventing]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Change configuration for directory eventing properties. In most cases, you can use the default configuration for these properties.

Options

`eventing`—(Optional) Enable an SRC component to poll the directory for changes.

Default—true

Editing Level—Normal

`signature-dn signature-dn`—(Optional) DN of the directory entry that specifies the `usedDirectory` attribute for the SRC CLI. The `usedDirectory` attribute identifies the vendor of the directory server.

Value—DN

Default—o = umc

Editing Level—Expert

`polling-interval polling-interval`—(Optional) Interval at which an SRC component polls the directory to check for directory changes.

Value—Integer in the range 15–2147483647 s
 Default—30
 Editing Level—Normal

`event-base-dn` *event-base-dn*—(Optional)

DN of an entry superior to the data associated with an SRC component in the directory.

If you are storing non-SRC data in the directory, and that data changes frequently whereas the SRC data does not, you may need to adjust the default value to improve performance. For optimal performance, set the value to the DN of an entry superior to both the SRC data and the changing non-SRC data.

Value— DN
 Default—o = UMC
 Editing Level—Expert

`dispatcher-pool-size` *dispatcher-pool-size*—(Optional) Number of directory change notifications that can be sent simultaneously to the SRC component.

Value—Integer in the range 0–2147483647
 Default—1
 Editing Level—Expert

Required Privilege Level

No specific privilege required.

Required Editing Level

Basic

request nic clear scenario-data

Syntax

```
request nic clear scenario-data
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Remove data stored for NIC scenarios. Run this command when you switch from one NIC configuration scenario to another.

Before you run this command, disable NIC by using the `disable component nic` command.

Required Privilege Level

maintenance

request nic restart agent

Syntax

```
request nic restart agent <name name>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Restart NIC agents. If you do not specify an agent name, the software restarts all NIC agents.

You can restart a NIC agent to have the agent read all data in the directory again. Restart a NIC agent if the agent is not synchronized with the directory, or if you switch from one directory to another.

Options

`name name`—(Optional) Name of the NIC agent to restart.

Value— Agent name. The agents included with the SRC software are:

- AcctIdIp
- DnVr
- Enterprise
- IpAcctId
- IpLoginName
- IpVr
- LoginNameVr
- PoolVr
- UserNameVr
- VrSaeId

Default— No value

Required Privilege Level

maintenance

request nic restart resolver

Syntax

```
request nic restart resolver <name name>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Restart NIC resolvers. If you do not specify a resolver name, the software restarts all resolvers.

In rare instances, such as when you are troubleshooting a NIC configuration, you may want to restart a NIC resolver.

Options

`name name`—(Optional) Name of the NIC resolver to restart.

Value— Resolver name

Default— No value

Required Privilege Level

maintenance

show nic data

Syntax

```
show nic data <maximum-results maximum-results>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display data that NIC uses during resolutions.

Options

`maximum-results maximum-results`—(Optional) Number of results to be displayed.

Value—Integer in the range 1–2147483647

Default—25

Required Privilege Level

view

show nic data agent

Syntax

```
show nic data agent <name name>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display the data that NIC agents store.

Options

name *name*—(Optional) Name of a NIC agent.

Value— Agent name. The agents included with the SRC software are:

- AcctIdIp
- DnVr
- Enterprise
- IpAcctId
- IpLoginName
- IpVr
- LoginNameVr
- PoolVr
- UserNameVr
- VrSaeId

Default— No value

Required Privilege Level

view

show nic data resolver

Syntax

```
show nic data resolver <name name>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display data that NIC resolvers store.

Options

name *name*—(Optional) Name of a NIC resolver.

Value— Resolver name

Default— No value

Required Privilege Level

view

show nic statistics

Syntax

```
show nic statistics
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display statistics for NIC.

Required Privilege Level

view

show nic statistics agent

Syntax

```
show nic statistics agent <name name>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display statistics for NIC agents. If you do not specify an agent name, the command displays statistics for all NIC agents.

Options

name *name*—(Optional) Name of a NIC agent.

Value— Agent name. The agents included with the SRC software are:

- AcctIdlp
- DnVr
- Enterprise
- IpAcctId
- IpLoginName
- IpVr
- LoginNameVr
- PoolVr
- UserNameVr
- VrSaeId

Default— No value

Required Privilege Level

view

show nic statistics host

Syntax

```
show nic statistics host
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display statistics for the NIC host.

Required Privilege Level

view

show nic statistics process

Syntax

```
show nic statistics process
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display process information for the NIC.

Required Privilege Level

view

show nic statistics resolver

Syntax

```
show nic statistics resolver <name name>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display statistics for NIC resolvers. If you do not specify a resolver name, the software displays statistics for all resolvers.

Options

name *name*—(Optional) Name of a NIC resolver.

Value— Resolver name

Default— No value

Required Privilege Level

view

test nic resolve

Syntax

```
test nic resolve <locator locator> <key key> <constraints constraints>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Issue a resolution request to the NIC host to test NIC resolution for a specified key.

Options

`locator locator`—(Optional) Name of a NIC locator. A NIC locator can resolve the value of one or more NIC keys. Each NIC configuration scenario provides configuration for an associated NIC locator.

Value— Name of a NIC locator

`key key`—(Optional) The NIC key to resolve.

Value— NIC key in the form `NIC data type:key string`; for example: `Ip:10.10.10.10`.

`constraints constraints`—(Optional) List of values for NIC constraints. Constraints are NIC data types that a resolver uses when it executes a role (also referred to as a transition) in the resolution process. A role resolves a NIC key to a NIC value.

Value— Constraints in the form: `[constraint (constraint)*]`. For each constraint, use the format: `NIC data type:key string`. For example, `[AnyString(conn):false, domain:virneo]`

Required Privilege Level

maintenance

SNMP Agent

The following table summarizes the SRC command-line interface (SRC CLI) for configuring the SNMP agent. Configuration statements are listed in alphabetical order.

