

## Chapter 17

# Providing Services in IMS Networks with the SRC CLI

This chapter describes how to use the SRC command-line interface (SRC CLI) to configure the SRC software support for IP multimedia subsystem (IMS). Topics include:

- Configuration Statements for IMS Support on page 165
- Configuring the IMS Software on page 167
- Managing IMS on page 180
- Monitoring IMS with the SRC CLI on page 181
- Monitoring IMS with the C-Web Interface on page 182
- Example: Configuring JUNOS Policies for IMS with the SRC CLI on page 183

For more information about IMS and about providing services in IMS networks with the SRC software on Solaris platforms, see *Chapter 16, Providing Services in IMS Networks*.

## Configuration Statements for IMS Support

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Use the following configuration statements to configure IMS support at the [edit] hierarchy level.

```
slot number ims aracf-rq {  
    protocol protocol;  
    port port;  
    address address;  
    origin-host origin-host;  
    origin-realm origin-realm;  
}
```

```
slot number ims aracf-rq peer primary-spdf {  
    address address;  
    origin-host origin-host;  
}
```

```

slot number ims initial {
    static-dn static-dn;
    dynamic-dn dynamic-dn;
}

slot number ims initial directory-connection {
    url url;
    backup-urls [backup-urls...];
    principal principal;
    credentials credentials;
    protocol (ldaps);
    timeout timeout;
    check-interval check-interval;
    blacklist;
    snmp-agent;
}

slot number ims initial directory-eventing {
    eventing;
    signature-dn signature-dn;
    polling-interval polling-interval;
    event-base-dn event-base-dn;
    dispatcher-pool-size dispatcher-pool-size;
}

slot number ims logger name ...

slot number ims logger name file {
    filter filter;
    filename filename;
    rollover-filename rollover-filename;
    maximum-file-size maximum-file-size;
}

slot number ims logger name syslog {
    filter filter;
    host host;
    facility facility;
    format format;
}

```

For more information about the configuration statements, see the *SRC-PE CLI Command Reference*.

## Configuring the IMS Software

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To configure the IMS software:

1. Configure initial properties, including the connection to the directory and directory monitoring properties.

See *Configuring Initial Properties for IMS* on page 168.

See *Configuring Directory Connection Properties for IMS* on page 168.

See *Configuring Initial Directory Eventing Properties for IMS* on page 169.

2. Configure the local and remote Diameter peers.

See *Configuring the Local Diameter Peer* on page 170.

See *Configuring the Remote Diameter Peer* on page 171.

3. Configure logging destinations.

See *Configuring Logging Destinations* on page 172.

4. Configure subscriber types.

See *Configuring the Subscriber Type* on page 173.

5. Configure the NIC proxies.

See *Configuring a NIC Proxy for IMS* on page 174.

6. Start the IMS process to provide the A-RACF Rq interface.

See *Starting the IMS Process* on page 180.

You must restart the IMS process after you commit a configuration change. To restart IMS, see *Restarting the IMS Process* on page 180.

## Configuring Initial Properties for IMS

Use the following configuration statements to configure initial properties for IMS:

```
slot number ims initial {
    static-dn static-dn;
    dynamic-dn dynamic-dn;
}
```

To configure initial local properties:

1. From configuration mode, access the configuration statement that configures the initial properties.

```
user@host# edit slot 0 ims initial
```

2. Specify the properties for IMS.

```
[edit slot 0 ims initial]
user@host# set ?
```

For more information about configuring local properties for SRC components, see *SRC-PE Getting Started Guide, Chapter 30, Configuring Local Properties with the SRC CLI*.

3. (Optional) Verify your configuration.

```
[edit slot 0 ims initial]
user@host# show
```

## Configuring Directory Connection Properties for IMS

Use the following configuration statements to configure directory connection properties for IMS:

```
slot number ims initial directory-connection {
    url url;
    backup-urls [backup-urls...];
    principal principal;
    credentials credentials;
    protocol (ldaps);
    timeout timeout;
    check-interval check-interval;
    blacklist;
    snmp-agent;
}
```

To configure directory connection properties:

1. From configuration mode, access the configuration statement that configures the directory connection properties.

```
user@host# edit slot 0 ims initial directory-connection
```

2. Specify the properties for IMS.

```
[edit slot 0 ims initial directory-connection]
user@host# set ?
```

For more information about configuring local properties for the SRC components, see *SRC-PE Getting Started Guide, Chapter 30, Configuring Local Properties with the SRC CLI*.

