Chapter 9
Using PCMM Policy Servers

This chapter describes the Juniper Policy Server (JPS), a component of the SRC software that acts as a policy server in the PacketCable Multimedia Specification (PCMM) environment. Topics include:

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Overview of the JPS

In a PCMM environment, the policy server acts as a policy decision point (PDP) and policy enforcement point (PEP) that manages the relationships between application managers and cable management termination system (CMTS) devices.

The JPS is a PCMM-compliant policy server. The JPS must be deployed in an SRC environment that satisfies these conditions:
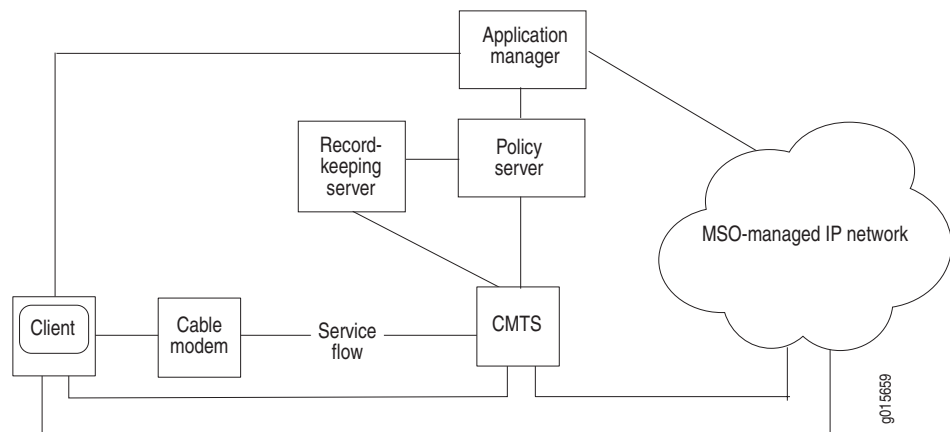
- Organizes PCMM devices into groups (for example, one or more per POP). For redundancy, a community of two or more JPSs will manage each group of PCMM devices.

- Achieves successful state synchronization by requiring an application manager (for example, a pair of redundant SAEs) to talk to one JPS instance at a time.

- Uses IPSec connections for the network interfaces.

For more information about PCMM and the SRC software, see *Chapter 4, Providing Premium Services in a PCMM Environment*.

JPS Framework

Figure 16 depicts the PCMM architectural framework. The JPS communicates with application managers, CMTS devices, and record-keeping servers.

Figure 16: PCMM Architectural Framework

The interactions between the various PCMM components are centered on the policy server. In the PCMM architecture, these basic interactions occur:

1. A client requests a multimedia service from an application manager.

2. Depending on the client type and its QoS signaling capabilities, the application manager relays the request to a policy server.

3. The policy server relays the request to the CMTS device and is responsible for provisioning the policies on a CMTS device.

    Depending on the request, the policy server records an event for the policy request and provides that information to the record-keeping server (RKS).

4. The CMTS device performs admission control and manages network resources through Data over Cable Service Interface Specifications (DOCSIS) service flows based on the provisioned policies.

5. The RKS receives event messages from other network elements, such as the policy server or CMTS device, and acts as a short-term repository for the messages.

JPS Interfaces

The JPS has interfaces, implemented as plug-ins, to communicate with:

- Application managers, such as the SAE

- Record-keeping servers

- CMTS devices

The JPS is relatively stateless, but the individual plug-ins can be stateful.

The JPS uses the Common Open Policy Service (COPS) protocol as specified in the PacketCable Multimedia Specification PKT-SP-MM-I03-051221 for its interface connections. The JPS communicates with the CMTS device and the application manager by using a COPS over Transmission Control Protocol (TCP) connection.

Application Manager to Policy Server Interface

To allow the JPS to communicate with the application manager, this interface accepts and manages COPS over TCP connections from application managers, such as the SAE.

Policy Server to RKS Interface

To allow the JPS to communicate with a set of redundant record-keeping servers, this interface sends a policy event message to the RKS when receiving a PCMM-COPS gate control (request, delete, update) message. This interface also sends time change events to the RKS.

Policy Server to CMTS Interface

To allow the JPS to communicate with policy enforcement points (PCMM devices), this interface initiates and manages COPS over TCP connections with CMTS devices.

Before You Configure the JPS

Before you configure the JPS, deploy an SRC-managed PCMM network. For more information about PCMM and the SRC software, see *Chapter 4, Providing Premium Services in a PCMM Environment*.

You can configure the JPS on a Solaris platform or on a C-series Controller.

- To configure the JPS on a C-series Controller, see *Chapter 10, Configuring the JPS with the SRC CLI*.

- To use the JPS on a Solaris platform, see *Chapter 11, Configuring the JPS on a Solaris Platform*.