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# SRC External Subscriber Monitor



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*SRC External Subscriber Monitor*

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# Table of Contents

	About the Documentation . . . . .	vii
	Documentation and Release Notes . . . . .	vii
	Supported Platforms . . . . .	vii
	Documentation Conventions . . . . .	vii
	Documentation Conventions . . . . .	viii
	Documentation Feedback . . . . .	x
	Requesting Technical Support . . . . .	x
	Self-Help Online Tools and Resources . . . . .	xi
	Opening a Case with JTAC . . . . .	xi
<b>Part 1</b>	<b>Overview</b>	
<b>Chapter 1</b>	<b>Software Features Overview . . . . .</b>	<b>3</b>
	External Subscriber Monitor Overview . . . . .	3
<b>Part 2</b>	<b>Configuration</b>	
<b>Chapter 2</b>	<b>Configuration Tasks . . . . .</b>	<b>7</b>
	Configuring External Subscriber Monitor (SRC CLI) . . . . .	7
	Configuring Basic Local Properties for External Subscriber Monitor . . . . .	7
	Configuring Initial Properties for External Subscriber Monitor . . . . .	8
	Configuring Directory Connection Properties for External Subscriber Monitor . . . . .	8
	Configuring Eventing Properties for External Subscriber Monitor . . . . .	9
	Configuring Logging Destinations for External Subscriber Monitor . . . . .	10
	Configuring External Subscriber Monitor (C-Web Interface) . . . . .	11
	Configuring Basic Local Properties for External Subscriber Monitor . . . . .	11
	Configuring Initial Properties for External Subscriber Monitor . . . . .	11
	Configuring Directory Connection Properties for External Subscriber Monitor . . . . .	12
	Configuring Eventing Properties for External Subscriber Monitor . . . . .	12
	Configuring Logging Destinations for External Subscriber Monitor . . . . .	12
	Configuring the NIC Proxy for the Pseudo-RADIUS Server (SRC CLI) . . . . .	13
	Configuring Resolution Information for a NIC Proxy . . . . .	13
	Changing the Configuration for the NIC Proxy Cache . . . . .	13
	Configuring a NIC Proxy for NIC Replication . . . . .	14
	Configuring the NIC Proxy for the Pseudo-RADIUS Server (C-Web Interface) . . . . .	15
	Configuring Resolution Information for a NIC Proxy . . . . .	15
	Changing the Configuration for the NIC Proxy Cache . . . . .	16

	Configuring a NIC Proxy for NIC Replication . . . . .	16
	Configuring the Pseudo-RADIUS Server for External Subscriber Monitor (SRC CLI) . . . . .	16
	Configuring the Pseudo-RADIUS Server for External Subscriber Monitor (C-Web Interface) . . . . .	18
	Configuring the Client Secret for External Subscriber Monitor (SRC CLI) . . . . .	18
	Configuring the Client Secret for External Subscriber Monitor (C-Web Interface) . . . . .	19
	Configuring Event Notification for External Subscriber Monitor (SRC CLI) . . . . .	19
	Configuring Event Notification for External Subscriber Monitor (C-Web Interface) . . . . .	20
<b>Part 3</b>	<b>Administration</b>	
<b>Chapter 3</b>	<b>Management Tasks . . . . .</b>	<b>25</b>
	Starting External Subscriber Monitor (SRC CLI) . . . . .	25
	Starting External Subscriber Monitor (C-Web Interface) . . . . .	25
	Stopping External Subscriber Monitor (SRC CLI) . . . . .	26
	Stopping External Subscriber Monitor (C-Web Interface) . . . . .	26
<b>Chapter 4</b>	<b>Routine Monitoring . . . . .</b>	<b>27</b>
	Viewing Statistics for External Subscriber Monitor (SRC CLI) . . . . .	27
	Viewing Statistics for External Subscriber Monitor (C-Web Interface) . . . . .	28
	Monitoring Statistics for External Subscriber Monitor (SRC CLI) . . . . .	28
	Viewing Statistics for External Subscriber Monitor Event Notifications (SRC CLI) . . . . .	29
	Viewing Statistics for External Subscriber Monitor Event Notifications (C-Web Interface) . . . . .	30
	Monitoring Statistics for External Subscriber Monitor Event Notifications (SRC CLI) . . . . .	30
	Viewing Statistics for the Agent Process (SRC CLI) . . . . .	31
	Viewing Statistics for the Agent Process (C-Web Interface) . . . . .	31
<b>Part 4</b>	<b>Troubleshooting</b>	
<b>Chapter 5</b>	<b>Troubleshooting Procedures . . . . .</b>	<b>35</b>
	Collecting Data with the Activity Monitor (SRC CLI) . . . . .	35
	Collecting Data with the Activity Monitor (C-Web Interface) . . . . .	36
	Viewing Graphs (C-Web Interface) . . . . .	37
	Viewing Graphs from a Web Page . . . . .	37
	Viewing Graphs for a Preset Time Period from a Web Page . . . . .	37
	Viewing Graphs for Specified Time Periods from a Web Page . . . . .	38
<b>Part 5</b>	<b>Index</b>	
	Index . . . . .	43

# List of Tables

	<b>About the Documentation</b> .....	<b>vii</b>
	Table 1: Notice Icons .....	viii
	Table 2: Notice Icons .....	ix
	Table 3: Text Conventions .....	ix
<b>Part 3</b>	<b>Administration</b>	
<b>Chapter 4</b>	<b>Routine Monitoring</b> .....	<b>27</b>
	Table 4: Output Fields for show external-subscriber-monitor statistics radius-accounting .....	27
	Table 5: Output Fields for show external-subscriber-monitor statistics event-notifications .....	29
	Table 6: Output Fields for show external-subscriber-monitor statistics process .....	31



# About the Documentation

- Documentation and Release Notes on page vii
- Supported Platforms on page vii
- Documentation Conventions on page vii
- Documentation Feedback on page x
- Requesting Technical Support on page x

## Documentation and Release Notes

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To obtain the most current version of all Juniper Networks® technical documentation, see the product documentation page on the Juniper Networks website at <http://www.juniper.net/techpubs/>.

If the information in the latest release notes differs from the information in the documentation, follow the product Release Notes.

Juniper Networks Books publishes books by Juniper Networks engineers and subject matter experts. These books go beyond the technical documentation to explore the nuances of network architecture, deployment, and administration. The current list can be viewed at <http://www.juniper.net/books>.

## Supported Platforms

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For the features described in this document, the following platforms are supported:







- C Series

## Documentation Conventions

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Table 1 on page viii defines notice icons used in this guide.

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 or death.
	Laser warning	Alerts you to the risk of personal injury from a laser.
	Tip	Indicates helpful information.
	Best practice	Alerts you to a recommended use or implementation.

## Documentation Conventions

Table 1 on page viii defines the notice icons used in this guide. Table 3 on page ix defines text conventions used throughout this documentation.



Table 2: 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 or death.
	Laser warning	Alerts you to the risk of personal injury from a laser.
	Tip	Indicates helpful information.
	Best practice	Alerts you to a recommended use or implementation.