3. (Optional) Verify your configuration.

```
[edit slot 0 ims initial directory-connection]
user@host# show
url ldap://127.0.0.1:389/;
principal cn=conf,o=Operators,<base>;
credentials *****;
```

## Configuring Initial Directory Eventing Properties for IMS

Use the following configuration statements to configure directory eventing properties for IMS:

```
slot number ims initial directory-eventing {
  eventing;
  signature-dn signature-dn;
  polling-interval polling-interval;
  event-base-dn event-base-dn;
  dispatcher-pool-size dispatcher-pool-size;
}
```

To configure initial directory eventing properties:

1. From configuration mode, access the configuration statement that configures the local properties.

```
user@host# edit slot 0 ims initial eventing
```

2. Specify the initial directory eventing properties for IMS.

```
[edit slot 0 ims initial directory-eventing]
user@host# set ?
```

For more information about configuring local properties for the SRC components, see *SRC-PE Getting Started Guide, Chapter 30, Configuring Local Properties with the SRC CLI*.

- (Optional) Verify your configuration.

```
[edit slot 0 ims initial directory-eventing]
user@host# show
eventing;
polling-interval 30;
```

### Configuring the Local Diameter Peer

Use the following configuration statements to configure the local Diameter peer:

```
slot number ims aracf-rq {
  protocol protocol;
  port port;
  address address;
  origin-host origin-host;
  origin-realm origin-realm;
}
```

To configure the local Diameter peer:

- From configuration mode, access the configuration statement that configures the Diameter peer.

```
user@host# edit slot 0 ims aracf-rq
```

- (Optional) Specify the protocol used for the transport layer.

```
[edit slot 0 ims aracf-rq]
user@host# set protocol protocol
```

- (Optional) Specify the port used for incoming connections.

```
[edit slot 0 ims aracf-rq]
user@host# set port port
```

- (Optional) Specify the IP address of the local peer.

```
[edit slot 0 ims aracf-rq]
user@host# set address address
```

- (Optional) Specify the Diameter identifier for the local endpoint that is the originator of the Diameter message.

```
[edit slot 0 ims aracf-rq]
user@host# set origin-host origin-host
```

- (Optional) Specify the Diameter identifier for the realm of the local endpoint that is the originator of the Diameter message.

```
[edit slot 0 ims aracf-rq]
user@host# set origin-realm origin-realm
```

7. (Optional) Verify your configuration.

```
[edit slot 0 ims aracf-rq]
user@host# show
protocol tcp;
port 3868;
address 127.0.0.1;
origin-host testserver;
origin-realm testrealm;
peer 1 {
  address 127.0.0.1;
  origin-host testclient;
}
```

### Configuring the Remote Diameter Peer

Use the following configuration statements to configure the remote Diameter peer:

```
slot number ims aracf-rq peer primary-spdf {
  address address;
  origin-host origin-host;
}
```

To configure the remote Diameter peer:

1. From configuration mode, access the configuration statement that configures the Diameter peer. In this sample procedure, the remote SPDF peer called primary-spdf is configured.

```
user@host# edit slot 0 ims aracf-rq peer primary-spdf
```

2. (Optional) Specify the IP address of the remote peer.

```
[edit slot 0 ims aracf-rq peer primary-spdf]
user@host# set address address
```

3. (Optional) Specify the Diameter identifier for the remote endpoint that is the originator of the Diameter message.

```
[edit slot 0 ims aracf-rq peer primary-spdf]
user@host# set origin-host origin-host
```

4. (Optional) Verify your configuration.

```
[edit slot 0 ims aracf-rq peer primary-spdf]
user@host# show
address 127.0.0.1;
origin-host testclient;
```

## Configuring Logging Destinations

By default, IMS has three logging destinations.

