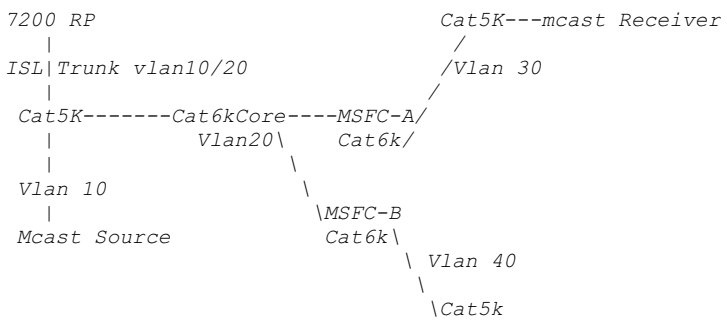
Network Flooding With Multicast

e-Watch Technical Support has been made aware of a situation whereby a network may be flooded with multicast. We would like to thank Cisco Systems for their efforts in uncovering this situation and working towards a resolution of the issue. The following is an excerpt from Cisco Systems:

The periodic flooding every 5 minutes is a normal behavior of IGMP snooping when there are multicast sources only and not any receivers on any given layer2 segment. The source only entries are aged every 5 minutes. This causes a temporary flood of multicast traffic on switch ports configured in the mcast-source only vlan or transit vlans.

You would see this type of flooding scenario in a layer 2 core network:



The layer 2 core is vlan 20, the only IGMP devices in vlan 20 are the routers, and there are no mcast receivers in vlan 20. Once a mcast receiver on closet vlan joins the mcast group, this will cause the multicast packets to be forwarded onto vlan 20. IGMP snooping will dynamically build a static cam entry for all ports joining that GDA. After 5 minutes, the static cam entries built for vlan 20 will age out. This will cause a temporary flood of multicast traffic on all ports defined in the core vlan (vlan 20).

In layman's terms, every 5 minutes the network will flood causing the loss of archive images, camera controls and camera video for 10-20 seconds.

e-Watch suggests you place no more than 50 cameras on a VLAN.

Example of subnetting for a network with 150 cameras:

- xxx.xxx.100.xxx VLAN for server and monitor stations
- xxx.xxx.200.xxx VLAN for cameras 1-50
- xxx.xxx.300.xxx VLAN for cameras 51-100
- xxx.xxx.400.xxx VLAN for cameras 101-150

Each VLAN should be plugged into a separate port on the router. The multicast groups will continue to age out every 5 minutes. However, most networks can handle the temporary traffic flood of 50 cameras.

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