Table 3: Text Conventions

Convention	Description	Examples
<b>Bold text like this</b>	<ul style="list-style-type: none"> <li>Represents keywords, scripts, and tools in text.</li> <li>Represents a GUI element that the user selects, clicks, checks, or clears.</li> </ul>	<ul style="list-style-type: none"> <li>Specify the keyword <b>exp-msg</b>.</li> <li>Run the <b>install.sh</b> script.</li> <li>Use the <b>pkgadd</b> tool.</li> <li>To cancel the configuration, click <b>Cancel</b>.</li> </ul>
<b>Bold text like this</b>	Represents text that the user must type.	<b>user@host# set cache-entry-age</b> <i>cache-entry-age</i>
Fixed-width text like this	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"> <li>Represents configuration statements.</li> <li>Indicates SRC CLI commands and options in text.</li> <li>Represents examples in procedures.</li> <li>Represents URLs.</li> </ul>	<ul style="list-style-type: none"> <li><b>system ldap server{</b> <b>stand-alone;</b></li> <li>Use the <b>request sae modify device failover</b> <b>command</b> with the <b>force</b> option</li> <li><b>user@host# ...</b></li> <li><a href="http://www.juniper.net/techpubs/software/management/sdx/api-index.html">http://www.juniper.net/techpubs/software/management/sdx/api-index.html</a></li> </ul>

Table 3: Text Conventions (*continued*)

<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 <gfwif>.
Key name	Indicates the name of a key on the keyboard.	Press Enter.
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"> <li>Emphasizes words.</li> <li>Identifies book names.</li> <li>Identifies distinguished names.</li> <li>Identifies files, directories, and paths in text but not in command examples.</li> </ul>	<ul style="list-style-type: none"> <li>There are two levels of access: <i>user</i> and <i>privileged</i>.</li> <li><i>SRC-PE Getting Started Guide</i>.</li> <li><i>o=Users, o=UMC</i></li> <li>The <i>/etc/default.properties</i> file.</li> </ul>
Backslash	At the end of a line, indicates that the text wraps to the next line.	<code>Plugin.radiusAcct-1.class=\net.juniper.smgmt.sae.plugin\RadiusTrackingPluginEvent</code>
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.)	<code>diagnostic   line</code>

## Documentation Feedback

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

- Document or topic name
- URL or page number
- Software release version (if applicable)

## Requesting Technical Support

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

- JTAC policies—For a complete understanding of our JTAC procedures and policies, review the *JTAC User Guide* located at <http://www.juniper.net/us/en/local/pdf/resource-guides/7100059-en.pdf>.

- Product warranties—For product warranty information, visit <http://www.juniper.net/support/warranty/>.
- JTAC hours of operation—The JTAC centers have resources available 24 hours a day, 7 days a week, 365 days a year.

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

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- Search for known bugs: <http://www2.juniper.net/kb/>
- Find product documentation: <http://www.juniper.net/techpubs/>
- Find solutions and answer questions using our Knowledge Base: <http://kb.juniper.net/>
- Download the latest versions of software and review release notes: <http://www.juniper.net/customers/csc/software/>
- Search technical bulletins for relevant hardware and software notifications: <http://kb.juniper.net/InfoCenter/>
- Join and participate in the Juniper Networks Community Forum: <http://www.juniper.net/company/communities/>
- Open a case online in the CSC Case Management tool: <http://www.juniper.net/cm/>

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

## Opening a Case with JTAC

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

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

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



## PART 1

# Overview

- [Software Features Overview on page 3](#)



## CHAPTER 1

# Software Features Overview

- [External Subscriber Monitor Overview on page 3](#)

## External Subscriber Monitor Overview

---

You use the External Subscriber Monitor application with the event notification method of logging in subscribers and creating subscriber sessions. You can use event notification when you integrate devices into the SRC network that do not notify the SAE about subscriber events, such as when a subscriber logs in or when the address assignment is terminated.

External Subscriber Monitor must view all RADIUS accounting messages associated with subscriber sessions. External Subscriber Monitor is stateless and cannot synchronize the current set of subscribers when there is a failure. If events are missed because of a software or network failure, the overall state recovers when RADIUS interim updates are sent. For example, missed ipUp events become effective when the next interim update is sent, and missed ipDown events time out after the configured RADIUS time to live.

External Subscriber Monitor is configured as a pseudo-RADIUS server and acts as a RADIUS accounting server. Configure the router or RADIUS server to duplicate accounting packets to External Subscriber Monitor. When External Subscriber Monitor is the pseudo-RADIUS server, it handles software failures more robustly. The pseudo-RADIUS server does not acknowledge failed accounting requests and gives the RADIUS client the option to retransmit the accounting packet to a backup External Subscriber Monitor.

### Related Documentation

- For information about event notification with other third-party network devices, see *Logging In Subscribers and Creating Sessions*
- [Configuring External Subscriber Monitor \(SRC CLI\) on page 7](#)
- [Starting External Subscriber Monitor \(SRC CLI\) on page 25](#)
- [Configuring the Pseudo-RADIUS Server for External Subscriber Monitor \(SRC CLI\) on page 16](#)
- [Configuring the Client Secret for External Subscriber Monitor \(SRC CLI\) on page 18](#)
- [Configuring Event Notification for External Subscriber Monitor \(SRC CLI\) on page 19](#)





## PART 2

# Configuration

- [Configuration Tasks on page 7](#)



## CHAPTER 2

# Configuration Tasks

- [Configuring External Subscriber Monitor \(SRC CLI\) on page 7](#)
- [Configuring External Subscriber Monitor \(C-Web Interface\) on page 11](#)
- [Configuring the NIC Proxy for the Pseudo-RADIUS Server \(SRC CLI\) on page 13](#)
- [Configuring the NIC Proxy for the Pseudo-RADIUS Server \(C-Web Interface\) on page 15](#)
- [Configuring the Pseudo-RADIUS Server for External Subscriber Monitor \(SRC CLI\) on page 16](#)
- [Configuring the Pseudo-RADIUS Server for External Subscriber Monitor \(C-Web Interface\) on page 18](#)
- [Configuring the Client Secret for External Subscriber Monitor \(SRC CLI\) on page 18](#)
- [Configuring the Client Secret for External Subscriber Monitor \(C-Web Interface\) on page 19](#)
- [Configuring Event Notification for External Subscriber Monitor \(SRC CLI\) on page 19](#)
- [Configuring Event Notification for External Subscriber Monitor \(C-Web Interface\) on page 20](#)

## Configuring External Subscriber Monitor (SRC CLI)

---

Configure initial properties, including directory connection and directory eventing properties.

Tasks to configure External Subscriber Monitor are:

1. [Configuring Basic Local Properties for External Subscriber Monitor on page 7](#)
2. [Configuring Initial Properties for External Subscriber Monitor on page 8](#)
3. [Configuring Directory Connection Properties for External Subscriber Monitor on page 8](#)
4. [Configuring Eventing Properties for External Subscriber Monitor on page 9](#)
5. [Configuring Logging Destinations for External Subscriber Monitor on page 10](#)

## Configuring Basic Local Properties for External Subscriber Monitor

After you complete the configuration changes, restart External Subscriber Monitor for the configuration changes to take effect. Use the following configuration statements to configure basic local properties:

```
slot number external-subscriber-monitor {  
  java-garbage-collection-options java-garbage-collection-option;  
  java-heap-size java-heap-size;  
}
```

To configure basic local properties:

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

```
user@host# edit slot 0 external-subscriber-monitor
```

2. Configure the garbage collection functionality of the Java Virtual Machine.

```
[edit slot 0 external-subscriber-monitor]  
user@host# set java-garbage-collection-options java-garbage-collection-options
```

3. (Optional) If you encounter problems caused by lack of memory, change the maximum memory size available to the JRE.

```
[edit slot 0 external-subscriber-monitor]  
user@host# set java-heap-size java-heap-size
```

4. (Optional) Verify your configuration.

```
[edit slot 0 external-subscriber-monitor]  
user@host# show
```

## Configuring Initial Properties for External Subscriber Monitor

Use the following configuration statements to configure initial properties for External Subscriber Monitor:

```
slot number external-subscriber-monitor initial {  
  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 external-subscriber-monitor initial
```

2. Specify the properties for External Subscriber Monitor.

```
[edit slot 0 external-subscriber-monitor initial]  
user@host# set ?
```

For more information about configuring local properties for the SRC components, see *Changing the Location of Data in the Directory*.