Use the following configuration statements to configure logging destinations for IMS:

```
slot number ims logger name ...
```

```
slot number ims logger name file {
  filter filter;
  filename filename;
  rollover-filename rollover-filename;
  maximum-file-size maximum-file-size;
}
```

```
slot number ims logger name syslog {
  filter filter;
  host host;
  facility facility;
  format format;
}
```

## Configuring Logging Destinations to Store Messages in a File

To configure logging destinations to store log messages in a file:

1. From configuration mode, access the configuration statement that configures the name and type of logging destination. In this sample procedure, the logging destination called log1 is configured.

```
user@host# edit slot 0 ims logger log1 file
```

2. Specify the properties for the logging destination.

```
[edit slot 0 ims logger log1 file]
user@host# set ?
```

For more information about configuring properties for the logging destination, see *SRC-PE Monitoring and Troubleshooting Guide, Chapter 3, Configuring Logging for SRC Components with the CLI*.

3. (Optional) Verify your configuration.

```
[edit slot 0 ims logger log1 file]
user@host# show
filter /info-;
filename var/log/ims-a-racf-rq-info.log;
rollover-filename var/log/ims-a-racf-rq-info.alt;
maximum-file-size 2000000000;
```

## Configuring Logging Destinations to Send Messages to the System Logging Facility

To configure logging destinations to send log messages to the system logging facility:

1. From configuration mode, access the configuration statement that configures the name and type of logging destination. In this sample procedure, the logging destination called log2 is configured.

```
user@host# edit slot 0 ims logger log2 syslog
```

2. Specify the properties for the logging destination.

```
[edit slot 0 ims logger log2 syslog]
user@host# set ?
```

For more information about configuring properties for the logging destination, see *SRC-PE Monitoring and Troubleshooting Guide, Chapter 3, Configuring Logging for SRC Components with the CLI*.

3. (Optional) Verify your configuration.

```
[edit slot 0 ims logger log2 syslog]
user@host# show
```

## Configuring the Subscriber Type

Use the following configuration statements to configure the subscriber type:

```
shared ims aracf-rq configuration subscriber-type-configuration name
```

```
shared ims aracf-rq configuration subscriber-type-configuration name {
    nic-proxy-namespace nic-proxy-namespace;
    subscriber-id-type subscriber-id-type;
}
```

To configure the subscriber type:

1. From configuration mode, access the configuration statement that configures the subscriber type. In this sample procedure, the subscriber type called ip is configured.

```
user@host# edit shared ims aracf-rq configuration subscriber-type-configuration ip
```

2. Specify the namespace that defines the properties for the NIC proxy operations for the specified subscriber ID type. Each subscriber type must use a different NIC proxy. All NIC proxies for IMS are stored in the /nicProxies directory. In this sample procedure, the namespace for the NIC proxy called ip is configured.

```
[edit shared ims aracf-rq configuration subscriber-type-configuration ip]
user@host# set nic-proxy-namespace /nicProxies/ip
```

- (Optional) Specify the type of information used to identify the subscriber. In this sample procedure, the subscriber ID type is specified as the subscriber IP address.

```
[edit shared ims aracf-rq configuration subscriber-type-configuration ip]
user@host# set subscriber-id-type SIT_ADDRESS
```

- (Optional) Verify your configuration.

```
[edit shared ims aracf-rq configuration subscriber-type-configuration ip]
user@host# show
subscriber-id-type SIT_ADDRESS;
nic-proxy-namespace /nicProxies/ip;
```

## Configuring a NIC Proxy for IMS

Before you configure a NIC proxy, you should have a good understanding of:

- NIC resolution
- NIC data types
- How NIC proxies work

See *SRC-PE Network Guide, Chapter 9, Locating Subscriber Information with the NIC*; *SRC-PE Network Guide, Chapter 13, Configuring Applications to Communicate with an SAE*; and *SRC-PE Network Guide, Chapter 14, Configuring SRC Applications to Communicate with an SAE with the SRC CLI*.

To configure the NIC proxy, perform these tasks:

- Configuring Resolution Information for a NIC Proxy on page 174
- Changing the Configuration for the NIC Proxy Cache on page 176
- Configuring Resolution Information for a NIC Proxy on page 174
- Configuring NIC Test Data on page 179

### Configuring Resolution Information for a NIC Proxy

You create a NIC proxy for each subscriber type to be configured. Subscriber types that have different subscriber ID types can use the same NIC proxy.

