technical support note

Configuring IGMP and Message Rate Limiting on 9200-ETM Series Switches

TSN905

Industrial networks often have devices that require support for IGMP. IGMP stands for Internet Group Management Protocol. It is a protocol used to manage the membership of Multicast groups. Multicast data allows the same data to be generated once and then received by many users, similar to listeners of an FM radio station.

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Frequently Asked Questions

Q: Which managed switches support IGMP?

A: All MTL Managed switches fully support IGMP.

Q: What versions of IGMP do MTL switches support?

A: MTL switches all support IGMP V1 and V2.

Q: Do MTL switches support IGMP Snooping?

A: Yes, all MTL switches support both active and passive IGMP Snooping. Active snooping actively controls the flow of multicast data; passive snooping only listens to the IGMP messages on the network.

Q: What are the differences between the multicast suppression modes??

A: The multicast suppression modes suppress packets as follows:

None–Multicast packets are sent to all ports unless IGMP is enabled and one or more clients have sent IGMP Report requests.

IP Multicast Groups–Multicast packets corresponding to IP multicast groups (with MAC addresses starting 01:00:5e) are suppressed unless one or more clients have sent IGMP Report messages. Multicast packets with other addresses (any other packet with a MAC address starting 01) are sent to all ports.

All Unreserved Multicast–Multicast packets with reserved multicast addresses (01:80:c2:00:00:0x where x is 0..f) are sent to all ports. All other multicast packets are suppressed unless one or more clients have sent IGMP Report messages.

Q: Which managed switches support Message Rate Limiting?

A: All MTL switches support Message Rate Limiting.

Q: What exactly does Message Rate Limiting do?

A: Message rate limiting restricts the amount of Broadcast and Multicast traffic that passes through the switch. It has no effect on other types of communication, such as unicast.

Q: Is message rate limiting adjustable?

A:Rrate limiting is not adjustable; it can only be enabled and disabled on a per-port basis. The rate limits are fixed based on message type and priority. The rates are as follows:

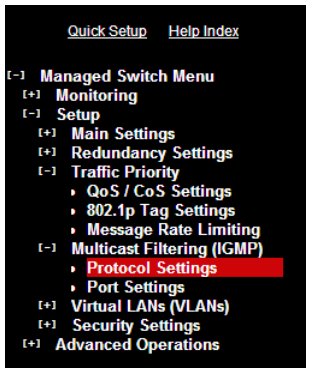
Background	10% of link capacity
Normal	20% of link capacity
Expedited	40% of link capacity
Urgent	80% of link capacity

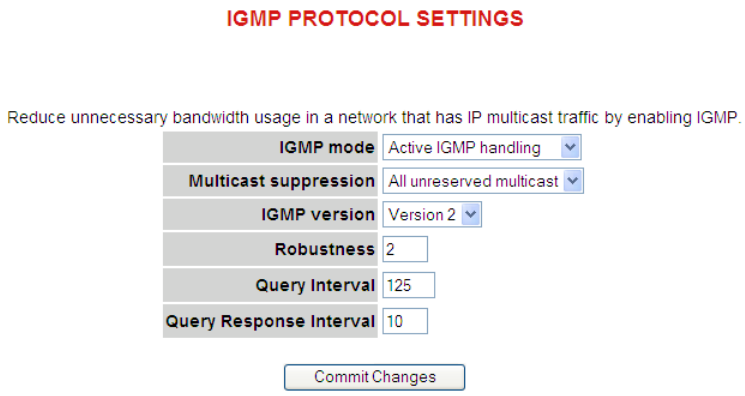
IGMP Configuration

Note: beginning in firmware version 5.0, IGMP is enabled by default on all switches.

Log into the switch from your Web browser. The default username and password are admin/admin.

From the Managed Switch menu, click on the Setup menu to see the options, and then click on Multicast Filtering (IGMP). Click on Protocol Settings to begin configuring IGMP.





On the IGMP Protocol Settings page, click on the IGMP mode drop-down list, and select either Active or Passive IGMP handling. View the FAQ for the differences between these two modes. Typically, Active IGMP handling is used.

Click on the Multicast suppression drop-down list to select the suppression mode you want to use. Review the FAQs for the differences between these modes. Typically, All unreserved multicast is used.

Click on the IGMP version drop-down list to select IGMP version you want to use. Commonly, Version 2 is used unless your network administrator has instructed otherwise.

All other settings are generally left at the defaults unless you have been directed otherwise by your network administrator.

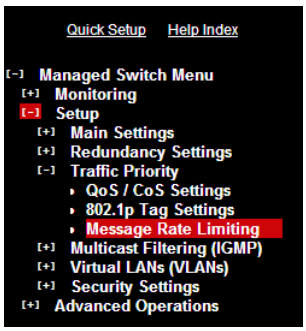
Click Commit Changes to activate IGMP.

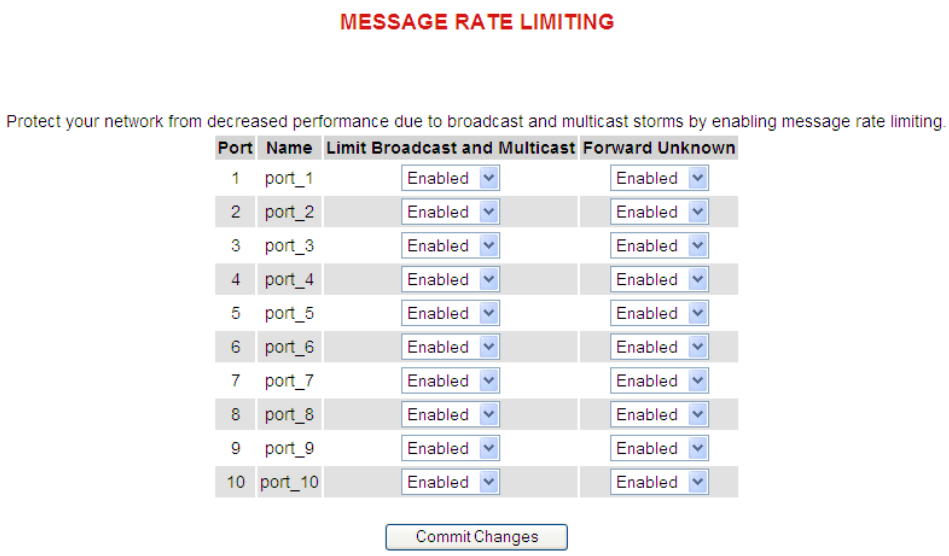
To view the IGMP Group information, click on the Monitoring menu and then choose Multicast Filtering status. On the IGMP Group Status page, click on the Page drop-down list to select either the IGMP Port Status or IGMP Group Status pages.

Message Rate Limiting Configuration

Log into the switch from your Web browser. The default username and password are admin/admin.

From the Managed Switch Menu, click on the Setup menu to see the options, and then click on Traffic Priority. Click on Message Rate Limiting.





In the Message Rate Limiting page, you can enable or disable message rate limiting for each port. By default, rate limiting is set to Enabled on all ports.

Once you have made the desired changes, click Commit Changes to make them active.