SNMP Agent Configuration Statements
snmp
snmp_agent
snmp_agent_initial
snmp_agent_initial_directory-connection
snmp_agent_initial_directory-eventing
snmp_agent_java
snmp_agent_logger
snmp_agent_logger_name_file
snmp_agent_logger_name_syslog
snmp_community
snmp_notify_alarm_category
snmp_notify_alarm_category_category-name_alarm
snmp_notify_event_category
snmp_notify_event_category_category-name_event
snmp_notify_target
snmp_v3_snmp-community
snmp_v3_usm_local-engine_user
snmp_v3_usm_local-engine_user_username_authentication-md5
snmp_v3_usm_local-engine_user_username_authentication-sha
snmp_v3_usm_local-engine_user_username_privacy-aes
snmp_v3_usm_local-engine_user_username_privacy-des

<u>snmp_v3_vacm_access_group</u>
<u>snmp_v3_vacm_access_group_group-name_default-context-prefix_security-model</u>
<u>snmp_v3_vacm_access_group_group-name_default-context-prefix_security-model_security-level</u>
<u>snmp_v3_vacm_security-to-group_security-model</u>
<u>snmp_v3_vacm_security-to-group_security-model_security-name</u>
<u>snmp_view</u>
<u>snmp_view_view-name_oid</u>

snmp

Syntax

```
snmp {
    contact contact;
    name name;
    location location;
    description description;
    address [address...];
}
```

Hierarchy Level

```
[edit snmp]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure SNMP system information.

Options

`contact contact`—(Optional) Administrative contact for the system being managed by SNMP.

Value—Text

Editing Level—Basic

`name name`—(Optional) Name of the system being managed by SNMP.

Value—Text

Editing Level—Basic

`location location`—(Optional) Location of the system being managed by SNMP.

Value—Text

Editing Level—Basic

`description` *description*—(Optional) Description of the system being managed by SNMP.

Value—Text

Editing Level—Basic

`address` [*address . . .*]—(Optional) Listening address on which to receive incoming SNMP requests.

Value— IP address; list of addresses separated by commas.

Default— The SNMP agent listens on all IPv4 interfaces.

Editing Level—Basic

Required Privilege Level

snmp

Required Editing Level

Basic

snmp agent

Syntax

```
snmp agent {
    trap-history-limit trap-history-limit;
    component-polling-interval component-polling-interval;
    protocol-log-level protocol-log-level;
}
```

Hierarchy Level

```
[edit snmp agent]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure SDX SNMP agent.

Options

`trap-history-limit trap-history-limit`—(Optional) Maximum number of elements stored in the SNMP trap history table.

Value—Integer in the range 1–2147483647

Default—800

Editing Level—Basic

`component-polling-interval component-polling-interval`—(Optional) Interval at which the SDX component is polled to determine whether it is running and to generate up and down event traps.

Value—Integer in the range 10–2147483647 seconds

Default—60

Editing Level—Basic

`protocol-log-level protocol-log-level`—(Optional) The log level for SNMP requests received from the master agent and responses to the requests. To enable packet-level logging, set it to 9 or less.

Value—Integer in the range 0–100
Default—20
Editing Level—Expert

Required Privilege Level

snmp

Required Editing Level

Basic

snmp agent initial

Syntax

```
snmp agent initial {
    base-dn base-dn;
    host-id host-id;
}
```

Hierarchy Level

```
[edit snmp agent initial]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure initial properties for the SDX SNMP agent.

Options

base-dn base-dn— DN of the directory used for the SNMP agent configuration data.

Value— DN

Default—\${system ldap client base-dn}

Editing Level—Basic

host-id host-id— Identifier of the system management configuration in the directory server that provides the remaining configuration for the SNMP agent. If the entry does not exist, the entry and the subentries for the components and traps is automatically created in the system management configuration.

Value— DN

Default—ou = POP-ID,ou = System Management,ou = Configuration,
o = Management,o = umc

Editing Level—Basic

Required Privilege Level

snmp

Required Editing Level

Basic

snmp agent initial directory-connection

Syntax

```
snmp agent initial directory-connection {
    url url;
    backup-urls [backup-urls...];
    principal principal;
    credentials credentials;
    protocol (ldaps);
    timeout timeout;
    check-interval check-interval;
    blacklist;
    snmp-agent;
}
```

Hierarchy Level

```
[edit snmp agent initial directory-connection]
```

Description

Configure properties for the directory connection.

Options

`url url`—(Optional) URL that identifies the location of the primary directory server.

Value— URL

Default—`ldap://127.0.0.1:389`

Editing Level—Basic

`backup-urls [backup-urls...]`—(Optional) URLs that identify the locations of backup directory servers. Backup servers are used if the primary directory server is not accessible.

Value— List of URLs

Editing Level—Basic

`principal principal`— DN that the SRC component uses for authentication to access the directory.

Value— DN.

When you specify the DN, you can use < base > to indicate the base DN.

Editing Level—Basic

`credentials` *credentials*— Password with which the SRC component accesses the directory.

Value— Password

Editing Level—Basic

`protocol` (`ldaps`)—(Optional) Security protocol used to connect to the directory. If you do not configure a security protocol, plain socket is used.

Value

- `ldaps`— LDAPS which uses SSL.

Editing Level—Expert

`timeout` *timeout*—(Optional) Maximum amount of time during which the directory must respond to a connection request.

Value—Integer in the range 1–2147483647 s

Default—10

Editing Level—Expert

`check-interval` *check-interval*—(Optional) Time interval at which the directory monitoring system verifies its connection to the directory. If the directory connection fails after this interval, the directory monitoring system initiates a connection to another directory.

Value—Integer in the range 15–2147483647 s

Default—60

Editing Level—Expert

`blacklist`—(Optional) Specifies whether the directory monitoring system prevents connection to a directory if the directory fails to respond during 10 polling intervals.

Default—false

Editing Level—Basic

`snmp-agent`—(Optional) Specifies whether the SDX SNMP agent exports MIBs for this directory connection.

Default—false

Editing Level—Expert

Required Privilege Level

snmp

Required Editing Level

Basic

snmp agent initial directory-eventing

Syntax

```
snmp agent initial directory-eventing {
    eventing;
    signature-dn signature-dn;
    polling-interval polling-interval;
    event-base-dn event-base-dn;
    dispatcher-pool-size dispatcher-pool-size;
}
```

Hierarchy Level

```
[edit snmp agent initial directory-eventing]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Change configuration for directory eventing properties. In most cases, you can use the default configuration for these properties.

Options

eventing—(Optional) Enable an SRC component to poll the directory for changes.

Default—true

Editing Level—Normal

signature-dn *signature-dn*—(Optional) DN of the directory entry that specifies the usedDirectory attribute for the SRC CLI. The usedDirectory attribute identifies the vendor of the directory server.

Value— DN

Default—o = umc

Editing Level—Expert

polling-interval *polling-interval*—(Optional) Interval at which an SRC component polls the directory to check for directory changes.

Value—Integer in the range 15–2147483647 s

Default—30

Editing Level—Normal

`event-base-dn` *event-base-dn*—(Optional)

DN of an entry superior to the data associated with an SRC component in the directory.

If you are storing non-SRC data in the directory, and that data changes frequently whereas the SRC data does not, you may need to adjust the default value to improve performance. For optimal performance, set the value to the DN of an entry superior to both the SRC data and the changing non-SRC data.

Value— DN

Default—o = UMC

Editing Level—Expert

`dispatcher-pool-size` *dispatcher-pool-size*—(Optional) Number of directory change notifications that can be sent simultaneously to the SRC component.

