

HOW TO IMPLEMENT MULTICASTING

While IP multicasting has many benefits, it also presents challenges. Multicasting delivers identical data to multiple receivers simultaneously, without transmitting multiple copies. So, when multicast data enter a subnet, the natural reaction of the switches is to send the multicast data to all their ports. This is referred to as multicast flooding and means that all the ports in that subnet (or at least their network interfaces) are required to process that multicast data even if they are not “seeing” this data. This can cause more data to travel across the network and slow or overrun the network infrastructure. IGMP (Internet Group Management Protocol) offers a solution to this issue.

Our MediaCento™ IPX extends HDMI video over any IP network to as many as 250 distant screens—or to video walls. You can run the MediaCento IPX in unicast (one transmitter to one receiver) or multicast (one transmitter to many receivers) mode applications.



The unit can also support a video wall, using multicast mode to output a single source video to a matrix of screens, so that you can project your HD content on a larger scale with one image divided over multiple video screens.

For MediaCento IPX multicasting applications, it's very important to choose the right Ethernet switch, one that can handle the requirements to multicast data in your network without flooding your IP infrastructure.

You will need Ethernet switches with these minimum features:

- Gigabit (1000-Mbps) or faster Ethernet ports
- Support for IGMP v2 (or v3) snooping
- Support for Jumbo frames (packets) up to 9216-byte size—and you must enable Jumbo frames when configuring the switches

- High bandwidth connections between switches, preferably multi-Gigabit speed and or multiple slower links using Link Aggregation Control Protocol (LACP)

You should also:

- Look specifically for switches that perform their most difficult tasks (for example, IGMP Snooping) using multiple dedicated processors—that is, the tasks are carried out in custom ASIC hardware rather than software routines on a general processor.
- Check the maximum number of concurrent “snoopable groups” each switch can handle and make sure that they meet or exceed the number of MediaCento IPX transmitters that you will use to create multicast groups.
- Check the throughput speeds of the switch. Make sure that each port is full-duplex (that is, provides bidirectional communications) and that the up- and downstream data speeds for each port are 1 Gigabit per second (Gbps).

- Where possible, use the same switch manufacturer throughout a single subnet and, also if possible, the same model of switch— this will simplify configuration and lessen the chances of compatibility issues.
- When choosing Layer 3 switches for the network, at least one must be capable of operating as an IGMP requester.

We recommend these switches for IP multicasting: LGB6000 series, LGB1100 series, and LGB5000 series.

Source: <https://bboxblog.wordpress.com/2014/06/12/how-to-implement-multicasting/>