Chapter 15
Configuring Admission Control with the C-Web Interface

This chapter describes how to use the C-Web interface to configure the SRC Admission Control Plug-In (SRC-ACP) application for use in the SRC network. You can use the C-Web interface to configure SRC-ACP on a Solaris platform or on a C-series platform.

You can also use the following to configure SRC-ACP:

- To use the SRC CLI, see *SRC-PE Network Guide, Chapter 21, Configuring Admission Control with the SRC CLI*.

- To use the Solaris platform, see *SRC-PE Network Guide, Chapter 26, Providing Admission Control with SRC-ACP on a Solaris Platform*.

Topics in this chapter include:

- Configuring SRC-ACP on page 124

- Creating Grouped Configurations for SRC-ACP with the C-Web Interface on page 124

- Configuring Local Properties for SRC-ACP on page 125

- Configuring the SAE for SRC-ACP with the C-Web Interface on page 126

- Configuring SRC-ACP Properties on page 128

- Configuring SRC-ACP to Manage the Edge Network on page 133

- Configuring SRC-ACP to Manage the Backbone Network on page 135

- Configuring Congestion Point Classification with the C-Web Interface on page 138

- Defining a Congestion Point Profile on page 140

Configuring SRC-ACP

To use SRC-ACP in the SRC network, you must perform some configuration. For information about these configuration procedures, see:

1. (Optional) Creating Grouped Configurations for SRC-ACP with the C-Web Interface on page 124

2. Configuring Local Properties for SRC-ACP on page 125

3. Configuring the SAE for SRC-ACP with the C-Web Interface on page 126

4. Configuring SRC-ACP Properties on page 128

5. (Edge and dual mode only) Configuring SRC-ACP to Manage the Edge Network on page 133

6. (Backbone and dual mode only) Configuring SRC-ACP to Manage the Backbone Network on page 135

You can automate and scale the configuration of congestion points using congestion point classification. For more information, see *SRC-PE Network Guide, Chapter 22, Configuring Congestion Point Classification with the SRC CLI* and Configuring Congestion Point Classification with the C-Web Interface on page 138.

Creating Grouped Configurations for SRC-ACP with the C-Web Interface

We recommend that you configure SRC-ACP within a group. When you create a configuration group, the software creates a configuration with default values filled in.

Configuration groups allow you to share the SRC-ACP configuration with different SRC-ACP instances in the SRC network. You can also set up different configurations for different instances.

You can then create a grouped SRC-ACP configuration that is shared with some SRC-ACP instances. For example, if you create two different SRC-ACP groups called config1 and config2 within the shared SRC-ACP configuration, you could select the SRC-ACP configuration that should be associated with a particular SRC-ACP instance.

Configuring an SRC-ACP Group

To select a group for an SRC-ACP instance as part of the local configuration:

1. Click **Configure,** expand **Slot** to configure the group, and then click **ACP**.

   The ACP pane appears

2. Type a name for the new group in the Shared box using the **/ < path >** format, and click **Apply**.

3. To configure the desired group, click **Configure > Shared > ACP**, select the group, and configure the SRC-ACP properties.

Related Topics

- For more information, see *Configuring Basic Local Properties for SRC-ACP* on page 125.

- For more information, see *Configuring SRC-ACP Properties* on page 128.

Configuring Local Properties for SRC-ACP

To configure the local properties for SRC-ACP:

1. Configure basic local properties, including Java heap memory.

   See *Configuring Basic Local Properties for SRC-ACP* on page 125.

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

   See *Configuring Initial Properties for SRC-ACP* on page 125.

   See *Configuring Directory Connection Properties for SRC-ACP* on page 125.

   See *Configuring Initial Directory Eventing Properties for SRC-ACP* on page 126.

Configuring Basic Local Properties for SRC-ACP

To configure basic local properties:

1. Click **Configure > Slot > Slot:0 > ACP**.

2. Enter information as described in the Help text in the main pane, and click **Apply**.

Configuring Initial Properties for SRC-ACP

To configure initial properties for SRC-ACP:

1. Click **Configure > Slot > Slot:0 > ACP > Initial**.

2. If desired, specify the properties for ACP as described in the Help text in the main pane, and click **Apply**.

Configuring Directory Connection Properties for SRC-ACP

To configure directory connection properties:

1. Click **Configure > Slot > Slot:0 > ACP > Initial > Directory Connection.**

   The Directory Connection pane appears.