Value—Integer in the range 0–2147483647

Default—1

Editing Level—Expert

Required Privilege Level

snmp

Required Editing Level

Basic

snmp agent java

Syntax

```
snmp agent java {  
    heap-size heap-size;  
}
```

Hierarchy Level

```
[edit snmp agent java]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure local Java Runtime Environment (JRE) properties for the SDX SNMP agent.

Options

`heap-size heap-size`—(Optional) Maximum amount of Java heap (memory) available to the JRE. Do not change this value unless instructed to do so by Juniper Networks.

Value— Number of megabytes in the format *integer*m

Default—160m

Editing Level—Basic

Required Privilege Level

snmp

Required Editing Level

Basic

snmp agent logger

Syntax

```
snmp agent logger name ...
```

Hierarchy Level

```
[edit snmp agent logger]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the logging destination.

Options

`name name`— Name used to group parameters for the logging destination.

Value—Text

Required Privilege Level

snmp

Required Editing Level

Basic

snmp agent logger *name* file

Syntax

```
snmp agent logger name file {
    filter filter;
    filename filename;
    rollover-filename rollover-filename;
    maximum-file-size maximum-file-size;
}
```

Hierarchy Level

```
[edit snmp agent logger name file]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the logging destination for file-based logging.

Options

filter filter—(Optional) Filter to define which event messages the software logs or ignores. Filters can specify the logging level, such as debug, or can specify expressions. For information about expressions, see the documentation that describes how to configure logging.

Value— Log filter

Default— The default value is different for each type of component.

Editing Level—Basic

filename filename— Absolute path of the filename that contains the current logs.

Note: Make sure that the user under which the J2EE application server or Web application server runs has write access to this folder. If this user does not have write access to the default folder, configure the component or application to write logs in folders to which the user has write access.

Value— Filename

Default— By default, SRC components and applications write log files in the folder in which the component or application is started.

Editing Level—Basic

`rollover-filename rollover-filename`—(Optional) Absolute path of the filename that contains the log history. When the log file reaches the maximum size, the software closes the log file and renames it with the name you specify for the rollover file. If a previous rollover file exists, the software overwrites it. The software then reopens the log file and continues to save event messages in it.

Value— Path of filename

Example—`/opt/UMC/sae/var/log/sae.alt`

Default— The default value is different for each type of component.

Editing Level—Normal

`maximum-file-size maximum-file-size`—(Optional) Maximum size of the log file and the rollover file.

Do not set the maximum file size to a value greater than the available disk space.

Value—Integer in the range 0–2147483647 kbytes

Default— 1000000

Editing Level—Normal

Required Privilege Level

snmp

Required Editing Level

Basic

snmp agent logger *name* syslog

Syntax

```
snmp agent logger name syslog {
    filter filter;
    host host;
    facility facility;
    format format;
}
```

Hierarchy Level

```
[edit snmp agent logger name syslog]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the logging destination for syslog-based logging.

Options

filter filter—(Optional) Filter to define which event messages the software logs or ignores. Filters can specify the logging level, such as debug, or can specify expressions. For information about expressions, see the documentation that describes how to configure logging.

Value— Log filter

Default— The default value is different for each type of component.

Editing Level—Basic

host host— IP address or name of a host that collects event messages by means of a standard system logging daemon.

Value— IP address or hostname

Default—loghost

Editing Level—Basic

facility facility—(Optional) Type of system log in accordance with the system logging protocol.

Value—Integer in the range 0–23

Default— 3

Editing Level—Advanced

`format` *format*—(Optional) MessageFormat string that specifies how the information in an event message is printed. (The strings {#} are replaced with the log information [...]).

Value— MessageFormat string as specified in <http://java.sun.com/j2se/1.4.2/docs/api/java/text/MessageFormat.html>.

The fields available for events are:

- 0—Time and date of the event
- 1—Name of the thread generating the event
- 2—Text message of the event
- 3—Category of the event
- 4—Priority of the event

Editing Level—Advanced

Required Privilege Level

snmp

Required Editing Level

Basic

snmp community

Syntax

```
snmp community community {
    authorization (read-only | read-write);
    clients clients;
    oid oid;
}
```

Hierarchy Level

```
[edit snmp community]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a community string, which defines the access control for client systems.

Options

`community community`—Community name.

Value—Text

`authorization (read-only | read-write)`—(Optional) Authorization type.

Value

- `read-only`—Allow read-only access
- `read-write`—Allow read and write access

Default—`read-only`

Editing Level—Basic

`clients clients`—IP address or subnet of the SNMP client hosts that are authorized to use this community. By default, all clients are allowed.

Value—Text
Default—0.0.0.0/0
Editing Level—Basic

`oid oid`—(Optional) Object identifier (OID) used to represent a subtree of MIB objects to which access is allowed.

Value—Text
Default— Access to the full OID tree
Editing Level—Basic

Required Privilege Level

snmp

Required Editing Level

Basic

snmp notify alarm category

Syntax

```
snmp notify alarm category category-name ...
```

Hierarchy Level

```
[edit snmp notify alarm category]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure alarm category.

Options

category-name category-name— Category name for alarm.

Value— Category name from list of possible completions, including:

- acp
- jps
- nic-host
- policy-decision-point
- policy-engine
- radius-accounting-peer
- radius-authentication-peer
- sae
- sae-router-driver
- sdx-redirector
- system-management

Required Privilege Level

snmp

Required Editing Level

Basic

snmp notify alarm category *category-name* alarm

Syntax

```
snmp notify alarm category category-name alarm alarm-name {
    interval interval;
    critical critical;
    major major;
    minor minor;
}
```

Hierarchy Level

```
[edit snmp notify alarm category category-name alarm]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure alarm.

Options

alarm-name alarm-name— Alarm name.

Value— Alarm name from list of possible completions, depending on the specified alarm category

interval interval—(Optional) Interval at which the variable associated with the trap is polled.

Value—Integer in the range 1–2147483647

Default—60

Editing Level—Basic

critical critical— Threshold above which a critical alarm is generated.

Value—Integer in the range 0–2147483647

Editing Level—Basic

major *major*— Threshold above which a major alarm is generated.

Value—Integer in the range 0–2147483647

Editing Level—Basic

minor *minor*— Threshold above which a minor alarm is generated.

Value—Integer in the range 0–2147483647

Editing Level—Basic

Required Privilege Level

snmp

Required Editing Level

Basic

snmp notify event category

Syntax

```
snmp notify event category category-name ...
```

Hierarchy Level

```
[edit snmp notify event category]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure event category.

Options

category-name *category-name*— Category name for event trap.

Value— Category name from list of possible completions, including:

- acp
- directory-eventing-system
- jps
- nic-host
- sae
- sae-router-driver
- system-management

Required Privilege Level

snmp

Required Editing Level

Basic

snmp notify event category *category-name* event

Syntax

```
snmp notify event category category-name event event-name ...
```

Hierarchy Level

```
[edit snmp notify event category category-name event]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Enable event notification.

Options

`event-name event-name`— Event trap name.

Value— Event name from list of possible completions, depending on the specified event category

Required Privilege Level

snmp

Required Editing Level

Basic

snmp notify target

Syntax

```
snmp notify target target-name {
    address address;
    port port;
    community community;
    type (trapv1 | trapv2 | inform);
}
```

Hierarchy Level

```
[edit snmp notify target]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure notification target.

