Chapter 5

IGMP Overview

The Internet Group Management Protocol (IGMP) manages the membership of hosts and routers in multicast groups. IP hosts use IGMP to report their multicast group memberships to any immediately neighboring multicast routers. Multicast routers use IGMP to learn, for each of their attached physical networks, which groups have members.

IGMP is also used as the transport for several related multicast protocols (for example, Distance Vector Multicast Routing Protocol [DVMRP] and PIM version 1 [PIMv1]).

IGMP is an integral part of IP and must be enabled on all routers and hosts that want to receive IP multicasts.

For each attached network, a multicast router can be either a querier or a nonquerier. The querier router periodically sends general query messages to solicit group membership information. Hosts on the network that are members of a multicast group send report messages. When a host leaves a group, it sends a leave group message.

IGMPv3 supports inclusion lists. Inclusion lists provide the ability to specify which sources can send to a multicast group. This type of multicast group is called a source-specific multicast (SSM) group and its multicast address is 232/8.

IGMPv3 provides support for source filtering. For example, a router can specify particular routers from which it will, or will not, receive traffic. With IGMPv3, a multicast router can learn which sources are of interest to neighboring routers.

Exclusion mode works like an inclusion list, allowing any source but the ones listed to send to the SSM group.

IGMPv3 interoperates with versions 1 and 2 of the protocol. However, to remain compatible with older IGMP hosts and routers, IGMPv3 routers must also implement versions 1 and 2 of the protocol. The following membership report record types are supported for IGMPv3: mode is allowed, allow new sources, and block old sources.

For information about supported standards for IGMP, see “IP Multicast Standards” on page 28.