2. Enter information as described in the Help text in the main pane, and click **Apply**.

Configuring Initial Directory Eventing Properties for SRC-ACP

To configure initial directory eventing properties:

1. Click **Configure > Slot > Slot:0 > ACP > Initial > Directory Eventing.**

   The Directory Eventing pane appears.

2. Enter information as described in the Help text in the main pane, and click **Apply**.

Related Topics

■ 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*.

Configuring the SAE for SRC-ACP with the C-Web Interface

You must configure the SAE to recognize SRC-ACP by adding information about SRC-ACP to the SAE properties. To do so:

1. Configure SRC-ACP as an external plug-in for the SAE.

2. Configure event publishers.

3. (Backbone and dual mode only) Optionally, configure a hosted plug-in that monitors the state of interfaces on VRs.

Configuring SRC-ACP as an External Plug-In

To configure SRC-ACP as an external plug-in for the SAE:

1. Click **Configure > Shared > SAE**, and then expand the SAE group for which you want to configure a plug-in.

   The Group pane appears.

2. From the side pane, expand **Configuration > Plug Ins**.

   The Plug Ins pane appears.

3. In the Create new list, select **Name**.

4. Type a name for the new plug-in in the dialog box, and click **OK**.

   The plug-in appears in the side pane and in the Plug In pane.

5. From the side pane, expand the new plug-in, and then click **External**.

   The External pane appears.

6. Click **Create**, enter information as described in the Help text in the main pane, and click **Apply**.

Configuring Event Publishers

You must configure the SAE to publish the following types of events to SRC-ACP:

- (Edge and dual mode only) Global subscriber tracking

- Global service authorization

- Global service tracking

Configuring the SAE to Monitor Interfaces for Congestion Points

NOTE: Configure this feature only if SRC-ACP is in backbone or dual mode.

The SAE uses a hosted internal plug-in to monitor the state of interfaces on a VR for backbone congestion points. If a subscriber tries to activate a service on an interface that is unavailable, the SAE denies the request. The plug-in also monitors the directory for new backbone congestion points.

When this plug-in initializes, it reads all the backbone services from the directory and generates a list of the DNs (network interfaces) of the backbone congestion points. The SAE sends interface tracking events, which contain the names of the interfaces, VRs, and routers to this plug-in. For this feature to work correctly, the interface, VR, and router must be configured (see *Configuring Network Interfaces in the Directory (Backbone Network)* on page 135).

To configure the ACP interface listener as an internal plug-in for the SAE:

1. Click **Configure > Shared > SAE**, and then expand the SAE group for which you want to configure RADIUS plug-ins.

   The Group pane appears.

2. From the side pane, expand **Configuration > Plug-Ins**.

3. Expand the plug-in that you created for file accounting, and then click **ACP Interface Listener**.

   The ACP Interface Listener pane appears.

4. Click **Create,** enter information as described in the Help text in the main pane, and click **Apply**.

Related Topics

- For information about setting up SAE groups, see *Chapter 8, Setting Up an SAE with the C-Web Interface*.

- For information about creating a plug-in instance for a group, see *Chapter 27, Configuring Internal, External, and Synchronization Plug-Ins with the C-Web Interface*.

■ For information about configuring event publishers, see *Chapter 28, Configuring Accounting and Authentication Plug-Ins with the C-Web Interface*. Identify the instance of SRC-ACP by the name of the host on which you configured it.

■ For information about creating a plug-in instance for a group, see *SRC-PE Subscribers and Subscriptions Guide, Chapter 9, Configuring Internal, External, and Synchronization Plug-Ins with the SRC CLI*.

Configuring SRC-ACP Properties

To configure SRC-ACP properties, perform these tasks:

■ Configuring Logging Destinations for SRC-ACP on page 128

■ Configuring SRC-ACP Operation on page 129

■ Configuring CORBA Interfaces on page 132

■ Configuring SRC-ACP Redundancy on page 132

■ Configuring Connections to the Subscribers' Directory on page 132

■ Configuring Connections to the Services' Directory on page 132

■ Configuring SRC-ACP Scripts and Classification on page 133

Configuring Logging Destinations for SRC-ACP

SRC-ACP groups contain default file logging configurations. You can modify an existing configuration or create a new one.