Options

target-name target-name— Notification target name.

Value—Text

address address— IPv4 or IPv6 address of the system to receive notifications.

Value—IP address

Editing Level—Basic

port port—(Optional) SNMP trap port number.

Value—Integer in the range 0–65535

Default—162

Editing Level—Basic

community community— Community string used when sending traps.

Value—Text

Editing Level—Basic

type (trapv1 | trapv2 | inform)— Type of notifications to receive.

Value

- trapv1—SNMPv1 trap
- trapv2—SNMPv2c trap
- inform—SNMPv2 inform

Editing Level—Basic

Required Privilege Level

snmp

Required Editing Level

Basic

snmp v3 snmp-community

Syntax

```
snmp v3 snmp-community community-index {
    community-name community-name;
    security-name security-name;
    address address;
}
```

Hierarchy Level

```
[edit snmp v3 snmp-community]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Map an SNMPv1 or SNMPv2c community string to a security name. Optionally, you can specify the IPv4 or IPv6 addresses of the SNMP client hosts that are authorized to use this community. By default, all SNMP clients using this community string are authorized to access the agent.

Options

community-index community-index— Unique index that identifies an SNMP community.

Value—Text

community-name community-name—(Optional) A community string for an SNMPv1 or SNMPv2c community. If unspecified, the community index is used.

Value—Text

Editing Level—Basic

security-name security-name— The view-based access control model (VACM) security name to associate with the community string.

Value—Text

Editing Level—Basic

address address—(Optional) IP address or subnet of the SNMP client hosts that are authorized to use this community.

Value—Text

Default—default

Editing Level—Basic

Required Privilege Level

snmp

Required Editing Level

Basic

snmp v3 usm local-engine user

Syntax

```
snmp v3 usm local-engine user username ...
```

Hierarchy Level

```
[edit snmp v3 usm local-engine user]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Specify a user associated with an SNMPv3 group. By default, no authentication or encryption is specified for the SNMPv3 user.

Options

`username username`—SNMPv3 user-based security model (USM) username

Value—Text

Required Privilege Level

snmp

Required Editing Level

Basic

snmp v3 usm local-engine user *username* authentication-md5

Syntax

```
snmp v3 usm local-engine user username authentication-md5 {  
    authentication-password authentication-password;  
}
```

Hierarchy Level

```
[edit snmp v3 usm local-engine user username authentication-md5]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure Message Digest 5 (MD5) as the authentication type for the SNMPv3 user.

Options

`authentication-password authentication-password`— Password used for authentication.

Value— Password; must be at least eight characters

Editing Level—Basic

Required Privilege Level

snmp

Required Editing Level

Basic

snmp v3 usm local-engine user *username* authentication-sha

Syntax

```
snmp v3 usm local-engine user username authentication-sha {
    authentication-password authentication-password;
}
```

Hierarchy Level

```
[edit snmp v3 usm local-engine user username authentication-sha]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure Secure Hash Algorithm (SHA) as the authentication type for the SNMPv3 user.

Options

`authentication-password authentication-password`— Password used for authentication.

Value— Password; must be at least eight characters

Editing Level—Basic

Required Privilege Level

snmp

Required Editing Level

Basic

snmp v3 usm local-engine user *username* privacy-aes

Syntax

```
snmp v3 usm local-engine user username privacy-aes {  
    privacy-password privacy-password;  
}
```

Hierarchy Level

```
[edit snmp v3 usm local-engine user username privacy-aes]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure Advanced Encryption Standard (AES) for the SNMPv3 user.

Note: Before you configure encryption, you must configure MD5 or SHA authentication.

Options

`privacy-password privacy-password`— Privacy password for the SNMPv3 user.

Value— Password; must be at least eight characters

Editing Level—Basic

Required Privilege Level

snmp

Required Editing Level

Basic

snmp v3 usm local-engine user *username* privacy-des

Syntax

```
snmp v3 usm local-engine user username privacy-des {  
    privacy-password privacy-password;  
}
```

Hierarchy Level

```
[edit snmp v3 usm local-engine user username privacy-des]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure Data Encryption Standard (DES) for the SNMPv3 user.

Note: Before you configure encryption, you must configure MD5 or SHA authentication.

Options

privacy-password *privacy-password*— Privacy password for the SNMPv3 user.

Value— Password; must be at least eight characters

Editing Level—Basic

Required Privilege Level

snmp

Required Editing Level

Basic

snmp v3 vacm access group

Syntax

```
snmp v3 vacm access group group-name ...
```

Hierarchy Level

```
[edit snmp v3 vacm access group]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Define access privileges granted to a group.

Options

group-name group-name— Name for a collection of SNMP security names that belong to the same SNMP access policy.

Value—Text

Required Privilege Level

snmp

Required Editing Level

Basic

snmp v3 vacm access group *group-name* default-context-prefix security-model

Syntax

```
snmp v3 vacm access group group-name default-context-prefix security-
model (any | v1 | v2c | usm) ...
```

Hierarchy Level

```
[edit snmp v3 vacm access group group-name default-context-prefix security-
model]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure security model for access privileges.

Options

Type of security model used for access privileges.

Value

- any—Any security model
- v1—SNMPv1 model
- v2c—SNMPv2c model
- usm—SNMPv3 user-based security model

Required Privilege Level

snmp

Required Editing Level

Basic

snmp v3 vacm access group *group-name* default-context-prefix security-model (any | v1 | v2c | usm) security-level

Syntax

```
snmp v3 vacm access group group-name default-context-prefix security-
model (any | v1 | v2c | usm) security-level (authentication | none | privacy) {
    read-view read-view;
    write-view write-view;
}
```

Hierarchy Level

```
[edit snmp v3 vacm access group group-name default-context-prefix security-
model (any | v1 | v2c | usm) security-level]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure access privileges granted to a particular security model.

Options

Security level granted to a security model. If you are configuring the SNMPv1 or SNMPv2c security model, use none as the security level.

Value

- authentication— Provides authentication but no encryption
- none— Provides no authentication and no encryption
- privacy— Provides authentication and encryption

read-view *read-view*—(Optional) View used for SNMP Get requests.

Value—Text

Default—none

Editing Level—Basic

`write-view` *write-view*—(Optional) View used for SNMP Set requests.

Value—Text
Default—none
Editing Level—Basic

Required Privilege Level

snmp

Required Editing Level

Basic

snmp v3 vacm security-to-group security-model

Syntax

```
snmp v3 vacm security-to-group security-model (v1 | v2c | usm) ...
```

Hierarchy Level

```
[edit snmp v3 vacm security-to-group security-model]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure security model context for a group.

Options

Type of security model.

