

1 LLDP Commands

Command	Function
civic-location	Configure Link Layer Discovery Protocol (LLDP) civic address information.
clear lldp statistics	Clear LLDP statistics.
clear lldp table	Clear the neighbor information of LLDP.
device-type	Configure a device type.
lldp compliance vendor	Enable the compatibility with the neighbor discovery of vendors' devices.
lldp enable	Enable the LLDP function.
lldp encapsulation snap	Set the LLDP packet encapsulation format to Subnetwork Access Protocol (SNAP).
lldp error-detect	Enable the LLDP error detection function.
lldp fast-count	Configure the number of LLDP packets that can be transmitted rapidly.
lldp hold-multiplier	Configure the time to live (TTL) multiplier for LLDP packets.
lldp ignore pvid-error-detect	Enable the function of ignoring the port VLAN ID (PVID) detection.
lldp location civic-location identifier	Configure the civic address in LLDP-MED TLVs.
lldp location elin identifier	Configure the emergency telephone number to be encapsulated in the Location Identification TLV.
lldp management-address-tlv	Configure the management address to be advertised in an LLDP packet.
lldp mode	Configure the LLDP work mode.
lldp network-policy profile	Create an LLDP network policy and enter the LLDP network policy configuration mode.
lldp notification remote-change enable	Enable the LLDP trap function.
lldp timer notification-interval	Configure the LLDP trap transmission interval.
lldp timer reinit-delay	Configure an LLDP interface initialization delay.

lldp timer tx-delay	Configure an LLDP packet transmission delay.
lldp timer tx-interval	Configure an LLDP packet transmission interval.
lldp tlv-enable	Configure the types of TLVs to be advertised.
show lldp local-information	Display the LLDP information on the local device, which will be organized as TLVs and sent to neighbors.
show lldp location	Display the LLDP civic address or emergency telephone number of the local device.
show lldp neighbors	Display the LLDP information of a neighbor received by an interface.
show lldp network-policy	Display the LLDP network policy configuration of the local device.
show lldp statistics	Display the LLDP statistics.
show lldp status	Display the LLDP status.
show lldp tlv-config	Display the configuration of TLVs to be advertised by an interface.
voice vlan	Configure an LLDP network policy, in which the application type is specified for a voice VLAN.

1.1 civic-location

Function

Run the **civic-location** command to configure Link Layer Discovery Protocol (LLDP) civic address information.

Run the **no** form of this command to remove this configuration.

No address information is configured by default.

Syntax

```
{ country | state | county | city | division | neighborhood | street-group | leading-street-dir | trailing-street-suffix | street-suffix | number | street-number-suffix | landmark | additional-location-information | name | postal-code | building | unit | floor | room | type-of-place | postal-community-name | post-office-box | additional-code } ca-word
```

```
no { country | state | county | city | division | neighborhood | street-group | leading-street-dir | trailing-street-suffix | street-suffix | number | street-number-suffix | landmark | additional-location-information | name | postal-code | building | unit | floor | room | type-of-place | postal-community-name | post-office-box | additional-code }
```

Parameter Description

Parameters of this command consist of two parts: address type indicated by *ca-type* and address information indicated by *ca-word*. The **civic-location** keyword is not reflected in the configuration command. The configuration starts directly with the *ca-type* parameter. Run the *ca-type ca-word* command to configure the device address, or run the **no** form of this command to delete the corresponding address information.

- Optional parameters for *ca-type* include the following:

country (country);

state (state, the CA type is 1);

county (county, the CA type is 2);

city (city, the CA type is 3);

division (district, the CA type is 4);

neighborhood (community, the CA type is 5);

street-group (street, the CA type is 6);

leading-street-dir (street No., the CA type is 16);

trailing-street-suffix (street No., the CA type is 17);

street-suffix (street No., the CA type is 18);

number (street No., the CA type is 19);

street-number-suffix (street No., the CA type is 20);

landmark (landmark, the CA type is 21);

additional-location-information (additional address, the CA type is 22);

name (name, the CA type is 23);

postal-code (postal code, the CA type is 24);

building (building, the CA type is 25);
unit (unit, the CA type is 26);
floor (floor, the CA type is 27);
room (room, the CA type is 28);
type-of-place (place type, the CA type is 29);
postal-community-name (post office, the CA type is 30);
post-office-box (post office box, the CA type is 31);
additional-code (additional code, the CA type is 32).