Use the following configuration statements to configure the NIC proxy:

```
shared ims aracf-rq configuration nic-proxy-configuration name
```

```
shared ims aracf-rq configuration nic-proxy-configuration name resolution {
  resolver-name resolver-name;
  key-type key-type;
  value-type value-type;
  expect-multiple-values;
  constraints constraints;
}
```

To configure resolution information for a NIC proxy:

1. From configuration mode, access the configuration statement that configures the NIC proxy configuration. In this sample procedure, the NIC proxy called ip is configured.

```
user@host# edit shared ims aracf-rq configuration nic-proxy-configuration ip resolution
```

2. Specify the NIC resolver that this NIC proxy uses. This resolver must be the same as one that is configured on the NIC host.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip resolution]
user@host# set resolver-name resolver-name
```

3. Specify the NIC data type that the key provides for the NIC resolution.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip resolution]
user@host# set key-type key-type
```

To qualify data types, enter a qualifier within parentheses after the data type; for example, to specify username as a qualifier for the key LoginName:

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip resolution]
user@host# set key-type LoginName (username)
```

4. Specify the type of value to be returned in the resolution for the application that uses the NIC proxy.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip resolution]
user@host# set value-type value-type
```

5. (Optional) If the key can have more than one value, specify that the key can have multiple corresponding values.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip resolution]
user@host# set expect-multiple-values
```

6. (Optional. Available at the Advanced editing level.) If the application provides a constraint in the resolution request, specify the data type for the constraint. The constraint represents a condition that must or may be satisfied before the next stage of the resolution process can proceed.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip resolution]
user@host# set constraints constraints
```

7. (Optional) Verify your configuration.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip resolution]
user@host# show
resolver-name /realms/ip/A1;
key-type Ip;
value-type SaeId;
```

## Changing the Configuration for the NIC Proxy Cache

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. The configuration statements are available at the Advanced editing level.

Use the following configuration statements to change values for the NIC proxy cache:

```
shared ims aracf-rq configuration nic-proxy-configuration name cache {
    cache-size cache-size;
    cache-cleanup-interval cache-cleanup-interval;
    cache-entry-age cache-entry-age;
}
```

To configure the cache for a NIC proxy:

1. From configuration mode, access the configuration statement that specifies the NIC proxy configuration. In this sample procedure, the NIC proxy called `ip` is configured.

```
user@host# edit shared ims aracf-rq configuration nic-proxy-configuration ip cache
```

2. (Optional) Specify the maximum number of keys for which the NIC proxy retains data.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip cache]
user@host# set cache-size cache-size
```

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.

3. Specify the time interval at which the NIC proxy removes expired entries from its cache.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip cache]
user@host# set cache-cleanup-interval cache-cleanup-interval
```

4. (Optional) Specify how long an entry remains in the cache.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip cache]
user@host# set cache-entry-age cache-entry-age
```

5. (Optional) Verify your configuration.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip cache]
user@host# show
cache-size 10000;
cache-cleanup-interval 15;
```

### Configuring a NIC Proxy for NIC Replication

Typically, you configure NIC replication to keep the NIC highly available. You configure NIC host selection to specify the groups of NIC hosts to be contacted to resolve a request, and to define how the NIC proxy handles NIC hosts that the proxy is unable to contact. The configuration statements are available at the Advanced editing level.

Use the following configuration statements to configure NIC host selection for a NIC proxy:

```
shared ims aracf-rq configuration nic-proxy-configuration name nic-host-selection {
    groups groups;
    selection-criteria (roundRobin | randomPick | priorityList);
}
```

```
shared ims aracf-rq 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;
}
```

To configure a NIC proxy to use NIC replication:

1. From configuration mode, access the configuration statement that specifies the NIC proxy configuration. In this sample procedure, the NIC proxy called `ip` is configured.