To modify logging destinations that store log messages in a file:

1. Click **Configure > Shared > ACP**, expand the group for which you want to configure logging and expand **Configuration**.

   Several Logger:file configurations appear.

2. In the Create new list, select **Logger**.

3. Type a name for the new logger in the dialog box, and click **OK**.

   The logger appears in the side pane.

4. Select the configuration that you want to modify, enter information as described in the Help text in the main pane, and click **Apply**.

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

1. Click **Configure > Shared > ACP**, and expand the group for which you want to configure logging destinations and expand **Configuration**.

2. From the Create new list, select **Logger**.

3. Type a name for the new logging configuration, and click **OK**.

   The logger appears in the side pane.

4. Expand the new logging configuration, select **File**, and enter information as described in the Help text in the main pane, and click **Apply**.

You can configure logging destinations to send log messages to the system logging facility. SRC-ACP groups contain default system logging configurations. You can modify an existing configuration or create a new one.

To modify an existing system logging configuration:

1. Click **Configure > Shared > ACP**, expand the group for which you want to modify an existing configuration, and expand **Configuration**.

   Several Logger:syslog configurations appear.

2. Select the configuration that you want to modify, enter information as described in the Help text in the main pane, and click **Apply**.

To create a configuration that causes logging destinations to send log messages to the system logging facility:

1. Click **Configure > Shared > ACP**, and expand the group for which you want to modify an existing configuration.

2. In the Create new list, select **Logger**. Type a name for the new logging configuration, and click **OK**.

   The logger appears in the side pane.

3. Expand the new logging configuration, select **Syslog**, and enter information as described in the Help text in the main pane, and click **Apply**.

Configuring SRC-ACP Operation

To configure SRC-ACP operation:

1. Click **Configure > Shared > ACP**, expand the group for which you want to modify an existing configuration, and expand **Configuration**.

2. Click **ACP Options,** enter information as described in the Help text in the main pane, and click **Create**.

Specifying Values That SRC-ACP Looks for in Remote Update Database

In the Remote Update Database Index Keys box, you specify the values that SRC-ACP looks for in the remote update database. Specifying index keys can improve performance by filtering the data. Configure the index keys by entering a list of attributes, separated by commas. An attribute is one of the following text strings:

- accountingId—Value of directory attribute accountingUserId.

- dhcpPacket—Content of the DHCP discover request.

- hostname— Name of the host on which the SAE is installed.

- ifIndex—SNMP index of the interface. This attribute is not supported on JUNOS routing platforms.

- ifRadiusClass—RADIUS class attribute on the JUNOSe interface. This attribute is not supported on JUNOS routing platforms.

- ifSessionId—Identifier for RADIUS accounting on the JUNOSe interface. This attribute is not supported on JUNOS routing platforms.

- interfaceAlias—Alias of the interface; that is, the IP description in the interface configuration.

- interfaceDescr—SNMP description of the interface.

- interfaceName—Name of the interface.

- loginName—Subscriber's login name.

- nasInetAddress—IP address of the router; using a byte array instead of an integer.

- nasPort—NAS port used by the router to identify the interface to RADIUS.

- portId—Identifier of VLAN or virtual circuit. For a virtual circuit, use the format <VPI>/<VCI>. This attribute is not supported on JUNOS routing platforms.

  - <VPI>—Virtual path identifier

  - <VCI>—Virtual connection identifier

- primaryUserName—PPP login name or the public DHCP username. This attribute is not supported on JUNOS routing platforms.

- routerName—Name of the virtual router in the format <virtualRouter>@<router>.

  - <virtualRouter>—Virtual router name

  - <router>—Router name

- routerType—Type of router driver.

■ userInetAddress—IP address of the subscriber that uses a byte array instead of an integer.

■ userMacAddress—MAC address of the DHCP subscriber. This attribute is not supported on JUNOS routing platforms.

■ userRadiusClass—RADIUS class attribute of the subscriber session for a service. This attribute can occur multiple times and can be returned by an authorization plug-in.