## Configuring Directory Connection Properties for External Subscriber Monitor

Use the following configuration statements to configure directory connection properties for External Subscriber Monitor:

```
slot number external-subscriber-monitor initial directory-connection {  
  url url;
```

```

backup-urls backup-urls...;
principal principal;
credentials credentials;
timeout timeout;
check-interval check-interval;
blacklist;
protocol (ldaps);
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 external-subscriber-monitor initial directory-connection
```

2. Specify the properties for External Subscriber Monitor.

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

3. (Optional) Verify your configuration.

```
[edit slot 0 external-subscriber-monitor initial directory-connection]
user@host# show
```

## Configuring Eventing Properties for External Subscriber Monitor

Use the following configuration statements to configure directory eventing properties for External Subscriber Monitor:

```

slot number external-subscriber-monitor initial directory-eventing {
  eventing;
  signature-dn signature-dn;
  polling-interval polling-interval;
  event-base-dn event-base-dn;
  dispatcher-pool-size dispatcherr-pool-size;
}

```

To configure directory eventing properties:

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

```
user@host# edit slot 0 external-subscriber-monitor initial directory-eventing
```

2. Specify the initial directory eventing properties for External Subscriber Monitor.

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

For more information about configuring local properties for the SRC components, see *Configuring Initial Directory Eventing Properties for SRC Components*.

3. (Optional) Verify your configuration.

```
[edit slot 0 external-subscriber-monitor initial directory-connection]
user@host# show
```

## Configuring Logging Destinations for External Subscriber Monitor

Use the following configuration statements to configure directory logging destinations for External Subscriber Monitor:

```
slot number external-subscriber-monitor logger logger-name...
slot number external-subscriber-monitor logger logger-name file {
  filter filter;
  filename filename;
  rollover-filename rollover-filename;
  maximum-file-size maximum-file-size;
}
slot number external-subscriber-monitor logger 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 properties. In this sample procedure, the logging destination called file-1 is configured.

```
user@host# edit slot 0 external-subscriber-monitor logger file-1 file
```

2. Specify the properties for the logging destination.

```
[edit slot 0 external-subscriber-monitor logger file-1 file]
user@host# set ?
```

For more information about configuring properties for the logging destination, see *Configuring an SRC Component to Store Log Messages in a File (SRC CLI)*.

3. (Optional) Verify your configuration.

```
[edit slot 0 external-subscriber-monitor logger file-1 file]
user@host# show
```

### Configuring Logging Destinations to Send Messages to 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 properties. In this sample procedure, the logging destination is called syslog-1.

```
user@host# edit slot 0 external-subscriber-monitor logger syslog-1 syslog
```

2. Specify the properties for the logging destination.

```
[edit slot 0 external-subscriber-monitor logger syslog-1 syslog]
user@host# set ?
```

For more information about configuring properties for the logging destination, see *Configuring System Logging (SRC CLI)*.

3. (Optional) Verify your configuration.

```
[edit slot 0 external-subscriber-monitor logger file-1 file]
user@host# show
```

**Related  
Documentation**

- [Configuring External Subscriber Monitor \(C-Web Interface\) on page 11](#)
- [Starting External Subscriber Monitor \(SRC CLI\) on page 25](#)
- [Viewing Statistics for External Subscriber Monitor \(C-Web Interface\) on page 28](#)
- [External Subscriber Monitor Overview on page 3](#)

## Configuring External Subscriber Monitor (C-Web Interface)

Configure initial properties, including directory connection and directory eventing properties.

Tasks to configure External Subscriber Monitor are:

1. [Configuring Basic Local Properties for External Subscriber Monitor on page 11](#)
2. [Configuring Initial Properties for External Subscriber Monitor on page 11](#)
3. [Configuring Directory Connection Properties for External Subscriber Monitor on page 12](#)
4. [Configuring Eventing Properties for External Subscriber Monitor on page 12](#)
5. [Configuring Logging Destinations for External Subscriber Monitor on page 12](#)

### Configuring Basic Local Properties for External Subscriber Monitor

To configure basic local properties:

1. Click **Configure>Slot**, then a specified slot (for example, slot0), and then **External Subscriber Monitor**.

The External Subscriber Monitor pane appears.

2. From the Create new list, select **Logger**. Type a name for the new logger in the dialog box, and click **OK**.
3. Enter the maximum java heap size in the **Java Heap Size** box, as described in the Help text.
4. Click **Apply**.

### Configuring Initial Properties for External Subscriber Monitor

To configure initial properties:

1. Click **Configure>Slot**, then a specified slot (for example, slot0).
2. Expand **External Subscriber Monitor**.
3. Click **Initial**.

The Initial pane appears.

## Configuring Directory Connection Properties for External Subscriber Monitor

To configure directory connection properties:

1. Click **Configure>Slot**, then a specified slot (for example, slot0).
2. Expand **External Subscriber Monitor**.
3. Expand **Initialand**, then click **Directory Connection**.

The Directory Connection pane appears.

4. Enter the information as described in the Help text box.
5. Click **Apply**.

## Configuring Eventing Properties for External Subscriber Monitor

To configure eventing properties:

1. Click **Configure>Slot**, then a specified slot (for example, slot0).
2. Expand **External Subscriber Monitor**.
3. Expand **Initial**, and then click **Directory Eventing**.

The Directory Eventing pane appears.

4. Enter the information as described in the Help text box.
5. Click **Apply**.

## Configuring Logging Destinations for External Subscriber Monitor

You can configure the logging destination to store messages in a file or a system logging facility (Syslog). You can create or modify loggers.

To configure logging destinations to store log messages:

1. Click **Configure>Slot**, then a specified slot (for example, slot0).
2. Expand **External Subscriber Monitor**.
3. From the Create new list, select **Logger**.
4. In the dialog box, type a name for the new logger, and click **OK**.

The name of the logger appears in the side pane and the Logger pane.

5. Expand the logger in the side pane, and then click **File** or **Syslog**.
6. Click **Create**, enter information as described in the Help text in the main pane, and click **Apply**.

### Related Documentation

- [Starting External Subscriber Monitor \(C-Web Interface\) on page 25](#)
- [Configuring External Subscriber Monitor \(SRC CLI\)](#)
- [Viewing Statistics for External Subscriber Monitor \(C-Web Interface\) on page 28](#)



- [External Subscriber Monitor Overview on page 3](#)

## Configuring the NIC Proxy for the Pseudo-RADIUS Server (SRC CLI)

Tasks to configure the NIC proxy are:

1. [Configuring Resolution Information for a NIC Proxy on page 13](#)
2. [Changing the Configuration for the NIC Proxy Cache on page 13](#)
3. [Configuring a NIC Proxy for NIC Replication on page 14](#)

### Configuring Resolution Information for a NIC Proxy

Use the following configuration statements to configure the NIC proxy:

```
slot number external-subscriber-monitor nic-proxy-configuration radius-accounting-nic
  resolution {
    resolver-name resolver-name;
    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 `radius-accounting-nic` is configured.

```
user@host# edit slot 0 external-subscriber-monitor nic-proxy-configuration
radius-accounting-nic resolution
```

2. Specify the resolution information for this NIC proxy.

```
[edit slot 0 external-subscriber-monitor nic-proxy-configuration radius-accounting-nic
resolution]
user@host# set ?
```

For more information about configuring resolution information for a NIC proxy, see *Configuring Resolution Information for a NIC Proxy (SRC CLI)*.

