

IGMP/IGMP snooping

Internet **G**roup **M**anagement **P**rotocol (IGMP) is a protocol used by IP hosts to report membership in Multicast groups to the closest multicast routers. Multicast routers periodically send out a “Host Membership Query message” to remain updated about group membership for the local network. The hosts on the local network then answer with a Report-datagram. The hosts only respond to the request for the groups they belong to. When nothing is reported for a specific group after a certain amount of requests the router presupposes that no group members still remain on the local network. Subsequently, no more datagrams are forwarded for this group from other networks to the local network.

Generally layer 2 switches support IP multicast traffic in the same way as a broadcast, i.e. by distributing data to all ports. This can result a large load and reduce network performance. Using IGMP Snooping, a switch can filter traffic and in this way reduce unwanted traffic. This takes place through the switch listening to the IGMP conversation between the host and router. The switch identifies whether a host becomes a member of a group or ends its membership and by that knows which devices are included in a multicast group. At the present time there are three levels of IGMP defined:

- ⌘ IGMPv1 (REF 1112) the original version of IGMP, this includes how a host requests membership in a group. On the other hand, in v1 there is no method to terminate membership, thus a router must use a timer to terminate membership.
- ⌘ IGMPv2 (REF2236), this version includes membership termination.
- ⌘ IGMPv3 (REF3376), general revision of IGMP.