Chapter 9

Configuring Internal, External, and Synchronization Plug-Ins with the SRC CLI

This chapter describes how to use the SRC CLI to configure internal, external, and state synchronization plug-ins.

You can also use SDX Configuration Editor or SDX Admin to configure plug-ins on Solaris platforms. See *Chapter 10, Overview of Configuring Plug-Ins for Solaris Platforms*.

Topics in this chapter include:

Configuring Internal Plug-Ins

Use the following configuration statements to configure internal plug-ins:

```
shared sae configuration plug-ins pool name internal {
    plug-in-class plug-in-class;
}

shared sae configuration plug-ins pool name internal properties name {
    value;
}
```

To configure an internal plug-in:

1. From configuration mode, access the internal plug-in configuration.

   ```
   user@host# edit shared sae configuration plug-ins pool intnl internal
   ```

2. Configure the Java class name of the plug-in.

   ```
   [edit shared sae configuration plug-ins pool intnl internal]
   user@host# set plug-in-class plug-in-class
   ```

3. Access the internal plug-in property configuration.

   [edit shared sae configuration plug-ins pool intnl internal]
   user@host# **edit properties prop**

4. Configure properties that define the plug-in. Enter values in the format property name = expression.

   [edit shared sae configuration plug-ins pool internalPlugin internal properties prop]
   user@host# **set** *value*

Configuring the SAE for External Plug-Ins

You need to configure SAE external plug-ins for SAE plug-in agents in the NIC, for Admission Control Plug-Ins, and for custom plug-ins developed in Common Object Request Broker Architecture (CORBA). For information about external plug-ins, see *SRC-PE Network Guide, Chapter 1, Overview of the SAE*.

When you use an external plug-in, you need to export its object reference to the SAE. When the SAE sends the first event to a registered plug-in, it resolves the object reference. In case of a failure, the SAE resolves the object reference again. In this case, if a plug-in restarts and instantiates a different object (that is, a different object reference), the SAE learns about the new object through the naming service or the file reference.

You can configure the SAE to resolve the object reference and specify which attributes to send to the external plug-in. To do so with the SRC CLI, use the following configuration statements:

```
shared sae configuration plug-ins pool name external {
    corba-object-reference corba-object-reference;
    attr [(host | router-name | interface-name | interface-alias | interface-descr | port-id |
    user-ip-address | login-name | accounting-id | auth-user-id | if-radius-class |
    if-session-id | service-name | radius-class | event-time | session-id |
    terminate-cause | session-time | in-octets | out-octets | in-packets | out-packets |
    nas-ip | user-mac-address | service-session-name | service-session-tag | user-type |
    user-radius-class | user-session-id | primary-user-name | subscription-name |
    login-id | if-index | event-time-millisecond | nas-port | operational | user-inet-address
    | nas-inet-address | router-type | interface-speed | service-bundle | user-dn | uid |
    domain | retailer-dn | password | service-scope | session-timeout |
    downstream-bandwidth | upstream-bandwidth | dhcp-packet | aggr-session-id |
    aggr-login-name | aggr-user-dn | aggr-user-inet-address | aggr-accounting-id |
    aggr-auth-user-id)...];
}
```

To configure an external plug-in:

1. From configuration mode, access the external plug-in configuration.

   user@host# **edit shared sae configuration plug-ins pool NicAgent external**

2. Configure the object reference of the external plug-in that is exported to the SAE.

   [edit shared sae configuration plug-ins pool NicAgent external]
   user@host# **set corba-object-reference** *corba-object-reference*

3. Configure the attributes that are sent to the external plug-in.

   [edit shared sae configuration plug-ins pool NicAgent external]
   user@host# **set attr** [(host | router-name | interface-name | interface-alias | ...)...]

4. (Optional) Verify your configuration.

```
[edit shared sae configuration plug-ins pool NicAgent external]
user@host# show

corba-object-reference corbaloc:boston:8801/nic;
attributes [ router-name router-type interface-descr interface-speed
service-bundle ];
```

Configuring the State Synchronization Plug-In Interface

Some external plug-ins, such as the Admission Control Plug-In (ACP) application and the SAE plug-in agent for the NIC, support state synchronization with the SAE. The state synchronization plug-in interface allows external plug-ins to maintain the state of active subscriber, service, and interface sessions without having to store intermediate versions of the state locally.

Use the following configuration statements to configure the state synchronization plug-in:

```
shared sae configuration plug-ins state-synchronization {
    fail-queue-size fail-queue-size;
    fail-queue-age fail-queue-age;
    batch-time batch-time;
    keepalive-time keepalive-time;
}

shared sae configuration plug-ins manager {
    threads threads;
}
```

To configure the state synchronization plug-in interface:

1. From configuration mode, access the state synchronization plug-in configuration.

   user@host# **edit shared sae configuration plug-ins state-synchronization**

2. Configure the maximum number of plug-in events that are stored while the communication with a state synchronization plug-in is interrupted.

   [edit shared sae configuration plug-ins state-synchronization]
   user@host# **set fail-queue-size** *fail-queue-size*

3. Configure the maximum time that plug-in events are stored while the communication with a state synchronization plug-in is interrupted.

   [edit shared sae configuration plug-ins state-synchronization]
   user@host# **set fail-queue-age** *fail-queue-age*

4. Configure the time that the SAE waits for other plug-ins to become ready before starting a synchronization sequence.

   [edit shared sae configuration plug-ins state-synchronization]
   user@host# **set batch-time** *batch-time*

5. Configure the time that the SAE waits after an event before sending a ping to the remote plug-in.

   [edit shared sae configuration plug-ins state-synchronization]
   user@host# **set keepalive-time** *keepalive-time*

6. Configure the number of threads that the SAE maintains for plug-in synchronization.

   [edit shared sae configuration plug-ins state-synchronization]
   user@host# **up**
   user@host# [edit shared sae configuration plug-ins]
   user@host# **set manager threads 5**

7. (Optional) Verify your configuration.

```
[edit shared sae configuration plug-ins state-synchronization]
user@host# show
fail-queue-size 5000;
fail-queue-age -1;
batch-time 60;
keepalive-time 60;

user@host# [edit shared sae configuration plug-ins]
user@host# show
threads 5;
```