

Multimedia Traffic Control with IP Multicast (IGMP)

How IGMP Operates

from the hosts on the network. (If you need to disable the querier feature, you can do so through the CLI, using the IGMP configuration MIB. See “Configuring the Querier Function” on page 3-8.)

- **Report (Join):** A message sent by a host to the querier to indicate that the host wants to be or is a member of a given group indicated in the report message.
- **Leave Group:** A message sent by a host to the querier to indicate that the host has ceased to be a member of a specific multicast group.

IGMP Operating Notes

IGMP identifies members of a multicast group (within a subnet) and allows IGMP-configured hosts (and routers) to join or leave multicast groups based on the following process.

- An IP multicast packet includes the multicast group (address) to which the packet belongs.
- When an IGMP client connected to a switch port needs to receive multicast traffic from a specific group, it joins the group by sending an IGMP report (join request) to the network. (The multicast group specified in the join request is determined by the requesting application running on the IGMP client.)
- When a networking device with IGMP enabled receives the join request for a specific group, it forwards any IP multicast traffic it receives for that group through the port on which the join request was received.
- When the client is ready to leave the multicast group, it sends a Leave Group message to the network and ceases to be a group member.
- When the leave request is detected, the appropriate IGMP device will cease transmitting traffic for the designated multicast group through the port on which the leave request was received (as long as there are no other current members of that group on the affected port).

Displaying IGMP Data.

To display data showing active group addresses, reports, queries, querier access port, and active group address data (port, type, and access), see the appendix on monitoring and analyzing switch operation in the *Management and Configuration Guide*.

Supported Standards and RFCs

HP's implementation of IGMP supports the following standards and operating capabilities:

- RFC2236 (IGMP V.2, with backwards support for IGMP V.1)
- IETF draft for IGMP and MLD snooping switches (for IGMP V1, V2 V3)
- Full IGMPv2 support as well as full support for IGMPv1 Joins.
- Ability to operate in IGMPv2 Querier mode on VLANs with an IP address.

The HP implementation is subject to the following restrictions:

- Interoperability with RFC3376 (IGMPv3)
- Interoperability with IGMPv3 Joins. When the switch receives an IGMPv3 Join, it accepts the host request and begins forwarding the IGMP traffic. This means ports that have not joined the group and are not connected to routers or the IGMP Querier will not receive the group's multicast traffic.
- No support for the IGMPv3 “Exclude Source” or “Include Source” options in the Join Reports. Rather, the group is simply joined from all sources.
- No support for becoming a version 3 Querier. The switch will become a version 2 Querier in the absence of any other Querier on the network.

Note

IGMP is supported in the HP MIB, rather than the standard IGMP MIBs, as the latter reduce Group Membership detail in switched environments.

Operation With or Without IP Addressing

You can configure IGMP on VLANs that do not have IP addressing. The benefit of IGMP without IP addressing is a reduction in the number of IP addresses you have to use and configure. This can be significant in a network with a large number of VLANs. The limitation on IGMP without IP addressing is that the switch cannot become Querier on any VLANs for which it has no IP address—so the network administrator must ensure that another IGMP device will act as Querier. It is also advisable to have an additional IGMP device available as a backup Querier. See the following table.