■ userType—Type of subscriber.

Specifying Interface Tracking Events That SRC-ACP Ignores

In the Interface Tracking Filter box, you specify the interface tracking events that the SRC-ACP ignores. The value is filter strings in the format of a list of < attribute > = < value > pairs. The filter strings can be contained within query operations.

■ < attribute >—Name of an attribute for an interface tracking event.

■ < value >—Filtering string of the following types:

   ■ *—Any value

   ■ Explicit string—Any value matching the specified string (not case-sensitive)

   ■ String containing an asterisk—Any value containing the specified string (not case-sensitive)

■ To perform query operations on filter strings, you can use the following values in your filter strings:

   ■ ()—Match no objects.

   ■ (*)—Match all objects.

   ■ (& < filter > < filter > ...)—Performs logical AND operation on filter strings; true if all filter strings match.

   ■ (| < filter > < filter > ...)—Performs logical OR operation on filter strings; true if at least one filter string matches.

   ■ (! < filter >)—Performs logical NOT operation on filter string; true if the filter string does not match.

Configuring CORBA Interfaces

To configure CORBA interfaces:

1. Click **Configure > Shared > ACP > Configuration,** and then click **CORBA**.

   The CORBA pane appears.

2. Click **Create**, enter information as described in the Help text in the main pane, and click **Apply**.

Configuring SRC-ACP Redundancy

To configure SRC-ACP redundancy and state synchronization with the SAE:

1. Click **Configure > Shared > ACP > Redundancy**.

   The Redundancy pane appears.

2. Enter information as described in the Help text in the main pane, and click **Apply**.

Configuring Connections to the Subscribers' Directory

To configure how SRC-ACP connects to the directory that stores subscriber information:

1. Click **Configure > Shared > ACP > LDAP**, and expand **Subscriber Data**.

   The Subscriber Data pane appears.

2. Enter information as described in the Help text in the main pane, and click **Apply**.

Configuring Connections to the Services' Directory

To configure how SRC-ACP connects to the directory that stores service information:

1. Click **Configure > Shared > ACP > LDAP**, and expand **Service Data**.

   The Service Data pane appears.

2. Enter information as described in the Help text in the main pane, and click **Apply.**

Configuring SRC-ACP Scripts and Classification

To configure SRC-ACP scripts and classification:

1. Click **Configure > Shared > ACP > Configuration** and then expand **Scripts and Classification**.

   The Scripts and Classification pane appears.

2. Click **Create**, enter information as described in the Help text in the main pane, and click **Apply.**

Configuring SRC-ACP to Manage the Edge Network

To configure SRC-ACP to manage the edge network, you must:

1. Configure network interfaces that represent locations of congestion points in the directory.

2. Configure guaranteed bandwidths for subscribers.

3. Assign network interfaces to subscribers.

4. Configure guaranteed bandwidths for services.

Configuring Network Interfaces in the Directory (Edge Network)

You must add network interfaces to the directory. For the edge network, you do so by specifying the network interfaces of the routers and the switches in the access network between subscribers and the SRC network.

To configure the network interfaces of the routers and the switches in the access network:

1. Click **Configure > Shared > Admission Control**, expand the desired device.

2. If the device does not exist, from the Create new list, select **Interface**. Type a name for the new interface in the dialog box, and click **OK**.

   The Interface pane appears.

3. Enter information as described in the Help text in the main pane, and click **Apply**.

Configuring Bandwidths for Subscribers (Edge Network)

You must configure bandwidths for subscribers that SRC-ACP manages in the edge region of the network.

If congestion points cannot be derived from network access information, you must provide the following information for each subscriber.

- Provisioned downstream bandwidth

- Provisioned upstream bandwidth

- Actual downstream bandwidth for the current subscriber session

- Actual upstream bandwidth for the current subscriber session

- List of DNs of interfaces associated with congestion points

For further information, see *SRC-PE Network Guide, Chapter 20, Overview of Providing Admission Control with SRC-ACP*.

To configure bandwidths for subscribers:

1. Click **Configure > Subscribers**.

2. In the side pane, expand the desired retailer, expand the desired subscriber folder, and expand the desired subscriber.

    The Admission Control pane appears.

