NETGEAR IGMP Plus™

White Paper

What is NETGEAR IGMP Plus™?

NETGEAR's M4300 and M4500 fully-managed switches provide a unique feature called IGMP Plus. This feature greatly simplifies system architectures by enabling the same well-known IGMP techniques across the entire AV over IP (AVoIP) network. In a nutshell, IGMP Plus is an enhanced implementation for automatic multicast across a Layer 2 multicast network.

Why is it important?

NETGEAR IGMP Plus provides ProAV network engineers with an effortless implementation of a Layer 2 multicast network. With other switching vendors, the process of configuring a ProAV multicast VLAN requires many IGMP commands to be entered via the command line which introduces the possibility of user error due to the complexity.

The following list identifies some of the typical requirements to support ProAV multicast configuration using Layer 2:

• IGMP version 2 support

• IGMP snooping

• Filter/drop unregistered multicast traffic

• Disable unregistered multicast flooding

• Enable fast leave support

With NETGEAR IGMP Plus, all the above configuration and more is done with a single command. This provides AV engineers with a quick and concise implementation that works at the first multicast stream from the encoder. In the illustration below, IGMP Plus can quickly configure a semi-large ProAV spine and leaf network architecture with only using a single command on all 17 M4500 switches.
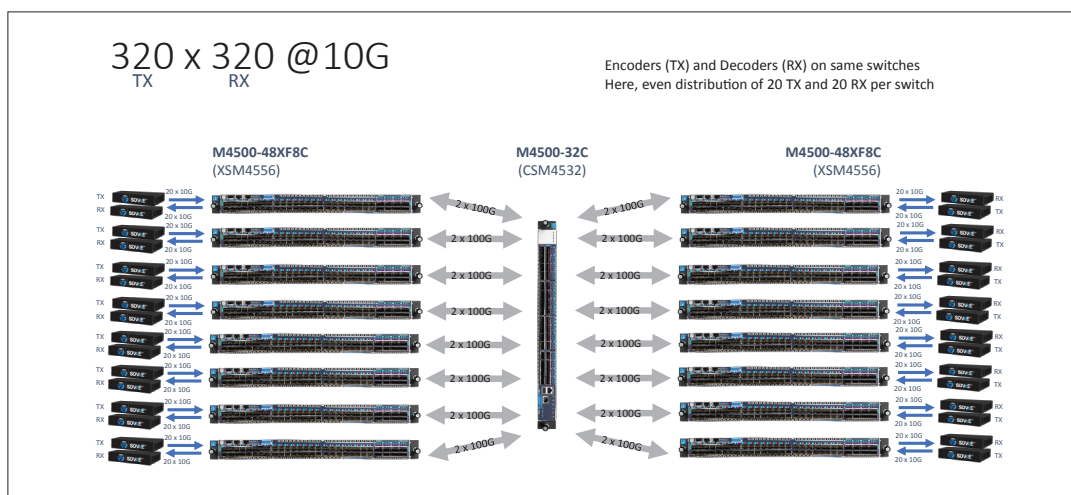
How do other competitors implement their multicast configuration?

With other switch vendors, the AVoIP Layer 2 multicast configuration becomes more of a nuisance rather than a turn-key single command solution. For example, to configure AVoIP Layer 2 multicast on a competitor switch involves the following commands[1]:

igmp 10 set

igmp fast-leave 10

set igmp querier 10

set igmp querier 10 address 254.1.1.10

set igmp querier election participate 10

set igmp

set igmp querier

set igmp querier address 254.1.1.10

The chart below shows the number of commands required to configure the IGMP protocol on common switches. For all the other switch manufacturers, it takes from 3 to 14 commands to configure a simple IGMP Layer 2 configuration. For NETGEAR, you only have to enter a single command.

	NETGEAR M4300 & M4500	Arista 7050TX-48	Aruba 2930F-24G	Cisco Nexus 2348TQ	Extreme Networks X460-GS-24P	Luminex GigaCore 26i	Pakedge S3L-24P	Ubiquiti ES-48-500W
# Commands needed to configure IGMP	1	3	3	5	3	14	5	11

Generally, when configuring IGMP on any switch, each IGMP configuration may require extra CLI commands to configure the VLAN and Ethernet ports. As a result, the probability of user confusion and running into a configuration error is quite probable. With IGMP Plus, a single command is all that is needed to configure a VLAN or VLANs for IGMP. All the multicast configuration is completed without the need to configure the VLAN and then configure the Ethernet port. The use of our IGMP Plus feature on the M4300 and M4500 switches greatly decreases the complexity of configuring IGMP on an AVoIP Network.

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[1] The commands referenced assume that basic switch features (VLANs, VLAN IP addresses, and etc.) are already configured. The IGMP configuration commands are compared with other switches when configuring with the switch CLI.

Conclusion

NETGEAR IGMP Plus™ feature, standard on M4300 and M4500 switches with firmware 12.0.8.8 or higher, provides AVoIP engineers and installers with a shortcut to configure a Layer 2 multicast configuration in a complex network implementation. The majority of the other switches in the market today do not have a quick and easy method to configure IGMP on their switch. This results in multiple lines of commands to be entered and increases the probability of user error. The use of NETGEAR IGMP Plus results in fewer user errors and faster, more reliable deployments of ProAV installations