3. (Optional) Verify your configuration.

```
[edit slot 0 external-subscriber-monitor nic-proxy-configuration radius-accounting-nic
resolution]
user@host# show
```

### 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 configure the NIC proxy cache:

```
slot number external-subscriber-monitor nic-proxy-configuration radius-accounting-nic
  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 configures the NIC proxy configuration. In this sample procedure, the NIC proxy called `radius-accounting-nic` is configured.

```
user@host# edit slot 0 external-subscriber-monitor nic-proxy-configuration  
radius-accounting-nic cache
```

2. Specify the cache properties for the NIC proxy.

```
[edit slot 0 external-subscriber-monitor nic-proxy-configuration radius-accounting-nic  
cache]  
user@host# set ?
```

3. (Optional) Verify your configuration.

```
[edit slot 0 external-subscriber-monitor nic-proxy-configuration radius-accounting-nic  
cache]  
user@host# show
```

## 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 Normal editing level.

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

```
slot number external-subscriber-monitor nic-proxy-configuration radius-accounting-nic  
nic-host-selection {  
  groups groups;  
  selection-criteria (roundRobin | randomPick | priorityList);  
}  
slot number external-subscriber-monitor nic-proxy-configuration radius-accounting-nic  
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 `radius-accounting-nic` is configured.

```
user@host# edit slot 0 external-subscriber-monitor nic-proxy-configuration  
radius-accounting-nic nic-host-selection
```

2. (Optional) Configure NIC host selection for a NIC proxy.

```
[edit slot 0 external-subscriber-monitor nic-proxy-configuration radius-accounting-nic
nic-host-selection]
user@host# set ?
```

For more information about configuring NIC host selection for a NIC proxy, see *Configuring a NIC Proxy for NIC Replication (SRC CLI)*.

3. (Optional) Verify your configuration.

```
[edit slot 0 external-subscriber-monitor nic-proxy-configuration radius-accounting-nic
nic-host-selection]
user@host# show
```

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

```
[edit slot 0 external-subscriber-monitor nic-proxy-configuration radius-accounting-nic
nic-host-selection]
user@host# edit blacklisting
[edit slot 0 external-subscriber-monitor nic-proxy-configuration radius-accounting-nic
nic-host-selection blacklisting]
```

5. (Optional) Configure blacklisting for a NIC proxy.

```
[edit slot 0 external-subscriber-monitor nic-proxy-configuration radius-accounting-nic
nic-host-selection blacklisting]
user@host# set ?
```

For more information about configuring NIC host selection for a NIC proxy, see *Configuring a NIC Proxy for NIC Replication (SRC CLI)*.

6. (Optional) Verify your configuration.

```
[edit slot 0 external-subscriber-monitor nic-proxy-configuration radius-accounting-nic
nic-host-selection blacklisting]
user@host# show
```

#### Related Documentation

- [Configuring the NIC Proxy for the Pseudo-RADIUS Server \(C-Web Interface\) on page 15](#)
- [Configuring the Pseudo-RADIUS Server for External Subscriber Monitor \(SRC CLI\) on page 16](#)
- [External Subscriber Monitor Overview on page 3](#)

## Configuring the NIC Proxy for the Pseudo-RADIUS Server (C-Web Interface)

Tasks to configure the NIC proxy are:

1. [Configuring Resolution Information for a NIC Proxy on page 15](#)
2. [Changing the Configuration for the NIC Proxy Cache on page 16](#)
3. [Configuring a NIC Proxy for NIC Replication on page 16](#)

### Configuring Resolution Information for a NIC Proxy

To configure resolution information for a NIC proxy:

1. Click **Configure>Slot**, then a specified slot (for example, slot0),

2. Expand **External Subscriber Monitor**.
3. Click **NIC Proxy Configuration**.

The NIC Proxy Configuration pane appears.

## 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.

1. Click **Configure>Slot**, then a specified slot (for example, slot0).
2. Expand **External Subscriber Monitor**.
3. Expand **NIC Proxy Configuration**, and then expand **RADIUS Accounting NIC**.
4. Click **Resolution**.

The Resolution pane appears.

5. Enter the information as described in the Help text.
6. Click **Apply**.

## 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.

To configure a NIC proxy to use NIC replication:

1. Click **Configure>Slot**, then a specified slot (for example, slot0).
2. Expand **External Subscriber Monitor**.
3. Expand **NIC Proxy Configuration**, and then expand **RADIUS Authorization NIC**.
4. Click **Resolution**.

The Resolution pane appears.

5. Enter the information as described in the Help text.
6. Click **Apply**.

### Related Documentation

- [Configuring the Pseudo-RADIUS Server for External Subscriber Monitor \(C-Web Interface\) on page 18](#)
- [External Subscriber Monitor Overview on page 3](#)

## Configuring the Pseudo-RADIUS Server for External Subscriber Monitor (SRC CLI)

---

Use the following configuration statements to configure External Subscriber Monitor as a RADIUS accounting server:

```

slot number external-subscriber-monitor radius-accounting {
  port port;
  service-type (all | login | framed | callback-login | callback-framed | outbound |
    administrative | nas-prompt | authenticate-only | callback-nas-prompt | callback-check
    | callback-administrative);
  allow [allow...];
  deny [deny...];
  maximum-queue-length maximum-queue-length;
}

```

To configure the RADIUS accounting server:

1. From configuration mode, access the configuration statement that configures the RADIUS server.

```

user@host# edit slot 0 external-subscriber-monitor radius-accounting

```

2. (Optional) Specify the listening port for RADIUS requests.

```

[edit slot 0 external-subscriber-monitor radius-accounting]
user@host# set port port

```

3. (Optional) Specify the service type of the RADIUS packets that will be forwarded.

```

[edit slot 0 external-subscriber-monitor radius-accounting]
user@host# set service-type service-type

```

4. (Optional) Specify a list that filters which packets are forwarded to the SAE based on NAS ID or NAS IP.

```

[edit slot 0 external-subscriber-monitor radius-accounting]
user@host# set allow [allow...]

```

5. (Optional) Specify a list that filters which packets are forwarded to the SAE based on NAS ID or NAS IP.

```

[edit slot 0 external-subscriber-monitor radius-accounting]
user@host# set deny [deny...]