3. Click **Create**, enter information as described in the Help text in the main pane, and click **Apply**.

Assigning Network Interfaces to Subscribers

You must assign to the subscriber object interfaces (including the router interfaces) for all congestion points between the subscriber and the router.

☞ **NOTE:** You must define the interface in the directory before you can assign it to a residential subscriber (see *Configuring Network Interfaces in the Directory (Edge Network)* on page 133).

To assign an interface:

1. Click **Configure > Subscribers**.

2. In the side pane, expand the desired retailer, and then click the desired subscriber folder.

    The Admission Control pane appears.

3. Enter information in the Congestion Points box as described in the Help text in the main pane, and click **Apply**.

Configuring Bandwidths for Services

Upstream and downstream bandwidths must be specified for services that SRC-ACP manages. You can obtain bandwidths for services in two ways:

- Provide static values through the directory.

- Allow the values to be provided through the SAE core API.

    For example, a business partner may need to specify the required values for a particular piece of content through the SAE core API.

To configure values for services:

1. For global configuration, click **Configure > Services > Global** and expand **Service.**

2. For scope configuration, click **Configure > Services > Scope** and expand **Service.**

3. In the side pane, expand the desired service and click **Admission Control**.

   The Admission Control pane appears.

4. Click **Create**, enter information as described in the Help text in the main pane, and click **Apply**.

Related Topics

■ For information about configuring subscribers, see *Chapter 29, Configuring Subscribers and Subscriptions with the C-Web Interface*.

■ For more information about configuring residential subscribers, see *SRC-PE Subscribers and Subscriptions Guide, Chapter 12, Configuring Subscribers and Subscriptions with the SRC CLI*.

■ For more information about configuring services, see *SRC-PE Services and Policies Guide, Chapter 1, Managing Services with the SRC CLI*.

Configuring SRC-ACP to Manage the Backbone Network

To configure SRC-ACP to manage the backbone network, you must:

1. Configure network interfaces that represent locations of congestion points in the directory.

2. (Optional) Configure an action congestion point.

3. Configure guaranteed bandwidths for services.

4. Assign network interfaces to services.

5. Create congestion points in the directory.

6. Assign network interfaces to congestion points.

Configuring Network Interfaces in the Directory (Backbone Network)

You configure network interfaces in the directory in the same way for edge and backbone congestion points. However, for backbone congestion points, you can add only VRs and their interfaces. For information about this procedure, see *Configuring Network Interfaces in the Directory (Edge Network)* on page 133.

Extending SRC-ACP Congestion Points

You can extend SRC-ACP congestion points to initialize and execute applications defined in a backbone congestion point. SRC-ACP provides a service provider interface (SPI) to:

- Create custom congestion point applications that authorize service activation and track service start and stop events.

- Obtain congestion point information from remote updates.

- Retrieve congestion point status.

- Track congestion point state.

The SPI for ACP provides a Java interface that a congestion point application implements. For information about the SPI for ACP, see the documentation in the SRC application library distribution in the folder *SDK/doc/acp*.

The implementation of the SPI for ACP can be a customized application that performs certain tasks, such as creating or removing congestion points on the router. SRC-ACP acts as an interface tracking plug-in, and interface tracking events are treated as remote updates for congestion points when they are created, modified, or removed.

SRC-ACP supports applications written in Java or Jython. For scripts written in Java, you must compile and package the implemented SPI for ACP to make it available for use by SRC-ACP. A Java implementation can include more than one Java archive (JAR) file.

To use congestion point applications with SRC-ACP, configure an action congestion point that references the script (see *Configuring Action Congestion Points* on page 136).

Configuring Action Congestion Points

You can define an application in a backbone congestion point so that SRC-ACP can execute it in a predefined manner. Backbone congestion points that are configured to run an application are called action congestion points. If you want to use an action congestion point to execute an application that requires real-time congestion point status, you must enable SRC-ACP state synchronization with the SAE (see *Configuring SRC-ACP Redundancy* on page 132).

Before you configure an action congestion point, make sure that you know the location of the application file.

To configure an action congestion point:

1. Click **Configure > Shared**, and expand **Service**.

2. In the side pane, expand the desired retailer, and then click the desired subscriber folder.

    The Admission Control pane appears.

