CHAPTER **22**

Configuring LLDP

Understanding LLDP

The Link Layer Discovery Protocol (LLDP) is a vendor-neutral data-link layer protocol, used by network devices for advertising their identity, capabilities, and neighbors on an IEEE 802 local area network, principally wired Ethernet.

As protocol runs over the data-link layer, it allows two systems running different network layer protocols to learn about each other. Therefore the protocol allows interoperability between Cisco devices and non-Cisco devices.

LLDP supports a set of attributes that it uses to discover neighboring devices. These attributes contain type, length, and value descriptions and are referred to as type-length-value (TLV) structures. LLDP supported devices can use TLVs to receive and send information to their neighbors. Details such as configuration information, device capabilities, and device identity can be advertised using this protocol.

Configuring LLDP

You can configure LLDP only through the CLI.

The following commands are to be executed in global configuration mode.

Command	Purpose	Example
lldp run	To enable LLDP	ap(config) # lldp run
lldp holdtime *seconds*	To specify the amount of time a receiving device should hold the information sent by your device before discarding it.	ap(config) # lldp holdtime 120
lldp reinit *seconds*	To set the delay (in sec) for LLDP initialization on any interface.	ap(config)# lldp reinit 60

Command	Purpose	Example
lldp timer *seconds*	To specify the rate at which LLDP packets are sent (in sec)	ap(config)# lldp timer 50
lldp tlv-select *tlv_name*	To specify the TLVs to send and receive LLDP packets. The available TLVs are dcbxp, management-address, port-description, port-vlan, system-capabilities, system-description, and system-name. All available TLVs are enabled by default.	ap(config)# lldp tlv-select system-name

Default LLDP Configuration

Feature	Default Setting
LLDP global state	Disabled
LLDP holdtime (before discarding)	120 seconds
LLDP timer (packet update frequency)	30 seconds
LLDP reinitialization delay	2 seconds
LLDP tlv-select	Enabled to send and receive all TLVs.
LLDP interface state	Enabled
LLDP receive	Enabled
LLDP transmit	Enabled

Disabling and Re-Enabling LLDP on Gigabit Ethernet Interfaces

To disable LLDP on a Gigabit Ethernet (GbE) interface, perform the following steps.

	Command	Purpose
Step 1	**configure terminal**	Enters global configuration mode.
Step 2	**interface** *interface-id*	Specifies the interface on which you are disabling LLDP, and enters interface configuration mode.
Step 3	**no lldp transmit**	Disallows sending LLDP packets on the interface.
Step 4	**no lldp receive**	Disallows receiving LLDP packets on the interface.
Step 5	**end**	Returns to privileged EXEC mode.
Step 6	**copy running-config startup-config**	Saves your entries in the configuration file.

To re-enable LLDP on a GbE interface, perform the following steps.

	Command	Purpose
Step 1	**configure terminal**	Enters global configuration mode.
Step 2	**interface** *interface-id*	Specifies the interface on which you are disabling LLDP, and enters interface configuration mode.
Step 3	**lldp transmit**	Allows sending LLDP packets on the interface.
Step 4	**lldp receive**	Allows receiving LLDP packets on the interface.
Step 5	**end**	Returns to privileged EXEC mode.
Step 6	**copy running-config startup-config**	Saves your entries in the configuration file.

Viewing and Deleting LLDP Information

The following commands are to be executed in privileged EXEC mode.

Command	Description
show lldp	Displays global information, such as frequency of transmissions, the holdtime for packets being sent, and the delay time for LLDP, to initialize on an interface.
show lldp entry *entry-name*	Displays information about a specific neighbor. You can enter an asterisk (*) to display all neighbors, or you can enter the name of the neighbor about which you want information.
show lldp errors	Displays LLDP computational errors and overflows.
show lldp interface	Displays information about interfaces where LLDP is enabled. You can limit the display to the interface about which you want information.
show lldp neighbors [interface-id] [detail]	Displays information about neighbors, including device type, interface type and number, holdtime settings, capabilities, and port ID. You can limit the display to neighbors of a specific interface or expand the display to provide more detailed information.
show lldp traffic	Displays LLDP counters, including the number of packets sent and received, number of packets discarded, and number of unrecognized TLVs.
clear lldp counters	Resets the traffic and error counters to zero.
clear lldp table	Deletes the LLDP table of information about neighbors.