```

6. Specify the maximum number of unacknowledged RADIUS messages to be received from the RADIUS server before it discards new messages.

```

[edit slot 0 external-subscriber-monitor radius-accounting]
user@host# set maximum-queue-length set maximum-queue-length

```

7. (Optional) Verify your configuration.

```

[edit slot 0 external-subscriber-monitor radius-accounting]
user@host# show

```

#### Related Documentation

- [Configuring the Pseudo-RADIUS Server for External Subscriber Monitor \(C-Web Interface\) on page 18](#)
- [Configuring External Subscriber Monitor \(SRC CLI\) on page 7](#)
- [Configuring Event Notification for External Subscriber Monitor \(SRC CLI\) on page 19](#)
- [Configuring the NIC Proxy for the Pseudo-RADIUS Server \(SRC CLI\) on page 13](#)
- [Viewing Statistics for External Subscriber Monitor \(SRC CLI\) on page 27](#)

## Configuring the Pseudo-RADIUS Server for External Subscriber Monitor (C-Web Interface)

---

To configure the RADIUS accounting server:

1. Click **Configure**>**Slot**, then a specified slot (for example, slot0).
2. Expand **External Subscriber Monitor**.
3. Click **Radius Accounting**.  
The RADIUS Accounting pane appears.
4. Enter information as described in the Help text in the main pane, and click **Apply**.

### Related Documentation

- [Configuring External Subscriber Monitor \(C-Web Interface\) on page 11](#)
- [Configuring Event Notification for External Subscriber Monitor \(C-Web Interface\) on page 20](#)
- [Configuring the NIC Proxy for the Pseudo-RADIUS Server \(C-Web Interface\) on page 15](#)
- [Configuring the Pseudo-RADIUS Server for External Subscriber Monitor \(SRC CLI\) on page 16](#)
- [Viewing Statistics for External Subscriber Monitor \(C-Web Interface\) on page 28](#)

## Configuring the Client Secret for External Subscriber Monitor (SRC CLI)

---

Use the following configuration statements to configure trusted clients for External Subscriber Monitor. If no clients are configured, all RADIUS accounting packets are discarded.

```
slot number external-subscriber-monitor radius-accounting client client-address {  
  secrets secret;  
}
```

To configure trusted clients for External Subscriber Monitor:

1. From configuration mode, access the configuration statement that configures the RADIUS server, and specify the client address.

```
user@host# edit slot 0 external-subscriber-monitor radius-accounting client  
  client-address
```

2. Specify the shared secret of the RADIUS client.

```
[edit slot 0 external-subscriber-monitor radius-accounting]  
user@host# set secret secret
```

### Related Documentation

- [Configuring the Client Secret for External Subscriber Monitor \(C-Web Interface\) on page 19](#)
- [Configuring External Subscriber Monitor \(SRC CLI\) on page 7](#)

- [Configuring the Pseudo-RADIUS Server for External Subscriber Monitor \(SRC CLI\) on page 16](#)
- [Configuring Event Notification for External Subscriber Monitor \(SRC CLI\) on page 19](#)
- [External Subscriber Monitor Overview on page 3](#)

## Configuring the Client Secret for External Subscriber Monitor (C-Web Interface)

To configure trusted clients for External Subscriber Monitor:

1. Click **Configure>Slot**, then a specified slot (for example, slot0).
2. Expand **External Subscriber Monitor**.
3. Expand **Radius Accounting**, and click **Client**.  
The Client pane appears.
4. Enter information as described in the Help text in the main pane, and click **Apply**.

### Related Documentation

- [Configuring External Subscriber Monitor \(C-Web Interface\) on page 11](#)
- [Configuring Event Notification for External Subscriber Monitor \(C-Web Interface\) on page 20](#)
- [Configuring the NIC Proxy for the Pseudo-RADIUS Server \(C-Web Interface\) on page 15](#)
- [Configuring the Client Secret for External Subscriber Monitor \(SRC CLI\) on page 18](#)
- [External Subscriber Monitor Overview on page 3](#)

## Configuring Event Notification for External Subscriber Monitor (SRC CLI)

Use the following configuration statements to configure External Subscriber Monitor as a RADIUS accounting server:

```
slot number external-subscriber-monitor event-notification {
  event-threads event-threads;
  event-thread-idle-timeout event-thread-idle-timeout;
  event-retry-timeout event-retry-timeout;
  event-retry-interval event-retry-interval;
  session-timeout session-timeout;
}
```

To configure event notification:

1. From configuration mode, access the configuration statement that configures the event notification.  
`user@host# edit slot 0 external-subscriber-monitor event-notification`
2. (Optional. Available at the Advanced editing level.) Specify the maximum number of concurrent threads in a pool for event handlers. The value range is 1 through 2,147,483,647 seconds. By default, the value is set to 8.

[edit slot 0 external-subscriber-monitor event-notification  
user@host# set event-threads *event-threads*

- (Optional. Available at the Advanced editing level.) Specify the time to keep an event handler alive for reuse. The value range is 1 through 2,147,483,647 seconds. By default, the value is set to 300.

[edit slot 0 external-subscriber-monitor event-notification  
user@host# set event-thread-idle timeout *event-thread-idle-timeout*

- (Optional. Available at the Advanced editing level.) Specify the maximum retry time before an event is discarded. The value range is 1 through 2,147,483,647 seconds. By default, the value is set to 300.

[edit slot 0 external-subscriber-monitor event-notification]  
user@host# set event-retry-timeout *event-retry-timeout*.

- (Optional. Available at the Advanced editing level.) Specify the time to wait before the server retries failed events. The value range is 1 through 2,147,483,647 seconds. By default, the value is set to 30.

[edit slot 0 external-subscriber-monitor event-notification]  
user@host# set event-retry-interval *event-retry-interval*

- (Optional.) Specify the keepalive time for a RADIUS subscriber or service. The value range is -2,147,483,648 through 2,147,483,647 seconds. By default, the value is set to 1800.

[edit slot 0 external-subscriber-monitor event-notification]  
user@host# set session-timeout *session-timeout*

**Related  
Documentation**

- [Configuring Event Notification for External Subscriber Monitor \(C-Web Interface\) on page 20](#)
- [Configuring External Subscriber Monitor \(SRC CLI\) on page 7](#)
- [Configuring the Client Secret for External Subscriber Monitor \(SRC CLI\) on page 18](#)
- [External Subscriber Monitor Overview on page 3](#)

---

## Configuring Event Notification for External Subscriber Monitor (C-Web Interface)

To configure event notification for External Subscriber Monitor:

1. Click **Configure>Slot**, then a specified slot (for example, slot0).
2. Expand **External Subscriber Monitor**, and then click **Event Notification**.  
The Event Notification pane appears.
3. Enter information as described in the Help text in the main pane, and click **Apply**.

**Related  
Documentation**

- [Configuring External Subscriber Monitor \(C-Web Interface\) on page 11](#)
- [Configuring the Client Secret for External Subscriber Monitor \(C-Web Interface\) on page 19](#)



- [Configuring Event Notification for External Subscriber Monitor \(SRC CLI\)](#) on page 19
- [External Subscriber Monitor Overview](#) on page 3



## PART 3

# Administration

- [Management Tasks on page 25](#)
- [Routine Monitoring on page 27](#)



## CHAPTER 3

# Management Tasks

- [Starting External Subscriber Monitor \(SRC CLI\) on page 25](#)
- [Starting External Subscriber Monitor \(C-Web Interface\) on page 25](#)
- [Stopping External Subscriber Monitor \(SRC CLI\) on page 26](#)
- [Stopping External Subscriber Monitor \(C-Web Interface\) on page 26](#)

### Starting External Subscriber Monitor (SRC CLI)

---

To start External Subscriber Monitor:

- Start External Subscriber Monitor from its installation directory.

```
user@host# enable component extsubmon
```

#### Related Documentation

- [Starting External Subscriber Monitor \(C-Web Interface\) on page 25](#)
- [Stopping External Subscriber Monitor \(SRC CLI\) on page 26](#)
- [Configuring External Subscriber Monitor \(SRC CLI\) on page 7](#)
- [Viewing Statistics for External Subscriber Monitor \(SRC CLI\) on page 27](#)
- [External Subscriber Monitor Overview on page 3](#)

### Starting External Subscriber Monitor (C-Web Interface)

---

To start the External Subscriber Monitor:

1. Click **Manage>Enable**.  
The Enable pane appears.
2. From the Component list, select **exsubmonr**, and click **OK**.