Value

- `v1`—SNMPv1 model
- `v2c`—SNMPv2c model
- `usm`—SNMPv3 user-based security model

Required Privilege Level

snmp

Required Editing Level

Basic

snmp v3 vacm security-to-group security-model (v1 | v2c | usm) security-name

Syntax

```
snmp v3 vacm security-to-group security-model (v1 | v2c | usm) security-
name security-name {
    group-name group-name;
}
```

Hierarchy Level

```
[edit snmp v3 vacm security-to-group security-model (v1 | v2c | usm) security-
name]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Map a security name in the specified security model to a named group.

Options

security-name security-name— Security name to assign to group. If the security model is usm, the security name is the username configured at the [edit snmp v3 usm local-engine user] hierarchy level.

Value—Text

group-name group-name— Group to which the security name is assigned.

Value—Text

Editing Level—Basic

Required Privilege Level

snmp

Required Editing Level

Basic

snmp view

Syntax

```
snmp view view-name ...
```

Hierarchy Level

```
[edit snmp view]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Define a MIB view.

Options

view-name view-name— MIB view name that identifies a group of MIB objects for which to define access. Each MIB object in a view has a common OID prefix. Each object identifier represents a subtree of the MIB object hierarchy.

Value—Text

Required Privilege Level

snmp

Required Editing Level

Basic

snmp view *view-name* oid

Syntax

```
snmp view view-name oid oid {  
    (include | exclude);  
}
```

Hierarchy Level

```
[edit snmp view view-name oid]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Specify an object identifier (OID) that represents a subtree of MIB objects for the view.

Options

oid oid—Object identifier (OID) that represents a subtree of MIB objects.

Value—Text

Specifies whether the OID is included in or excluded from the view.

Value

- *include*—Include this OID in the view
- *exclude*—Exclude this OID from the view

Editing Level—Basic

Required Privilege Level

snmp

Required Editing Level

Basic

Juniper Policy Server (JPS)

The following table summarizes the SRC command-line interface (SRC CLI) for the JPS. Configuration statements and operational commands are listed in alphabetical order.

JPS
Configuration Statements
slot number jps
slot number jps am-interface
slot number jps cmts-interface
slot number jps cmts-registry cmts
slot number jps cmts-registry cmts cmts-ip range-pool
slot number jps cmts-registry cmts cmts-ip subnet-pool
slot number jps logger
slot number jps logger name file
slot number jps logger name syslog
slot number jps rks-interface
slot number jps rks-interface am
slot number jps rks-interface rks-pair
Operational Commands
show jps statistics
show jps statistics am
show jps statistics am connections
show jps statistics cmts-locator
show jps statistics cmts
show jps statistics cmts connections
show jps statistics message-handler

show jps statistics message-handler message-flow
show jps statistics process
show jps statistics rks

slot *number* jps

Syntax

```
slot number jps {
    java-heap-size java-heap-size;
    snmp-agent;
    policy-server-id policy-server-id;
    use-psid-in-gate-commands;
    cmts-message-buffer-size cmts-message-buffer-size;
    am-message-buffer-size am-message-buffer-size;
}
```

Hierarchy Level

```
[edit slot number jps]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the Juniper Policy Server (JPS).

Options

`java-heap-size java-heap-size`—(Optional) Maximum amount of Java heap (memory) available to the JRE.

Value— Number of megabytes in the format *integerm*
Editing Level—Advanced

`snmp-agent`—(Optional) Enables the JPS to communicate with the SNMP agent.

Editing Level—Basic

`policy-server-id policy-server-id`—(Optional) Network-wide unique identifier for the JPS that is sent to CMTS devices in Pdp-Config messages and gate commands generated by the JPS.

Value—Integer in the range 0–65535

Default—0
Editing Level—Basic

`use-psid-in-gate-commands`—(Optional) Specifies whether gate control messages (such as gate-info messages) generated by this JPS should contain its policy server identifier. These gate control messages are not generated by an application manager for forwarding by the JPS.

When the JPS is communicating only with PCMM I03 CMTS devices, the value must be true. When the JPS is communicating with any pre-PCMM I03 CMTS devices, the value must be false.

Default—false
Editing Level—Basic

`cmts-message-buffer-size` *cmts-message-buffer-size*—(Optional) Maximum number of messages buffered for each CMTS destination.

Value—Integer in the range 1–2147483647
Editing Level—Advanced

`am-message-buffer-size` *am-message-buffer-size*—(Optional) Maximum number of messages buffered for each application manager destination.

Value—Integer in the range 1–2147483647
Editing Level—Advanced

Required Privilege Level

No specific privilege required.

Required Editing Level

Basic

slot *number* jps am-interface

Syntax

```
slot number jps am-interface {
    pep-id pep-id;
    listening-address listening-address;
    validate-pcmm-objects;
    message-max-length message-max-length;
    message-read-buffer-size message-read-buffer-size;
    message-write-buffer-size message-write-buffer-size;
    open-connection-timeout open-connection-timeout;
}
```

Hierarchy Level

```
[edit slot number jps am-interface]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the application manager-to-policy server interface (PKT-MM3) so that the policy server can communicate with application managers.

Options

`pep-id pep-id`—(Optional) Network-wide unique identifier for this JPS instance.
Changes apply only to COPS connections that are established after you make the change.

Value—Text
Default—SDX-JPS
Editing Level—Basic

`listening-address listening-address`—(Optional) Local IP address on which the JPS listens for incoming connections from application managers. If no value is specified, the JPS listens on all IP addresses. Changes take effect only after you restart the JPS.

Value—IP address
Editing Level—Basic

`validate-pcmm-objects`—(Optional) Specifies whether to validate PCMM objects received from PDPs.

Default—`true`

Editing Level—Advanced

`message-max-length` *message-max-length*—(Optional) Maximum length of incoming messages.

Value—Integer in the range 1–2147483647

Editing Level—Advanced

`message-read-buffer-size` *message-read-buffer-size*—(Optional) Size of message read buffer.

Value—Integer in the range 1–2147483647

Editing Level—Advanced

`message-write-buffer-size` *message-write-buffer-size*—(Optional) Size of message write buffer.

Value—Integer in the range 1–2147483647

Editing Level—Advanced

`open-connection-timeout` *open-connection-timeout*—(Optional) Maximum time to wait for the initial PCMM messages to be exchanged after a TCP connection is established. The connection is dropped when initial PCMM messages are not exchanged within this time period.

Value— Number of seconds in the range 1–65535

Default—5

Editing Level—Advanced

Required Privilege Level

No specific privilege required.

Required Editing Level

Basic

slot *number* jps cmts-interface

Syntax

```
slot number jps cmts-interface {
    cmts-addresses [cmts-addresses...];
    keepalive-interval keepalive-interval;
    synch-despite-unreachable-pep;
    synch-despite-pre-i03-pep;
    use-ssq-ssc-with-pre-i03-pep;
    local-address local-address;
    message-max-length message-max-length;
    message-read-buffer-size message-read-buffer-size;
    message-write-buffer-size message-write-buffer-size;
    open-connection-timeout open-connection-timeout;
    connection-open-retry-interval connection-open-retry-interval;
    sent-message-timeout sent-message-timeout;
    validate-pcmm-objects;
}
```

Hierarchy Level

```
[edit slot number jps cmts-interface]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the policy server-to-CMTS interface (PKT-MM2) so that the policy server can communicate with CMTS devices.