```
user@host# edit shared ims aracf-rq configuration nic-proxy-configuration ip
nic-host-selection
```

2. (Optional) Specify the list of groups of NIC hosts that the NIC proxy can contact for resolution requests.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip nic-host-selection]
user@host# set groups groups
```

- (Optional) If you configure more than one group, specify the selection criteria that the NIC proxy uses to determine which NIC host to contact.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip nic-host-selection]
user@host# set selection-criteria (roundRobin | randomPick | priorityList)
```

where:

- 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.

Priorities are defined by the order in which you specify the groups. You can change the order of NIC hosts in the list by using the `insert` command.

- (Optional) Verify your configuration.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip
nic-host-selection]
user@host# show
groups ;
selection-criteria round-;
```

- Access the configuration statement that specifies the NIC proxy configuration for blacklisting—the process of handling nonresponsive NIC hosts.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip nic-host-selection]
user@host# edit blacklisting
[edit shared ims aracf-rq configuration nic-proxy-configuration ip nic-host-selection
blacklisting]
```

- (Optional) Specify whether or not the NIC proxy should contact the next specified NIC host if a NIC host is determined to be unavailable.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip nic-host-selection
blacklisting]
user@host# set try-next-system-on-error
```

- (Optional) Change the 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. The default is 3.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip nic-host-selection
blacklisting]
user@host# set number-of-retries-before-blacklisting
number-of-retries-before-blacklisting
```

- (Optional) Change the interval at which the NIC proxy attempts to connect to an unavailable NIC host. The default is 15 seconds.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip nic-host-selection
blacklisting]
user@host# set blacklist-retry-interval blacklist-retry-interval
```

- (Optional) Verify your configuration.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip
nic-host-selection blacklisting]
user@host# show
try-next-system-on-error;
number-of-retries-before-blacklisting 3;
blacklist-retry-interval 15;
```

### Configuring NIC Test Data

To test a resolution without NIC, you can configure a NIC proxy stub to take the place of the NIC. The NIC proxy stub comprises a set of explicit mappings of data keys and values in the NIC proxy configuration. When the SRC component configured to use a NIC proxy stub passes a specified key to the NIC proxy stub, the NIC proxy stub returns the corresponding value. When you use a NIC proxy stub, no NIC infrastructure is required.

Use the following configuration statements to configure a NIC proxy stub from the [edit] hierarchy level.

```
shared ims aracf-rq configuration nic-proxy-configuration name test-nic-bindings {
  use-test-bindings;
}
```

```
shared ims aracf-rq configuration nic-proxy-configuration name test-nic-bindings
key-values name {
  value;
}
```

To use the NIC proxy stub for IMS:

- In configuration mode, navigate to the NIC proxy configuration and specify the data type of the key you want to map to a value. In this sample procedure, the key `ip` is specified for the NIC proxy called `ip`.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip]
user@host# set resolution key-type ip
```

- Enable a NIC proxy stub for a resolution.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip]
user@host# set test-nic-bindings use-test-bindings
```

- Specify the values of the keys for testing. These statements are available at the Advanced CLI editing level.

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip]
user@host# set test-nic-bindings key-values name value
```

where:

- *name*—Indicates the NIC data value for the proxy.
- *value*—Specifies a value for the NIC data type.

For example, to set up a login name to IP mapping for login name `jane@virneo.com` to the IP address `192.0.2.30`:

```
[edit shared ims aracf-rq configuration nic-proxy-configuration ip]
user@host# set test-nic-bindings key-values jane@virneo.com 192.0.2.30
```

## Managing IMS

---

After you have configured IMS, you can perform these tasks:

- *Starting the IMS Process* on page 180
- *Restarting the IMS Process* on page 180
- *Stopping the IMS Process* on page 181
- *Displaying IMS Status* on page 181

To modify the IMS configuration, see *Configuring the IMS Software* on page 167. To monitor IMS, see *Monitoring IMS with the SRC CLI* on page 181.

### Starting the IMS Process

To start the IMS process:

```
user@host> enable component ims
```

The system responds with a start message. If IMS is already running, the system responds with a warning message.

### Restarting the IMS Process

You must restart the IMS process after you commit a configuration change.

To restart IMS:

```
user@host> restart component ims
```

The system responds with a start message. If IMS is already running, the system responds with a shutdown message and then a start message.