#### Related Documentation

- [Starting External Subscriber Monitor \(SRC CLI\) on page 25](#)
- [Stopping External Subscriber Monitor \(C-Web Interface\) on page 26](#)
- [Configuring External Subscriber Monitor \(C-Web Interface\) on page 11](#)
- [Viewing Statistics for External Subscriber Monitor \(C-Web Interface\) on page 28](#)

- [External Subscriber Monitor Overview on page 3](#)

## Stopping External Subscriber Monitor (SRC CLI)

---

To stop External Subscriber Monitor:

- Stop External Subscriber Monitor from its installation directory.

```
user@host# disable component extsubmon
```

### Related Documentation

- [Stopping External Subscriber Monitor \(C-Web Interface\) on page 26](#)
- [Starting External Subscriber Monitor \(SRC CLI\) on page 25](#)
- [Viewing Statistics for External Subscriber Monitor \(SRC CLI\) on page 27](#)
- [External Subscriber Monitor Overview on page 3](#)

## Stopping External Subscriber Monitor (C-Web Interface)

---

To stop the External Subscriber Monitor:

1. Click **Manage>Disable**.  
The Disable pane appears.
2. From the Component list, select **exsubmonr**, and click **OK**.

### Related Documentation

- [Stopping External Subscriber Monitor \(SRC CLI\) on page 26](#)
- [Starting External Subscriber Monitor \(C-Web Interface\) on page 25](#)
- [Viewing Statistics for External Subscriber Monitor \(C-Web Interface\) on page 28](#)
- [External Subscriber Monitor Overview on page 3](#)

# Routine Monitoring

- Viewing Statistics for External Subscriber Monitor (SRC CLI) on page 27
- Viewing Statistics for External Subscriber Monitor (C-Web Interface) on page 28
- Monitoring Statistics for External Subscriber Monitor (SRC CLI) on page 28
- Viewing Statistics for External Subscriber Monitor Event Notifications (SRC CLI) on page 29
- Viewing Statistics for External Subscriber Monitor Event Notifications (C-Web Interface) on page 30
- Monitoring Statistics for External Subscriber Monitor Event Notifications (SRC CLI) on page 30
- Viewing Statistics for the Agent Process (SRC CLI) on page 31
- Viewing Statistics for the Agent Process (C-Web Interface) on page 31

## Viewing Statistics for External Subscriber Monitor (SRC CLI)

---

**Purpose** View RADIUS accounting statistics for External Subscriber Monitor.

**Action** user@host> `show external-subscriber-monitor statistics radius-accounting`

**Client Statistics**

Client Address	10.227.7.45
Number of accounting start received	4
Number of accounting stop received	0
Number of accounting interim received	0
Number of discarded accounting requests	0

**Meaning** [Table 4 on page 27](#) describes the output fields for the `show external-subscriber-monitor statistics radius-accounting` command. Output fields are listed in the order in which they appear.

**Table 4: Output Fields for show external-subscriber-monitor statistics radius-accounting**

Field Name	Field Description
Client Address	IP address of a RADIUS client. If not specified, displays statistics for all clients.
Number of accounting start received	Number of RADIUS start packets received.

**Table 4: Output Fields for show external-subscriber-monitor statistics radius-accounting (continued)**

Field Name	Field Description
Number of accounting stop received	Number of RADIUS stop packets received.
Number of accounting interim received	Number of RADIUS interim packets received.
Number of discarded accounting requests	Number of RADIUS packets discarded.

**Related Documentation**

- [Configuring External Subscriber Monitor \(SRC CLI\) on page 7](#)
- [Viewing Statistics for External Subscriber Monitor \(C-Web Interface\) on page 28](#)
- [Monitoring Statistics for External Subscriber Monitor \(SRC CLI\) on page 28](#)
- [Viewing Statistics for External Subscriber Monitor Event Notifications \(SRC CLI\) on page 29](#)
- [Viewing Statistics for the Agent Process \(SRC CLI\) on page 31](#)

## Viewing Statistics for External Subscriber Monitor (C-Web Interface)

**Purpose** View statistics for External Subscriber Monitor.

**Action**

1. Click **Monitor>Ext Sub Monitor>Statistics>RADIUS Accounting**.  
The Statistics/RADIUS Accounting pane appears.
2. In the Client Address box, enter the address of the client for which you want to view statistics.
3. Select an output style from the Style list.
4. Click **OK**.  
The Statistics/RADIUS Accounting pane displays the RADIUS statistics for External Subscriber Monitor.

**Related Documentation**

- [Configuring External Subscriber Monitor \(C-Web Interface\) on page 11](#)
- [Viewing Statistics for External Subscriber Monitor \(SRC CLI\) on page 27](#)
- [Viewing Statistics for External Subscriber Monitor Event Notifications \(C-Web Interface\) on page 30](#)
- [Viewing Statistics for the Agent Process \(SRC CLI\) on page 31](#)

## Monitoring Statistics for External Subscriber Monitor (SRC CLI)

**Purpose** Display real-time statistics for External Subscriber Monitor.



**Action** To display real-time statistics about RADIUS accounting for External Subscriber Monitor:

```
user@host> monitor external-subscriber-monitor radius-accounting client-address
client-address
```

To specify the time for refreshing the data:

```
user@host> monitor external-subscriber-monitor radius-accounting client-address
client-address interval interval
```

**Related Documentation** • [Viewing Statistics for External Subscriber Monitor \(SRC CLI\) on page 27](#)

## Viewing Statistics for External Subscriber Monitor Event Notifications (SRC CLI)

**Purpose** View statistics for the External Subscriber Monitor event notifications.

**Action** user@host> show external-subscriber-monitor statistics event-notifications

### Notification Statistics

```
Number of ipUp events      8
Number of ipDown events   0
Number of ipUp sent       0
Number of ipDown sent     0
Number of ipUp dropped    0
Number of ipDown dropped  4
Number of ipUp queued     0
Number of ipDown queued  0
Number of IpUp retries    0
Number of ipDown retries  0
```

**Meaning** [Table 5 on page 29](#) describes the output fields for the **show external-subscriber-monitor statistics event-notifications** command. Output fields are listed in the order in which they appear.