Options

cmts-addresses [*cmts-addresses...*]— IP addresses of all the CMTS devices to which the JPS will try to connect.

Value— List of IP addresses, separated by commas.
Editing Level—Basic

keepalive-interval *keepalive-interval*—(Optional) Interval between keepalive messages sent from the COPS client (CMTS device) to the COPS server (JPS). Changes apply only to COPS connections that are established after you make the change.

Value— Number of seconds in the range 0-65535. A value of 0 means that no keepalive messages will be exchanged between the CMTS device and the JPS.

Default—45

Editing Level—Basic

`synch-despite-unreachable-pep`—(Optional) Controls whether synchronization proceeds when the JPS receives a synchronization request from an application manager (such as the SAE) and the JPS is not connected to a CMTS device to which it should be connected.

If a CMTS device is not connected and `synch-despite-unreachable-pep` is false, synchronization does not proceed and ends with a transport-error in a synch-complete message. If a CMTS device is not connected and `synch-despite-unreachable-pep` is true, synchronization proceeds only with the connected CMTS devices and ends with a state-data-incomplete error in a synch-complete message.

Default—true

Editing Level—Basic

`synch-despite-pre-i03-pep`—(Optional) Controls whether synchronization proceeds when the JPS receives a synchronization request from an application manager (such as the SAE) and the JPS is connected to a pre-PCMM I03 CMTS device.

If any connected CMTS device is pre-PCMM I03 and `synch-despite-pre-i03-pep` is false, synchronization does not proceed and ends with a state-data-incomplete error in a synch-complete message. If any connected CMTS device is pre-PCMM I03 and `synch-despite-pre-i03-pep` is true, synchronization proceeds; whether the pre-PCMM I03 CMTS devices are included in the synchronization depends on the `use-ssq-ssc-with-pre-i03-pep` value.

Default—false

Editing Level—Basic

`use-ssq-ssc-with-pre-i03-pep`—(Optional) Controls whether synchronization includes both pre-PCMM I03 and PCMM I03 CMTS devices when the JPS receives a synchronization request from an application manager (such as the SAE) and the JPS is connected to a pre-PCMM I03 CMTS device. Relevant only when at least one pre-PCMM I03 CMTS device is connected and `synch-despite-pre-i03-pep` is specified as true.

If `use-ssq-ssc-with-pre-i03-pep` is false, synchronization proceeds only with PCMM I03 CMTS devices and ends with a state-data-incomplete error in a synch-complete message. If `use-ssq-ssc-with-pre-i03-pep` is true, synchronization proceeds with both PCMM I03 and pre-PCMM I03 CMTS devices. With the pre-PCMM I03 CMTS devices, an SSQ solicits Gate-Info-Acks which are filtered based on the original Synch-Request's application manager ID and subscriber ID (if any). The Gate-Info-Acks are transformed into Synch-Reports. Note that if two synchronization attempts must send SSQs to pre-PCMM I03 CMTS devices concurrently, the second attempt is rejected with an insufficient-resources error in a synch-

complete message.

Default—false
Editing Level—Basic

`local-address` *local-address*—(Optional) Source IP address that the JPS uses to communicate with CMTS devices. If a JPS has only one IP address, this value can be left blank.

Value— IP address. If no value is specified and there is more than one local address, a random local address is used as the source address.
Editing Level—Basic

`message-max-length` *message-max-length*—(Optional) Maximum length of incoming messages.

Value—Integer in the range 1–2147483647
Editing Level—Advanced

`message-read-buffer-size` *message-read-buffer-size*—(Optional) Size of message read buffer.

Value—Integer in the range 1–2147483647
Editing Level—Advanced

`message-write-buffer-size` *message-write-buffer-size*—(Optional) Size of message write buffer.

Value—Integer in the range 1–2147483647
Editing Level—Advanced

`open-connection-timeout` *open-connection-timeout*—(Optional) Maximum time to wait for the initial PCMM messages to be exchanged after a TCP connection is established. The connection is dropped when initial PCMM messages are not exchanged within this time period.

Value— Number of seconds in the range 1–65535
Default—5
Editing Level—Advanced

`connection-open-retry-interval` *connection-open-retry-interval*—(Optional) Time to wait before the JPS tries to reconnect to CMTS devices.

Value— Number of seconds in the range 1–2147483647

Editing Level—Advanced

`sent-message-timeout` *sent-message-timeout*—(Optional) Maximum time to wait for the sent messages to be exchanged after a TCP connection is established. This value must be less than `held-decs-max-age` and `pending-rks-event-max-age` of the corresponding RKS interface.

Value—Integer in the range 1–2147483647 s

Editing Level—Advanced

`validate-pcmm-objects`—(Optional) Specifies whether to validate PCMM objects received from PEPs.

Default—`true`

Editing Level—Advanced

Required Privilege Level

No specific privilege required.

Required Editing Level

Basic

slot *number* jps cmts-registry cmts

Syntax

```
slot number jps cmts-registry cmts cmts-ip ...
```

Hierarchy Level

```
[edit slot number jps cmts-registry cmts]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure a CMTS device to which the JPS can connect and the pools of subscriber IP addresses that are managed by the CMTS device.

Options

`cmts-ip cmts-ip`— IP address of the CMTS device.

Value—IP address

Required Privilege Level

No specific privilege required.

Required Editing Level

Basic

slot *number* jps cmts-registry cmts *cmts-ip* range-pool

Syntax

```
slot number jps cmts-registry cmts cmts-ip range-pool pool-index {
    low low;
    high high;
}
```

Hierarchy Level

```
[edit slot number jps cmts-registry cmts cmts-ip range-pool]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure subscriber IP pools in IP address ranges.

Options

pool-index pool-index—Address range pool index

Value—Integer in the range -2147483648–2147483647

low low— First IP address in the IP range for the pool of subscriber IP addresses that are managed by the CMTS device.

Value—IP address
Editing Level—Basic

high high— Last IP address in the IP range for the pool of subscriber IP addresses that are managed by the CMTS device.

Value—IP address
Editing Level—Basic

Required Privilege Level

No specific privilege required.