3. Enter information in the Congestion Points box as described in the Help text in the main pane, and click **Apply**.

Configuring Bandwidths for Services (Backbone Network)

You configure bandwidths for services in the same way for edge and backbone congestion points. For information about this procedure, see *Configuring Bandwidths for Services* on page 134.

Configuring Congestion Points for Services

You must assign a congestion point to each service that SRC-ACP manages.

To configure values for services:

1. For global configuration, click **Configure > Services > Global** and expand **Service.**

2. For scope configuration, click **Configure > Services > Scope** and expand **Service.**

3. In the side pane, expand the desired service, and click **Admission Control**.

    The Admission Control pane appears.

4. Enter information as described in the Help text in the main pane, and click **Apply**.

Configuring Congestion Points in the Directory

To configure individual backbone congestion points:

1. Click **Configure > Shared > Congestion Points.**

    The Congestion Points pane appears.

2. In the Create new list, select **Profile**. Type a name for the new profile in the dialog box, and click **OK**.

    The Congestion Point Profile screen appears.

3. Enter information as described in the Help text in the main pane, and click **Apply**.

Assigning Interfaces to Congestion Points

You must assign interfaces either to VRs or to individual services under the VRs. Services inherit interface assignments from the associated VR unless you assign an interface to the individual service. This network interface lists the DNs of interfaces associated with backbone congestion points.

To assign interfaces to congestion points:

1. Click **Configure > Shared > Congestion Points.**

2. In the side pane, expand the desired profile**.**

   The Profile pane appears.

3. Enter information as described in the Help text in the main pane, and click **Apply**.

Related Topics

- For more information about configuring services, see *SRC-PE Services and Policies Guide, Chapter 1, Managing Services with the SRC CLI.*

Configuring Congestion Point Classification with the C-Web Interface

Congestion point classification allows you to automate and scale the configuration of congestion points. SRC-ACP uses classification scripts to determine which congestion point to load for a subscriber. SRC-ACP can select the congestion point from congestion point profiles or subscriber profiles.

Congestion Point Classification Scripts

The congestion point classification scripts consist of targets and criteria.

- A target is the result of the classification script. The result of congestion point classification scripts is an LDAP search string that is used to find a unique congestion point profile in the directory. If no classification scripts are configured, the result of congestion point classification scripts is an LDAP search string for the subscriber profile of the particular subscriber.

- Criteria are match criteria. The script attempts to match criteria in the script to information sent from the router.

Each script can have multiple targets, and each target can have multiple criteria. When an object needs classification, the script processes the targets in turn. Within each target, the script processes criteria sequentially. When it finds that the classification criteria for a target match, it returns the target to SRC-ACP.

Because classification scripts examine criteria sequentially as the criteria appear in the script, you should put more specific criteria at the beginning of the script and less specific criteria at the end of the script.

Congestion Point Profiles

Congestion point profiles are used to share congestion points that are generated based on dynamic configuration information. SRC-ACP uses congestion point profiles to determine the set of congestion points based on the classification script results.

Configuring Targets and Criteria for Classification Scripts

To define a target and criteria for the congestion point classification script:

1. Click **Configure > Shared > ACP > Configuration > Scripts and Classification**.

    The Scripts and Classification pane appears.

2. Click **Create**, enter information as described in the Help text in the main pane, and click **Apply**.

Configuring Classification Scripts Contents for Classification Scripts

To use the contents of a classification script to point to another object for the congestion point classification script:

1. Click **Configure > Shared > ACP,** expand the desired group, and click **Congestion Point Classifier.**

    The Congestion Point Classifier pane appears.

2. In the Create new list, select **Rule.**

3. Type a name for the new rule, and click **OK**.

4. In the side pane, expand the new rule, enter information for the script as described in the Help text in the main pane, and click **Apply**.

Configuring Congestion Point Classification Targets

The target of the congestion point classification script is an LDAP search string. The search string uses a syntax similar to an LDAP URL (see RFC 2255—The LDAP URL Format (December 1997)). The syntax is:

baseDN [? [attributes] [? [scope] [? [filter]]]]

■   baseDN—Distinguished name (DN) of the object where the LDAP search starts.