- Fill specific information in *ca-word*.

When the address type is **country**, only two characters can be used to represent a country. For example, CH represents China.

Command Modes

LLDP civic address configuration mode

Default Level

14

Usage Guidelines

Run the **lldp location civic-location identifier** *id* command to enter the LLDP civic address configuration mode.

In LLDP civic address configuration mode, run the **civic-location** command to configure the civic address information for the device.

Examples

The following example configures the LLDP civic address information, in which **LLDP Civic Address ID** is set to **1**, **Country** is set to **CH**, and **City** is set to **Fuzhou**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# lldp location civic-location identifier 1
Hostname(config-lldp-civic)# country CH
Hostname(config-lldp-civic)# city Fuzhou
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [lldp enable](#)

- [lldp location civic-location identifier](#)

1.2 clear lldp statistics

Function

Run the **clear lldp statistics** command to clear LLDP statistics.

Syntax

```
clear lldp statistics [ interface interface-type interface-number ]
```

Parameter Description

interface *interface-type interface-number*: Specifies the interface type and number.

Command Modes

Privileged EXEC mode

Default Level

2

Usage Guidelines

When the **interface** parameter is specified, this command will clear the LLDP statistics of the specified interface.

Examples

The following example clears the LLDP statistics of TenGigabitEthernet 0/1.

```
Hostname> enable
Hostname# clear lldp statistics interface tenGigabitEthernet 0/1
Hostname# show lldp statistics interface tenGigabitEthernet 0/1
Lldp statistics information of port [TenGigabitEthernet 0/1]
The number of lldp frames transmitted      : 0
The number of frames discarded             : 0
The number of error frames                 : 0
The number of lldp frames received         : 0
The number of TLVs discarded               : 0
The number of TLVs unrecognized           : 0
The number of neighbor information aged out : 0
```

Notifications

N/A

Platform Description

N/A

Related Commands

- [lldp enable](#)
- [show lldp statistics](#)

1.3 clear lldp table

Function

Run the **clear lldp table** command to clear the neighbor information of LLDP.

Syntax

```
clear lldp table [ interface interface-type interface-number ]
```

Parameter Description

interface *interface-type interface-number*: Specifies the interface type and number.

Command Modes

Privileged EXEC mode

Default Level

2

Usage Guidelines

When the **interface** parameter is specified, this command will clear the LLDP neighbor information of the specified interface. When the **interface** parameter is not specified, this command will clear the LLDP neighbor information of all interfaces.

Examples

The following example clears the LLDP neighbor information of TenGigabitEthernet 0/1.

```
Hostname> enable
Hostname# clear lldp table interface tenGigabitEthernet 0/1
Hostname# show lldp neighbors interface tenGigabitEthernet 0/1
Hostname# show lldp neighbors interface tenGigabitEthernet 0/1
Capability codes:
  (R) Router, (B) Bridge, (T) Telephone, (C) DOCSIS Cable Device
  (W) WLAN Access Point, (P) Repeater, (S) Station, (O) Other
System Name          Local Intf          Port ID             Capability
Aging-time
Total entries displayed: 0
```

Notifications

N/A

Platform Description

N/A

Related Commands

- [lldp enable](#)

1.4 device-type

Function

Run the **device-type** command to configure a device type.

Run the **no** form of this command to remove this configuration.

No device type is configured by default.

Syntax

device-type *device-type*

no device-type

Parameter Description

device-type: Device type. The value range is from 0 to 2. The value **0** indicates that the device type is DHCP server, **1** indicates that the device type is switch, and **2** indicates that the device type is LLDP- MED terminal. The default value is empty.

Command Modes

LLDP civic address configuration mode

Default Level

14

Usage Guidelines

After entering the LLDP civic address configuration mode, configure the device type.

Examples

The following example sets the device type to switch and displays the configuration result.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# lldp location civic-location identifier 1
Hostname(config-lldp-civic)# device-type 1
Hostname(config-lldp-civic)# show lldp location civic-location identifier 1
civic location information:
-----
Identifier           :1
device type          :1
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [lldp enable](#)
- [lldp location civic-location identifier](#)

1.5 lldp compliance vendor

Function

Run the **lldp compliance vendor** command to enable the compatibility with the neighbor discovery of vendors' devices.

