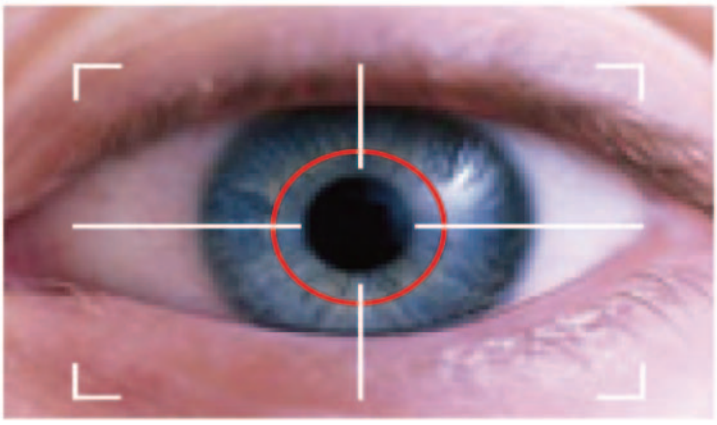
Lantech

Lantech Communications Global, Inc.

Pioneering Industrial and IP Networks

Application Note

Transportation & Surveillance Solution



IES-2206F-II

IES-2208C

IES-2216C

IGS-2206C

IGS-2404


Transportation


Maritime area


Power station


Oil platform


Airport


FTTX


Surveillance

Transportation & Surveillance Solution

With the increasing demand of surveillance on transportation applications, the need to use harden switch for surveillance network is ramping up. To monitor traffic, community, factory line, warehouse, pharmaceutical process, airport and many other places in order to improve the efficiency or prevent from intruders or record the crime sciences are the best applications for CCTV, IP CAM together with Industrial Switches.

However, to cope with gigantic image files flowing in the network not causing network jam is an important task in such applications. IGMP protocol could reduce network traffic dramatically by handling multicast packets effectively.

Please picture the surveillance network where implements 20-30 or maybe hundreds of IP-CAMs or analog CAM to send all the MPEG or H.264 real time image frames back to the central PC servers or DVRs, you of course don't want to flood all the high resolution images all over the network which could easily crash the network and lost the important images that really need to be restored. On the contrast, you also want to retrieve the important images remotely from the central upon request. The network technology you could use to utilize such surveillance network well is IGMP v2 or v3. IGMP v2 or v3 are the schemes to send the requested video streams to the target destination in the IP network.

IGMP is Internet Group Mutlicast Protocal that is good for One to Many video frame transmission in network.

IGMP v1 is defined by RFC1122, v2 by RFC2236 and v3 by RFC3376. The difference between v1,v2 and v3 is listed in the following table.

	RFC definition	Main difference
IGMP v1	1122	No Leave, use time out up to 5 minutes
IGMP v2	2236	Leave to notify Query
IGMP v3	3376	Multicast source filtering capability to IP multicast routing; Allows for specific Join and Leave to join specific source


IES-2206F-II

IES-2208C

IP Multicast is an application where needs IGMP Query and IGMP Snooping. In IP Multica-sting network, a Query mode must be enabled first otherwise the switch would not know that group members exist. Query mode is usually built in a L3 router. Lantech Industrial Switch is built-in with IGMP Query and Snooping mode to fill specific needs, so they are the best to be used in Transportation, Factory Automation, Warehouse, Traffic Control, Community Surveillance applications.