■   attributes—Is ignored.

■   scope—Scope of search in the directory:

   ■   base—Default; searches the base DN only.

   ■   one—Searches the direct children of the base DN.

   ■   sub—Searches the complete subtree below the base DN.

- filter—An RFC 2254–style LDAP search filter expression; for example, (uniqueId = <-userName->). See RFC 2254—The String Representation of LDAP Search Filters (December 1997).

With the exception of baseDN all the fields are optional.

The result of the LDAP search must be exactly one directory object. If no object or more than one object is found, congestion points for the subscriber are not loaded, and all service activations for the subscriber are denied.

Selecting Congestion Point Classification Criteria

Congestion point classification criteria define match criteria that are used to find the congestion point profile. See *SRC-PE Network Guide, Chapter 22, Configuring Congestion Point Classification with the SRC CLI.*

Defining a Congestion Point Profile

You can create a congestion point profile that automatically performs congestion point classification. This profile supports only edge mode and dual mode for SRC-ACP.

To define a congestion point profile:

1. Click **Configure > Shared > Congestion Points**.

   The Congestion Point Profile pane appears.

2. In the Create new list, select **Profile**. Type a name for the new profile in the dialog box, and click **OK**.

   The Profile screen appears.

3. Enter information as described in the Help text in the main pane, and click **Apply**.

Congestion Point Expressions

You can enter a congestion point expression by using the syntax listed in this section. You can also embed Python scripting expressions within the congestion point expression.

If you embed Python expressions within a congestion point expression, use the escape sequence <- then -> to enclose the Python expression. See *Methods for Use with Scripting Expressions* on page 141 and *Match Criteria for Congestion Point Classification* on page 142.

The syntax for a congestion point expression is:

< NetworkDevice > / < NetworkInterface > [/ < CongestionPoint >]

- < NetworkDevice > —Network device listed in the directory.

  For information about network devices, see *SRC-PE Network Guide*, *Part 2, Using Juniper Networks Routers in the SRC Network*.

- < NetworkInterface > —Network interface listed in the directory.

  For information about interfaces, see *SRC-PE Subscribers and Subscriptions Guide, Chapter 6, Classifying Interfaces and Subscribers with the SRC CLI*.

- < CongestionPoint > —(Optional) Name of an instance of a congestion point that is automatically created.

If one of the elements with the path contains a slash (/), use a backslash (\) as an escape character for the slash. For example, \/.

Expressions in Templates for Congestion Point Profiles

You can create a congestion point profile to be used as a template for other profiles. Templates simplify management of congestion points. Rather than configuring each congestion point individually, you can create templates to define common parameters for a class of individual congestion points.

For example, in an environment in which VLAN interfaces GigabitEthernet1/0.1 through GigabitEthernet1/0.1000 have the same available bandwidth, you can specify the characteristics of the VLAN interface once and have SRC-ACP create the congestion points based on the template configuration.

When a congestion point expression has the third element (< CongestionPoint >), SRC-ACP uses the < NetworkDevice > / < NetworkInterface > part of the expression to load the congestion point from the directory, and uses it as a template to create a congestion point in memory for subscriber. The < CongestionPoint > part of the expression distinguishes each congestion point (available bandwidth) created from this template.

Methods for Use with Scripting Expressions

SRC-ACP provides the following methods to use in scripting expressions:

- slot(nasPortId)—Collects the slot number from the nasPortId or interfaceName

  Example—slot("atm 4/5:0.32") = = "4"

- port(nasPortId)—Collects the port number from the nasPortId or interfaceName

  Example—port("atm 4/5:0.32") = = "5"

- l2id(nasPortId)—Collects the layer 2 ID from the nasPortId (VLAN id or ATM vpi.vci)

  Example—l2id("atm 4/5:0.32") = = "0.32"

■ escape(string)—Replaces any slash with the escape sequence \/

Example—escape("atm 4/5") = = "atm 4\/5"

Match Criteria for Congestion Point Classification

You can use the match criteria in Python scripting expressions for a congestion point expression. For more information about the match criteria, see *SRC-PE Network Guide, Chapter 22, Configuring Congestion Point Classification with the SRC CLI* and *Selecting Congestion Point Classification Criteria* on page 140.