Merit LILIN Application Note

L2 Web Management Switch for IP Video Installation

Document Number：A00044
Date：2014/04/22
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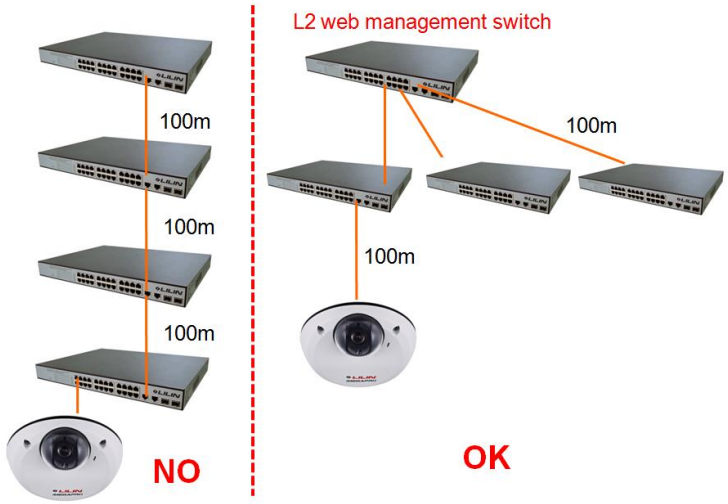
Subject: For large installation, it is highly recommend using L2 switch for your core switch. This document describes few techniques for managing the IP Video network.

For big installation, 64 or above cameras installation, please use L2 web management switch as the core switch.



There are few features of a L2 web management switch you can use to manage the network.

Basic Settings

Please enable Broadcast Storm Control to prevent packet storm in and out of a switch.

Broadcast Storm Control

Threshold	63 (1~63)												
Enable Port	1	2	3	4	5	6	7	8	9	10	11	12	13
	14	15	16	17	18	19	20	21	22	23	24	25	26
Update													

This value indicates the number of broadcast packet which is allowed to enter each port in one time unit. One time unit is 50us for Gigabit speed, 500 us for 100Mbps speed and 5000us for 10Mbps speed

Note: This effect may be not significant for long broadcast packet, since the broadcast packet count passing through the switch in a time unit is probably less than the specified number.

To prevent spanning tree deadlock, please enable Loopback Detection setting.

Loopback Detection Settings

Loopback Detect Function	Enable
Auto Wake Up	Enable
Wake-Up Time Interval	10 sec
Submit	

Advance Settings

For advanced usages, you can bind particular RJ-45 port to a MAC address of an IP camera. This allows to fast forwarding a packet to a designate RJ-45 port.

MAC Address Binding

Port No.	MAC Address
2	Read

Select Port 02 Binding Disable Update

Note: If you enable the MAC address binding function, the address leaning function will be disabled automatically.

Port No.	Binding Status	Port No.	Binding Status
1	Disable	14	Disable
2	Disable	15	Disable
3	Disable	16	Disable
4	Disable	17	Disable

VLAN

You can also apply VLAN technology at switching level to separate two virtual LANs.

QoS

In general, L2 swtich can setup QoS for controlling bandwidth from an IP camera to a video client. However, set bandwidth control (QoS) on L2 switch that might result in video jittering. It is not recommend to set QoS on L2 switch.

Observation

After fine tuning above, please observe “Collision Count”, “Drop Packet”, and “CRC Error Packet” information. Try to minimize these errors.

Counter Category

Counter Mode Selection: Collision Count & Transmit Packet Update

Transmit Packet & Receive Packet
Collision Count & Transmit Packet
Drop packet & Receive Packet
CRC error packet & Receive Packet

Port			
01	0		13
02	0		1
03	0		0