Required Editing Level

Basic

slot *number* jps cmts-registry cmts *cmts-ip* subnet-pool

Syntax

```
slot number jps cmts-registry cmts cmts-ip subnet-pool subnet {
    exclude [exclude...];
}
```

Hierarchy Level

```
[edit slot number jps cmts-registry cmts cmts-ip subnet-pool]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure subscriber IP pools in IP subnets.

Options

subnet *subnet*— IP address and mask of the subnet for the pool of subscriber IP addresses that are managed by the CMTS device.

Value— IP address/IP mask

exclude [*exclude...*]—(Optional) IP addresses of the subnet that are excluded from the subscriber IP pool managed by the CMTS device.

Value—IP address
Editing Level—Basic

Required Privilege Level

No specific privilege required.

Required Editing Level

Basic

slot *number* jps logger

Syntax

```
slot number jps logger name ...
```

Hierarchy Level

```
[edit slot number jps logger]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the logging destination.

Options

name *name*— Name used to group parameters for the logging destination.

Value—Text

Required Privilege Level

No specific privilege required.

Required Editing Level

Basic

slot *number* jps logger *name* file

Syntax

```
slot number jps logger name file {
    filter filter;
    filename filename;
    rollover-filename rollover-filename;
    maximum-file-size maximum-file-size;
}
```

Hierarchy Level

```
[edit slot number jps logger name file]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the logging destination for file-based logging.

Options

filter filter—(Optional) Filter to define which event messages the software logs or ignores. Filters can specify the logging level, such as debug, or can specify expressions. For information about expressions, see the documentation that describes how to configure logging.

Value— Log filter

Default— The default value is different for each type of component.

Editing Level—Basic

filename filename— Absolute path of the filename that contains the current logs.

Note: Make sure that the user under which the J2EE application server or Web application server runs has write access to this folder. If this user does not have write access to the default folder, configure the component or application to write logs in folders to which the user has write access.

Value— Filename

Default— By default, SRC components and applications write log files in the folder in which the component or application is started.

Editing Level—Basic

`rollover-filename` *rollover-filename*—(Optional) Absolute path of the filename that contains the log history. When the log file reaches the maximum size, the software closes the log file and renames it with the name you specify for the rollover file. If a previous rollover file exists, the software overwrites it. The software then reopens the log file and continues to save event messages in it.

Value— Path of filename

Example—`/opt/UMC/sae/var/log/sae.alt`

Default— The default value is different for each type of component.

Editing Level—Normal

`maximum-file-size` *maximum-file-size*—(Optional) Maximum size of the log file and the rollover file.

Do not set the maximum file size to a value greater than the available disk space.

Value—Integer in the range 0–2147483647 kbytes

Default— 1000000

Editing Level—Normal

Required Privilege Level

No specific privilege required.

Required Editing Level

Basic

slot *number* jps logger *name* syslog

Syntax

```
slot number jps logger name syslog {
    filter filter;
    host host;
    facility facility;
    format format;
}
```

Hierarchy Level

```
[edit slot number jps logger name syslog]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the logging destination for syslog-based logging.

Options

filter filter—(Optional) Filter to define which event messages the software logs or ignores. Filters can specify the logging level, such as debug, or can specify expressions. For information about expressions, see the documentation that describes how to configure logging.

Value— Log filter

Default— The default value is different for each type of component.

Editing Level—Basic

host host— IP address or name of a host that collects event messages by means of a standard system logging daemon.

Value— IP address or hostname

Default—loghost

Editing Level—Basic

facility facility—(Optional) Type of system log in accordance with the system logging protocol.

Value—Integer in the range 0–23

Default— 3

Editing Level—Advanced

`format` *format*—(Optional) MessageFormat string that specifies how the information in an event message is printed. (The strings {#} are replaced with the log information [...]).

Value— MessageFormat string as specified in <http://java.sun.com/j2se/1.4.2/docs/api/java/text/MessageFormat.html>.

The fields available for events are:

- 0—Time and date of the event
- 1—Name of the thread generating the event
- 2—Text message of the event
- 3—Category of the event
- 4—Priority of the event

Editing Level—Advanced

Required Privilege Level

No specific privilege required.

Required Editing Level

Basic

slot *number* jps rks-interface

Syntax

```
slot number jps rks-interface {
    element-id element-id;
    local-address local-address;
    local-port [local-port...];
    retry-interval retry-interval;
    local-timeout local-timeout;
    mso-data mso-data;
    mso-domain-name mso-domain-name;
    default-rks-pair default-rks-pair;
    pending-rks-event-max-size pending-rks-event-max-size;
    pending-rks-event-max-age pending-rks-event-max-age;
    held-decs-max-size held-decs-max-size;
    held-decs-max-age held-decs-max-age;
    bcid-cache-size bcid-cache-size;
    bcid-cache-age bcid-cache-age;
    use-default-when-am-requests-unconfigured-rks;
}
```

Hierarchy Level

```
[edit slot number jps rks-interface]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure the the policy server-to-RKS interface (PKT-MM4) so that policy events can be sent to the RKS. As part of the configuration, you can configure RKS pairs and their associated application managers.

Options

`element-id element-id`—Network-wide unique identifier for RKS event origin.

Value—Integer in the range 0–99999

Editing Level—Basic

`local-address local-address`—(Optional) Source IP address used to communicate

with the RKS. If no value is specified and there is more than one local address, the JPS randomly selects a local address to be used as the source address.

Value—IP address
Editing Level—Basic

`local-port [local-port . . .]`—(Optional) Source UDP port or a pool of ports used to communicate with the RKS.

Value—Text
Editing Level—Basic

`retry-interval retry-interval`—(Optional) Time the JPS waits for a response from an RKS before it resends the packet. The JPS keeps sending packets until either the RKS acknowledges the packet or the maximum timeout is reached.

Value—Integer in the range 0–2147483647
Editing Level—Basic

`local-timeout local-timeout`—(Optional) Maximum time (ms) the JPS waits for a response from an RKS.

Value—Integer in the range 0–2147483647 ms
Editing Level—Basic

`mso-data mso-data`—(Optional) MSO-defined data in the financial entity ID (FEID) attribute, which is included in event messages.

Value— ASCII character string of 8 bytes; first eight bytes of the FEID attribute.
Editing Level—Basic

`mso-domain-name mso-domain-name`—(Optional) MSO domain name in the financial entity ID (FEID) attribute that uniquely identifies the MSO for billing and settlement purposes.

Value— ASCII character string of up to 239 bytes; begins at the ninth byte of the FEID attribute.
Editing Level—Basic

`default-rks-pair default-rks-pair`—(Optional) Default RKS pair that the JPS uses unless an RKS pair is configured for a given application manager.

Value—Text
Editing Level—Basic

`pending-rks-event-max-size` *pending-rks-event-max-size*—(Optional) Maximum number of RKS events waiting for Gate-Set/Del-Ack/Err messages.

Value—Integer in the range 0–2147483647
Editing Level—Advanced

`pending-rks-event-max-age` *pending-rks-event-max-age*—(Optional) The oldest age of RKS events waiting for Gate-Set/Del-Ack/Err messages. The maximum age must be greater than sent-message-timeout of the corresponding CMTS interface.

Value— Number of seconds in the range 0–2147483647
Editing Level—Advanced

`held-decs-max-size` *held-decs-max-size*—(Optional) Maximum number of outstanding Gate-Info requests.

Value—Integer in the range 0–2147483647
Editing Level—Advanced

`held-decs-max-age` *held-decs-max-age*—(Optional) The oldest age of outstanding Gate-Info requests. The maximum age must be greater than sent-message-timeout of the corresponding CMTS interface.

Value— Number of seconds in the range 0–2147483647
Editing Level—Advanced

`bcid-cache-size` *bcid-cache-size*—(Optional) Size of billing correlation ID (BCID) cache.

Value—Integer in the range 0–2147483647
Editing Level—Advanced

`bcid-cache-age` *bcid-cache-age*—(Optional) The oldest age of billing correlation ID (BCID) in cache.

Value—Integer in the range 0–2147483647 s
Editing Level—Advanced

`use-default-when-am-requests-unconfigured-rks`—(Optional) Specifies whether the default RKS pair is used when an application manager requests the use of an unconfigured RKS pair.

If true, use the default RKS pair (normally used in cases where no RKS pair specific to an application manager is configured for a given application manager). If false, only use the default RKS pair when no RKS pair specific to an application manager is found.

Default—false

Editing Level—Advanced

Required Privilege Level

No specific privilege required.

Required Editing Level

Basic

slot *number* jps rks-interface am

Syntax