**Table 5: Output Fields for show external-subscriber-monitor statistics event-notifications**

Field Name	Field Description
Number of ipUp events	Total number of ipUp notification events received, including ipUp sent, ipUp dropped, and ipUp queued
Number of ipDown events	Total number of ipDown notification events received, including ipDown sent, ipDown dropped, and ipDown queued
Number of ipUp sent	Total number of ipUp notification events successfully sent
Number of ipDown sent	Total number of ipDown notification events successfully sent
Number of ipUp dropped	Total number of ipUp notification events dropped due to network failure or difficulties locating managed SAE
Number of ipDown dropped	Total number of ipDown notification events dropped due to network failure or difficulties locating managed SAE

**Table 5: Output Fields for show external-subscriber-monitor statistics event-notifications (continued)**

Field Name	Field Description
Number of ipUp queued	Total number of ipUp notification events queued to send to SAE
Number of ipDown queued	Total number of ipDown notification events queued to send to SAE
Number of IpUp retries	Total number of ipUp notification events resent tries
Number of IpDown retries	Total number of ipDown notification events resent tries
Number of Nic lookup retries	Total number of NIC lookup retries

- Related Documentation**
- [Configuring Event Notification for External Subscriber Monitor \(SRC CLI\) on page 19](#)
  - [Viewing Statistics for External Subscriber Monitor Event Notifications \(C-Web Interface\) on page 30](#)
  - [Monitoring Statistics for External Subscriber Monitor Event Notifications \(SRC CLI\) on page 30](#)
  - [Viewing Statistics for External Subscriber Monitor \(C-Web Interface\) on page 28](#)
  - [Viewing Statistics for the Agent Process \(SRC CLI\) on page 31](#)

## Viewing Statistics for External Subscriber Monitor Event Notifications (C-Web Interface)

**Purpose** View statistics for the External Subscriber Monitor notifications.

- Action**
- Click **Monitor>Ext Sub Monitor>Statistics>Event Notification**.
- The Statistics/Event Notification pane displays the event notification statistics for the External Subscriber Monitor.

- Related Documentation**
- [Configuring Event Notification for External Subscriber Monitor \(SRC CLI\) on page 19](#)
  - [Viewing Statistics for External Subscriber Monitor \(SRC CLI\) on page 27](#)

## Monitoring Statistics for External Subscriber Monitor Event Notifications (SRC CLI)

**Purpose** Display real-time statistics about event notifications for External Subscriber Monitor.

- Action** To display real-time statistics about event notifications for External Subscriber Monitor:
- ```
user@host> monitor external-subscriber-monitor event-notifications
```
- To specify the time for refreshing the data:
- ```
user@host> monitor external-subscriber-monitor event-notifications interval interval
```

- Related Documentation**
- [Viewing Statistics for External Subscriber Monitor Event Notifications \(SRC CLI\) on page 29](#)

## Viewing Statistics for the Agent Process (SRC CLI)

**Purpose** View statistics for the agent process.

**Action** user@host> `show external-subscriber-monitor statistics process`

**Process Statistics**

```
Up Time      Time1147 seconds since Thu Jan 31 15:56:39 EST 2008
Threads      246
Heap In Use   use142343 kilo bytes
Heap Limit    1012672 kilo bytes
```

**Meaning** [Table 6 on page 31](#) describes the output fields for the `show external-subscriber-monitor statistics process` command. Output fields are listed in the order in which they appear.

**Table 6: Output Fields for show external-subscriber-monitor statistics process**

Field Name	Field Description
Up time	Length of time the agent has been running on the system. Includes the date and time at which the agent was last started.
Threads	Number of threads in use.
Heap In Use	Heap size allocated by the Java Virtual Machine. The percentage indicates the percentage of the heap in use. We recommend that if the percent in use is more than 90% additional heap be allocated.
Heap Limit	Size of Java heap configured.

- Related Documentation**
- [Viewing Statistics for External Subscriber Monitor \(C-Web Interface\) on page 28](#)
  - [Viewing Statistics for External Subscriber Monitor Event Notifications \(SRC CLI\) on page 29](#)
  - [Viewing Statistics for the Agent Process \(C-Web Interface\) on page 31](#)

## Viewing Statistics for the Agent Process (C-Web Interface)

**Purpose** View statistics for the agent process.

- Action**
- Click **Monitor>Ext Sub Monitor>Statistics>Process**.

The Statistics/Process pane displays the process statistics for the agent.

**Related  
Documentation**

- [Viewing Statistics for the Agent Process \(SRC CLI\) on page 31](#)
- [Viewing Statistics for External Subscriber Monitor \(SRC CLI\) on page 27](#)
- [Viewing Statistics for External Subscriber Monitor Event Notifications \(C-Web Interface\) on page 30](#)

PART 4

# Troubleshooting

- [Troubleshooting Procedures on page 35](#)



## CHAPTER 5

# Troubleshooting Procedures

- [Collecting Data with the Activity Monitor \(SRC CLI\) on page 35](#)
- [Collecting Data with the Activity Monitor \(C-Web Interface\) on page 36](#)
- [Viewing Graphs \(C-Web Interface\) on page 37](#)
- [Viewing Graphs from a Web Page on page 37](#)

## Collecting Data with the Activity Monitor (SRC CLI)

---

You can collect data with the Activity Monitor for specific components over a specified time and save them to a tar.gz file in the `/opt/UMC/activity/var/ diagnostic/*` directory. You can view the exact file name and path after you execute the **request support information** command. Before you perform data collection with the Activity Monitor, make sure the filter for the specific components is enabled.

To perform data collection with the Activity Monitor:

- `user@host> request support information`

Some of the information retrieved includes:

- System log messages from the `/var/log/messages/*` directory.
- The configuration in text format, XML format, and set format.
- The host name in the name of the diagnostic file.

To perform data collection for specific components:

- `user@host> request support information component`

where ***component*** is one of the following:

- `acp`—SRC Admission Control Plug-In
- `activity`—Activity Monitor
- `agent`—SNMP agent
- `appsvr`—Application server
- `cli`—SRC CLI
- `diameter`—Diameter application

- dsa—Dynamic Service Activator
- extsubmon—External Subscriber Monitor
- ims—IP multimedia subsystem
- jdb—Juniper Networks database
- jps—Juniper Policy Server
- licSvr—License server
- nic—Network information collector
- redir—Redirect server
- sae—SAE
- webadm—C-Web interface

To perform data collection for a specified number of days:

- `user@host> request support information days`  
where *days* is in the range of 1–36500.

**Related  
Documentation**

- *Before You Load a Configuration*
- [Viewing Graphs \(C-Web Interface\) on page 37](#)
- [Viewing Graphs from a Web Page on page 37](#)
- *Monitoring Activity on C Series Controllers*

## Collecting Data with the Activity Monitor (C-Web Interface)

You can collect data with the Activity Monitor for specific components over a specified time. Before you configure data collection for the Activity Monitor, make sure the Activity Monitor (activity), CLI (cli), and C-Web interface (webadm) components are enabled.

To perform data collection with the Activity Monitor:

1. Click **Manage>Request>Support>Information**.  
The Support Information pane appears.
2. From the Components list, select the components you want to monitor, and click **OK**.
3. (Optional) Enter the number of days for which you want to collect data, and click **OK**.

**Related  
Documentation**

- [Viewing Graphs \(C-Web Interface\) on page 37](#)
- [Viewing Graphs from a Web Page on page 37](#)
- *Monitoring Activity on C Series Controllers*



## Viewing Graphs (C-Web Interface)

You can display graphs for components for which the Activity Monitor has collected data.

To display graphs from the Activity Monitor with the C-Web interface:

1. Click **Graphs**.
2. In the side pane, select the component and the graph that you want to display.  
The pane for selecting the time period displayed by the graph appears.
3. Select one of the preset values or enter the time range in the From and To boxes, and click **OK**.

The graphs appear.

### Related Documentation

- [Collecting Data with the Activity Monitor \(C-Web Interface\) on page 36](#)
- [Viewing Graphs from a Web Page on page 37](#)
- [Monitoring Activity on C Series Controllers](#)

## Viewing Graphs from a Web Page

You can display graphs for components for which the Activity Monitor has collected data from a Web page. Before you display these graphs, make sure the Activity Monitor (activity) and C-Web interface (webadm) components are enabled. For more secure displays, configure the C-Web interface to use HTTPS and use POST requests.