## Stopping the IMS Process

To stop the IMS process:

```
user@host> disable component ims
```

The system responds with a shutdown message. If IMS is not running when you issue the command, the system responds with the command prompt.

To start IMS, see *Starting the IMS Process* on page 180.

## Displaying IMS Status

To display IMS status:

```
user@host> show component
```

The system responds with a status message.

## Monitoring IMS with the SRC CLI

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You can monitor:

- The server process
- The current state of the A-RACF Rq interface

## Viewing Server Process Information

To view information about the IMS server process:

```
user@host> show ims statistics aracf rq process
Rq Server Process
Rq server up time (seconds) 692942
Rq server up since          2007-03-13T15:30:48EDT
Rq server threads          93
Heap used (bytes)          16383752 (8%)
Heap limit (bytes)         200000000
```

## Viewing Statistics for the Rq Interface

To monitor the current state of the A-RACF Rq interface:

```
user@host> show ims statistics aracf rq
ims aracf rq Statistics
Rq Server Process
Rq server up time (seconds) 692920
Rq server up since          2007-03-13T15:30:48EDT
Rq server threads          93
Heap used (bytes)          16332120 (8%)
Heap limit (bytes)         200000000
```

## Monitoring IMS with the C-Web Interface

You can monitor statistics for the server process and the A-RACF Rq interface with the C-Web interface.

### Viewing Statistics for the Server Process

To view statistics for the server process:

- Select **IMS** from the side pane, click **Statistics**, click **A-RACF**, click **Rq**, and then click **Process**.

The Process pane displays statistics for the server process.

The screenshot shows the Juniper C-Web interface. The top navigation bar includes 'Monitor', 'Logged in as: sleswayball', and links for 'About', 'Refresh', and 'Logout'. The breadcrumb trail is 'IMS > Statistics > A-RACF > Rq > Process'. The left sidebar contains a menu with items like ACP, CLI, Component, Date, Disk, IMS (highlighted), Interfaces..., JPS, NIC, NTP, Redirect Server, Route..., SAE, Security, and System. The main content area displays 'Rq Server Process' with the following statistics:

Rq server up time (seconds)	8664
Rq server up since	2007-04-12T14:40:00EDT
Rq server threads	93
Heap used (bytes)	5026424 (3%)
Heap limit (bytes)	200000000

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### Viewing Statistics for the A-RACF Rq Interface

To view statistics for the A-RACF Rq interface:

- Select **IMS** from the side pane, click **Statistics**, click **A-RACF**, and then click **Rq**.

The Rq pane displays statistics for the A-RACF Rq interface.

The screenshot shows the Juniper SRC CLI Monitor interface. The top navigation bar includes 'Monitor', 'Logged in as: sleswayball', and links for 'About', 'Refresh', and 'Logout'. The breadcrumb trail is 'IMS > Statistics > A-RACF > Rq'. The main content area displays 'ims aracf rq Statistics' and 'Rq Server Process' with the following data:

Rq server up time (seconds)	9373
Rq server up since	2007-04-12T14:40:00EDT
Rq server threads	93
Heap used (bytes)	6013200 (3%)
Heap limit (bytes)	200000000

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## Example: Configuring JUNOSe Policies for IMS with the SRC CLI

For IMS environments, you can configure JUNOSe policies. When you configure classify-traffic conditions, you can set up the software so that the SAE expands into multiple classifiers before it installs the policy on the router. If you enter a list of values in the source and destination network (IP address, mask, and IP operation) or port fields (for port-related protocols), the software creates a classifier for each possible combination of address and port. Note that the software does not expand classifiers for values that are entered as a range.

### Enabling Expansion of JUNOSe Classify-Traffic Conditions

To enable the expansion of JUNOSe classify-traffic conditions:

1. From configuration mode, access the configuration statement that configures policy management properties on the SAE.

```
user@host# edit shared sae configuration policy-management-configuration
```

2. Specify whether or not the SAE expands the JUNOSe classify-traffic conditions into multiple classifiers before it installs the policy on the router.

```
[edit shared sae configuration policy-management-configuration]
user@host# set enable-junos-classifier-expansion
```

For more information about expanded classifiers, see *SRC-PE Services and Policies Guide, Chapter 10, Configuring and Managing Policies with the SRC CLI*.