```
slot number jps rks-interface am am-name {
    am-id am-id;
    rks-pair-name rks-pair-name;
    trusted;
}
```

Hierarchy Level

```
[edit slot number jps rks-interface am]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure RKS pairs for associated application managers.

Options

am-name *am-name*— Name used to group parameters for the associated application manager. All parameters that share the same application manager name configure the RKS pair to which events associated with a specific application manager are sent.

Value—Text

am-id *am-id*— Identifier of the application manager. The application manager includes this identifier in all messages that it sends to the JPS. The JPS passes this ID to the CMTS device in gate control messages. The CMTS device returns the ID associated with the gate to the JPS. The JPS sends events associated with this application manager to the RKS pair specified by *rks-pair-name* with the same application manager name (*am-name*).

If no value is specified, the RKS pair configuration is not defined for this application manager. If you must set *trusted* to true without defining the RKS pair configuration, you must specify a value for *am-id* and not specify a value for *rks-pair-name*.

Value—Integer in the range 0–2147483647

Editing Level—Basic

`rks-pair-name` *rks-pair-name*—(Optional) RKS pair that the JPS will send events to when those events are triggered by gate transitions associated with the application manager specified by `am-id` with the same application manager name (`am-name`).

If no value is specified, the RKS pair configuration is not defined for this application manager. Use when you must set `trusted` to `true` without defining the RKS pair configuration.

Value—Text
Editing Level—Basic

`trusted`—(Optional) Specifies whether this application manager is a trusted network element to the JPS.

If an application manager is trusted by the JPS and it provides a billing correlation ID (BCID) as part of a gate-set message, the JPS reuses the BCID provided by the application manager instead of generating a new one. If an application manager is trusted by the JPS and it specifies an RKS pair as part of a gate-set message, the JPS uses the RKS pair supplied by the application manager instead of using the one specified by `rks-pair-name` (which might not be defined in the JPS configuration). However, the RKS pair specified by the application manager is used only if the RKS pair exists in the JPS configuration. If the application manager specifies an RKS pair that does not exist in the JPS configuration, the default RKS pair is used.

Editing Level—Basic

Required Privilege Level

No specific privilege required.

Required Editing Level

Basic

slot *number* jps rks-interface rks-pair rks-pair-name

Syntax

```
slot number jps rks-interface rks-pair rks-pair-name {
    primary-address primary-address;
    primary-port primary-port;
    secondary-address secondary-address;
    secondary-port secondary-port;
}
```

Hierarchy Level

```
[edit slot number jps rks-interface rks-pair]
```

Release Information

Statement introduced in SRC Release 1.0.0

Description

Configure RKS pairs. When running more than one JPS in a group to provide redundancy, all the JPSs in that group must have same RKS pair configuration (including the default RKS pair and any configured RKS pairs associated with a specific application manager).

Options

rks-pair-name *rks-pair-name*—RKS pair name

Value—Text

primary-address *primary-address*— IP address of the primary RKS for this RKS pair.

Value—IP address
Editing Level—Basic

primary-port *primary-port*—(Optional) UDP port on the primary RKS to which the JPS sends events.

Value—Integer in the range 1–65535
Default—1813

Editing Level—Basic

`secondary-address` *secondary-address*—(Optional) IP address of the secondary RKS for this RKS pair.

Value—IP address
Editing Level—Basic

`secondary-port` *secondary-port*—(Optional) UDP port on the secondary RKS to which the JPS sends events.

Value—Integer in the range 1–65535
Default—1813
Editing Level—Basic

Required Privilege Level

No specific privilege required.

Required Editing Level

Basic

show jps statistics

Syntax

```
show jps statistics
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display JPS statistics, including information about the server process and the current state of the JPS.

Required Privilege Level

view

show jps statistics am

Syntax

```
show jps statistics am
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display statistics for the application manager-to-policy server interface.

Required Privilege Level

view

show jps statistics am connections

Syntax

```
show jps statistics am connections <ip-address ip-address>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display statistics for JPS application manager connections.

Options

ip-address ip-address—(Optional) IP address for the application manager.

Value— All or part of the IP address. If the IP address filter is not specified, all application managers are selected.

Default— No value

Required Privilege Level

view

show jps statistics cmts-locator

Syntax

```
show jps statistics cmts-locator
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display statistics for the CMTS locator.

Required Privilege Level

view

show jps statistics cmts

Syntax

```
show jps statistics cmts
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display JPS statistics for the policy server-to-CMTS interface.

Required Privilege Level

view

show jps statistics cmts connections

Syntax

```
show jps statistics cmts connections <ip-address ip-address>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display statistics for JPS CMTS connections.

Options

ip-address ip-address—(Optional) IP address for the CMTS device.

Value— All or part of the IP address. If the IP address filter is not specified, all CMTS devices are selected.

Default— No value

Required Privilege Level

view

show jps statistics message-handler

Syntax

```
show jps statistics message-handler
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display statistics for the JPS message handler.

Required Privilege Level

view

show jps statistics message-handler message-flow

Syntax

```
show jps statistics message-handler message-flow <id id>
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display statistics for JPS message flows.

Options

`id id`—(Optional) Identifier for message flow.

Value— All or part of the message flow ID. If the message flow ID filter is not specified, all message flows are selected.

Default— No value

Required Privilege Level

view

show jps statistics process

Syntax

```
show jps statistics process
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display information about the JPS server process.

Required Privilege Level

view

show jps statistics rks

Syntax

```
show jps statistics rks
```

Release Information

Command introduced in SRC Release 1.0.0

Description

Display JPS statistics for the policy server-to-RKS interface.

Required Privilege Level

view

