

Overview of SRC-ACP

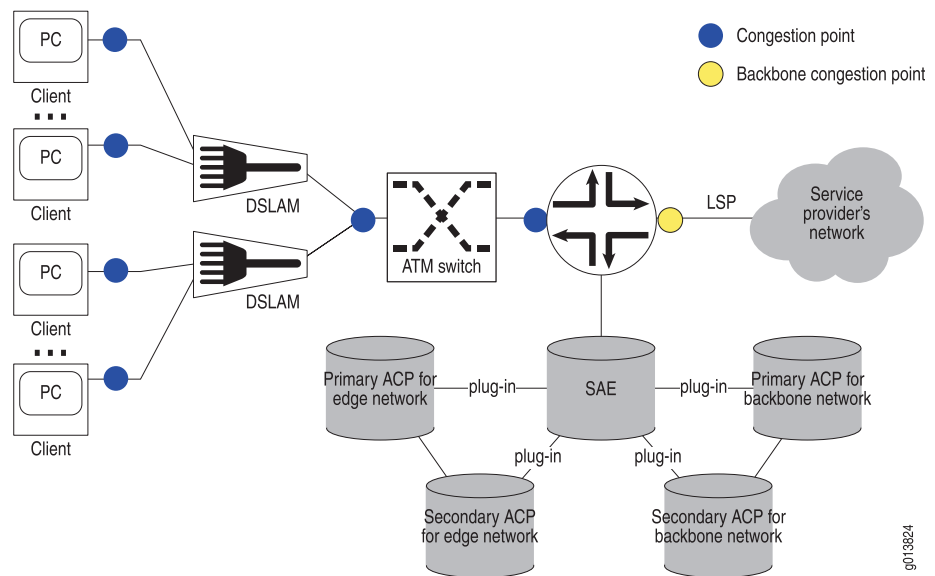
SRC-ACP is an external plug-in for the SAE. SRC-ACP authorizes and tracks subscribers' use of network resources associated with services that the SRC software manages. Service providers can implement SRC-ACP configurations for both residential and enterprise subscribers. Consequently, both JUNOS routers and JUNOS routing platforms are compatible with SRC-ACP. References to virtual routers (VRs) in this documentation refer to an actual VR on a JUNOS router or the single VR called default that the SRC software associates with each JUNOS routing platform.

SRC-ACP operates in two separate regions of the SRC network: the *edge* network and the *backbone* network. The edge network is the layer 2 access network through which subscribers connect to the router. The backbone network is the region between the router and the service provider's network.

Congestion often occurs in the network at points where connections are aggregated. SRC-ACP monitors congestion points at interfaces between devices in the edge network. In the backbone network, SRC-ACP monitors one congestion point, a point-to-point label-switched path (LSP) between the router and the service provider's network.

Figure 1 on page 1 shows a typical network topology.

Figure 1: Position of SRC-ACP in Network



In the edge network, SRC-ACP performs the following procedures to determine whether there are sufficient resources to activate a service:

- Tracks active services for each subscriber and the guaranteed traffic rate (bandwidth) at the congestion points associated with a subscriber.
- Tracks the rate of traffic between the subscriber and the network (upstream bandwidth) and the rate of traffic between the network and subscriber (downstream bandwidth).

- Monitors new requests for activation of services.
- Compares the resources required for the new services with the resources available for the subscriber and the congestion points.
- Activates the service if sufficient resources are available, and prevents activation of the service if sufficient resources are not available.

In the backbone network, SRC-ACP performs the following procedures to determine whether there are sufficient resources to activate a service:

- Tracks the guaranteed traffic rate for a service at the congestion point.
- Tracks the actual traffic rate for the service at the congestion point.
- Monitors new requests for activation of services.
- Compares the resources required for the new services with the resources available at the congestion point.
- Activates the service if sufficient resources are available, and prevents activation of the service if sufficient resources are not available.

Typically, network administrators use their own network management applications and external applications to provide data for SRC-ACP. SRC-ACP first obtains updates from external applications through its remote CORBA interface, and then obtains updates from the directory by means of LDAP. For information about developing external applications that send data to SRC-ACP, see API for ACP. SRC-ACP does not interact directly with the network to assess the capacity of a congestion point or actual use of network resources.

In the backbone network, SRC-ACP can also execute applications defined in the action congestion point. Some applications require real-time congestion point status. If SRC-ACP must provide real-time congestion point status to the application, state synchronization must be enabled to handle interface tracking events so that the congestion points are updated properly.