

Chapter 39

PIM Overview

PIM is used for efficiently routing to multicast groups that might span wide-area and interdomain internetworks. It is referred to as “protocol independent” because it is not dependent on any particular unicast routing protocol. The software supports both sparse mode and dense mode.

In sparse mode, routers must join and leave multicast groups explicitly. Upstream routers do not forward multicast traffic to this router unless this router has sent an explicit request (using a join message) to receive multicast traffic.

When a host joins a multicast group, its first hop router sends a join message upstream toward the rendezvous point (RP) for the group. The RP serves as the root of the shared multicast delivery tree and is responsible for forwarding multicast data from different sources toward the receivers.

Multicast traffic is forwarded out a PIM interface only if the interface has received a join message from a downstream router or if group members are directly connected to the interface. Sparse-mode routers periodically send join messages toward the RP to join a shared tree and directly toward the source if they prefer to join the source tree. The routers also send periodic prune messages toward the RP when they move from the shared tree onto the source-based tree.

PIM Standards

PIM is defined in the following documents:

RFC 2362, Protocol Independent Multicast-Sparse Mode (PIM-SM): Protocol Specification

Protocol Independent Multicast Version 2 Dense Mode Specification , Internet draft
draft-ietf-pim-v2-dm-03.txt

Anycast RP mechanism using PIM and MSDP , Internet draft
draft-ietf-mboned-anycast-rp-05.txt

To access Internet RFCs and drafts, go to the IETF Web site at <http://www.ietf.org>.

