FSOS

LLDP Configuration

Contents

1. LLDP Configuration

1.1 LLDP Protocol Overview

LLDP (Link Layer Discovery Protocol), a L2 protocol, defined by IEEE802.1AB-2005 standard has nothing to do with the manufacturer. It announces its information to other neighbor devices in the network, receives the neighbor's information and saves to standard MIB of LLDP for users to check the downlink devices and connected ports for easy network maintenance and management. Network administrator can know L2 connections by accessing.

1. LLDP Fundamentals

LLDP devices announce their own information through multicast address 01-80-c2-00-00-0e. LLDP devices will send 2 LLDP notice and the sending interval is set by hello-time. After receiving neighbor's advertisement, LLDP device will read the advertisement content and save in LLDP neighbor table. LLDP neighbor table can be aged with TTL value being aging time. If neighbor's LLDP advertisement cannot be received within aging time, the neighbor entry will be removed.

2. LLDP timer

Hello-time: The time interval for sending LLDP packet.

Hold-time: LLDP aging time granularity for neighbor entry.

TTL: TTL equals to hello-time ties hold-time which means aging time of neighbor entry.

1.2 Configure LLDP

1.2.1 LLDP Configuration Task

Table 1-1 LLDP configuration task

Configuration task		Description	Related section
Basic configuration	Enable LLDP	Required	1.2.2
Advanced configuration	Configure LLDP Hello-time	Optional	1.2.3
	Configure LLDP Hold-time	Optional	1.2.4
	Configure LLDP packet sending & receiving mode	Optional	1.2.5
LLDP display and debugging		Optional	1.2.6

1.2.2 Enable LLDP

Only after enabling global LLDP, all related configurations can be effective. Global and port LLDP can be configured and saved no matter the LLDP is enabled. When global LLDP is enabled, the configuration is effective.

Perform following command in global configuration mode.

Table 1-2 Enable LLDP

Operation	Command	Description
Enable LLDP	**lldp**	Required

1.2.3 Configure LLDP Hello-Time

By default, LLDP Hello-time is 30S.

Perform following command in global configuration mode.

Table 1-3 Configure LLDP Hello-time

Operation	Command	Description
Configure LLDP Hello-time	**lldp hello-time** <5-32768>s	Optional

1.2.4 Configure LLDP Hold-Time

By default, LLDP Hold-time is 4S.

Perform following command in global configuration mode.

Table 1-4 Configure LLDP Hold-time

Operation	Command	Description
Configure LLDP Hello-time	**lldp hold-time** <2-10>s	Optional

1.2.5 Configure LLDP Packet Transferring and Receiving Mode on Port

There are three types of mode:
- Rx: receiving only.
- Tx: transferring only.
- Rxtx: transferring and receiving.

By default, the mode for all ports is rxtx, that is, transferring and receiving all LLDP packets.
Perform following command in global or interface configuration mode.

Table 1-5 Configure LLDP packet transferring and receiving mode on port

Operation	Command	Description
Configure LLDP packet transferring and	**lldp { rx	rxtx	tx }**	Optional

receiving mode on port		

1.2.6 Configure the Management Address

The Layer 2 device does not support Management Address TLV.

By default, the Layer 3 device uses the IP address of the PVID interface. If there is no corresponding interface IP for the corresponding vlan, the Management Address TLV is not sent in the LLDPDU. Use the following command to modify. The loopback interface is currently not supported.

Configure the Management Address

Operation	Command	Remarks
Port configuration mode	interface ethernet port-num	required
Configure the management address	[no] lldp management-address { supervlan-interface value | vlan-interface value }	optional

1.2.7 LLDP Displaying and Debugging

After the above configurations, you can execute the **show** commands in any configuration mode to display information, so as to verify your configurations.

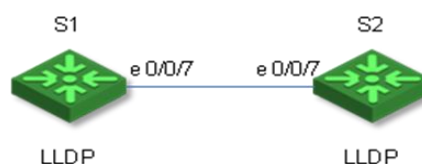Table 1-6 LLDP displaying and debugging

Operation	Command	Description
Show LLDP status	**show lldp [interface ethernet** *device/slot/port***]**	Execute this command in any configuration mode.

1.2.8 Configuration Example

1.   Network requirements

Device S1 and S2 inform their own information through LLDP.

2.   Network diagram

Picture 1-1   LLDP Network diagram

3.   Configuration procedure

Configure in S1:

Switch(config)#lldp

Configure in S2:

Switch(config)#lldp

Execute **show lldp** command in any switch, followings will show:

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****

Switch(config)#sh lldp interface ethernet 0/0/7

System LLDP: enable

LLDP hello-time: 30(s) LLDP hold-time: 4 LLDP TTL: 120(s)

Interface Ethernet 0/0/18

Port LLDP: rxtx   Pkt Tx: 1   Pkt Rx: 1

Total neighbor count: 1

Neighbor (1):

TTL: 109(s)

Chassis ID: 00:00:00:00:04:1e

Port ID: port e0/0/7

System Name: Switch S3800-24T4S

System Description: MyPower Switch

Port Description: NULL

Management Address: 1.1.1.33

Port Vlan ID: 1

Port SetSpeed: auto

Port ActualSpeed: FULL-1000

Port Link Aggregation: support ,not in aggregation

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