- [Viewing Graphs for a Preset Time Period from a Web Page on page 37](#)
- [Viewing Graphs for Specified Time Periods from a Web Page on page 38](#)

### Viewing Graphs for a Preset Time Period from a Web Page

To display graphs with preset time periods from the Activity Monitor from a Web page:

`http://ip-address/graph?&id=username&pw=password&.name=graph-name&time=time-period`

where

- **ip-address**—IP address of the C Series Controller
- **username**—Username used to log in to the C Series Controller
- **password**—Password used to log in to the C Series Controller
- **graph-name**—Name of graph to display in the format `<component>-<graph>`, where `<graph>` is the name of the graph as specified in the C-Web interface in all lowercase letters with hyphens separating words
- **time-period**—Period of time that data was collected for display in a graph in the format `<number><units>`

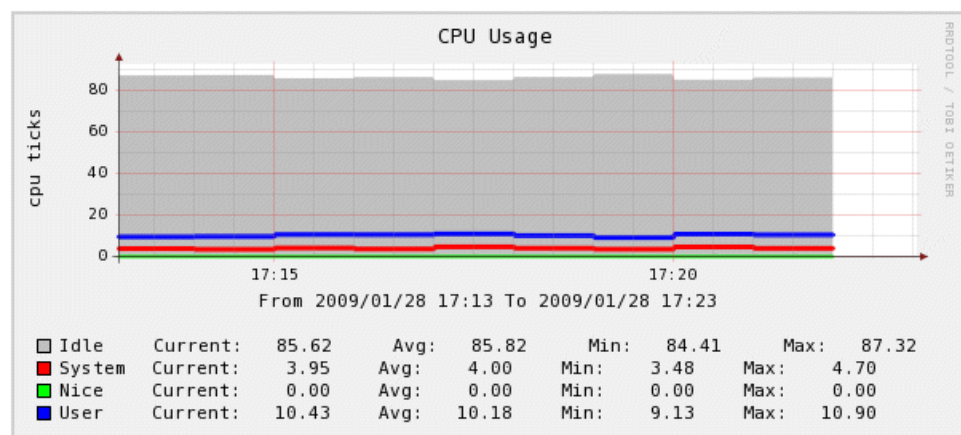
The *<number>* is the number of *<units>*, which are specified as one of the following values:

- m—minutes
- h—hours
- d—days
- w—weeks
- M—months
- y—years

For example, to view the CPU graph for the System component for the past 10 minutes on the C Series Controller called c2000 for the user admin:

<http://c2000/graph?&id=admin&pw=secret&name=system-cpu&time=10m>

The CPU Usage graph appears.



## Viewing Graphs for Specified Time Periods from a Web Page

To display graphs for specified time periods from the Activity Monitor from a Web page:

<http://ip-address/graph?&id=username&pw=password&name=graph-name&start=date-time&end=date-time>

where

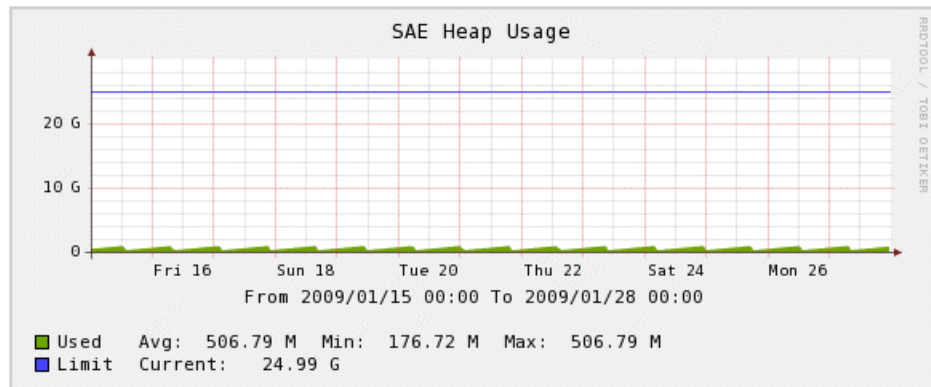
- *ip-address*—IP address of the C Series Controller
- *username*—Username used to log in to the C Series Controller
- *password*—Password used to log in to the C Series Controller

- **graph-name**—Name of graph to display in the format `<component>-<graph>`, where `<graph>` is the name of the graph as specified in the C-Web interface in all lowercase letters with hyphens separating words
- **date-time**—Date and time that data was collected for display in a graph in the format `yyyyMMddHHmm`, where:
  - yyyy—year
  - MM—month
  - dd—day
  - HH—hour
  - mm—minute

For example, to view the heap usage graph for the SAE component from January 15 to January 28 on the C Series Controller called c2000 for the user admin:

```
http://c2000/graph?&id=admin&pw=secret&name=sae-heap&start=200901150000
&end=200901280000
```

The SAE Heap Usage graph appears.



#### Related Documentation

- [Collecting Data with the Activity Monitor \(SRC CLI\) on page 35](#)
- [Collecting Data with the Activity Monitor \(C-Web Interface\) on page 36](#)
- [Viewing Graphs \(C-Web Interface\) on page 37](#)
- [Monitoring Activity on C Series Controllers](#)



PART 5

# Index

- [Index on page 43](#)



# Index

## A

Activity Monitor	
data collection.....	35, 36
graphs, viewing.....	37

## C

conventions	
notice icons.....	viii
text.....	viii
customer support.....	x
contacting JTAC.....	x

## D

documentation	
comments on.....	x

## E

External Subscriber Monitor	
acting as pseudo RADIUS server, C-Web interface.....	3
agent process statistics, viewing SRC CLI.....	31
changing configuration for NIC proxy cache, C-Web interface.....	16
configuring.....	7
configuring basic local properties.....	7
configuring basic local properties, C-Web interface.....	11
configuring client secret.....	18
configuring directory connection properties.....	8
configuring directory connection properties, C-Web interface.....	12
configuring event notification.....	19
configuring event notification, C-Web interface.....	20
configuring eventing properties.....	9
configuring eventing properties, C-Web interface.....	12
configuring initial properties.....	8
configuring initial properties, C-Web interface.....	11

configuring logging destinations.....	10
configuring, for C-Web interface.....	11
configuring, NIC proxy for NIC replication, C-Web interface.....	16
configuring, NIC proxy for pseudo-RADIUS server, C-Web interface.....	15
event notifications, monitoring SRC CLI.....	30
event notifications, viewing SRC CLI.....	29
IP address manager	
C-Web Interface.....	3
overview, C-Web interface.....	3
starting.....	25
C-Web interface.....	25
statistics, monitoring SRC CLI.....	28
statistics, viewing SRC CLI.....	27
stopping.....	26
C-Web interface.....	26

## M

manuals	
comments on.....	x

## N

NIC Proxy for Pseudo-RADIUS server	
configuring.....	13
NIC proxy for Pseudo-RADIUS server	
changing configuration.....	13
configuring for NIC replication.....	14
configuring resolution.....	13
notice icons.....	viii

## P

pseudo-RADIUS server	
configuring External Subscriber Monitor.....	16
configuring External Subscriber Monitor, C-Web interface.....	18, 19

## S

support, technical See technical support

## T

technical support	
contacting JTAC.....	x
text conventions.....	viii