Run the **no** form of this command to disable this feature.

The compatibility with the neighbor discovery of vendors' devices is disabled by default.

Syntax

lldp compliance vendor

no lldp compliance vendor

Parameter Description

N/A

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example enables the compatibility with the neighbor discovery of vendors' devices globally.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# lldp compliance vendor
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [lldp enable](#)
-

1.6 lldp enable

Function

Run the **lldp enable** command to enable the LLDP function.

Run the **no** form of this command to disable this feature.

The LLDP function is enabled by default.

Syntax

lldp enable

no lldp enable

Parameter Description

N/A

Command Modes

Global configuration mode

Interface configuration mode

Default Level

14

Usage Guidelines

LLDP takes effect only after it is enabled globally and on an interface.

Examples

The following example disables the LLDP function globally and on an interface.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# no lldp enable
Hostname(config)# interface tenGigabitEthernet 0/1
Hostname(config-if-TenGigabitEthernet 0/1)# no lldp enable
```

Notifications

N/A

Common Errors

The LLDP function is enabled on an interface but disabled globally. As a result, the LLDP function does not take effect.

An interface can learn a maximum of five neighbors.

If a neighbor does not support LLDP but it is connected to an LLDP-supported device in the downlink direction, an interface may learn information about the device that is not directly connected to the interface because the neighbor may forward LLDP packets.

Platform Description

N/A

Related Commands

N/A

1.7 lldp encapsulation snap

Function

Run the **lldp encapsulation snap** command to set the LLDP packet encapsulation format to Subnetwork Access Protocol (SNAP).

Run the **no** form of this command to restore the default configuration.

The default LLDP packet encapsulation format is Ethernet II.

Syntax

lldp encapsulation snap

no lldp encapsulation snap

Parameter Description

N/A

Command Modes

Interface configuration mode

Default Level

14

Usage Guidelines



The same LLDP packet encapsulation format must be configured on a device and its neighbors to ensure their normal communication.

Examples

The following example sets the LLDP packet encapsulation format to SNAP.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# interface tenGigabitEthernet 0/1
Hostname(config-if-TenGigabitEthernet 0/1)# lldp encapsulation snap
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [lldp enable](#)

1.8 lldp error-detect

Function

Run the **lldp error-detect** command to enable the LLDP error detection function.

Run the **no** form of this command to disable this feature.

The LLDP error detection function is enabled by default.

Syntax

lldp error-detect

no lldp error-detect

Parameter Description

N/A

Command Modes

Interface configuration mode

Default Level

14

Usage Guidelines

LLDP error detection function includes detecting the VLAN configuration at both ends of a link, interface status, aggregate port configuration, MTU configuration, and loops. When LLDP detects an error, an alarm is generated to alert administrators.

The LLDP error detection function relies on the specific Type, Length, Value (TLV) in LLDP packets exchanged between devices at both ends of a link. Therefore, a device needs to advertise correct TLVs to ensure that LLDP error detection functions properly.

Examples

The following example enables the LLDP error detection function.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# interface tenGigabitEthernet 0/1
Hostname(config-if-TenGigabitEthernet 0/1)# lldp error-detect
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [lldp enable](#)

1.9 lldp fast-count

Function

Run the **lldp fast-count** command to configure the number of LLDP packets that can be transmitted rapidly.

Run the **no** form of this command to remove this configuration.

By default, three LLDP packets are transmitted rapidly.

Syntax

lldp fast-count *fast-count-value*

no lldp fast-count

Parameter Description

fast-count-value: Number of LLDP packets that can be transmitted rapidly. The value range is from 1 to 10, and the default value is **3**.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

When LLDP discovers a new neighbor or the LLDP work mode is changed from disabled or Rx to TxRx or Tx, the fast transmission mechanism is started so that the neighbor quickly learns the information of the device. The fast transmission mechanism shortens the LLDP packet transmission interval to 1s, sends a certain number of LLDP packets continuously, and then restores the normal transmission interval.

Examples

The following example sets the number of LLDP packets that can be transmitted rapidly to **5**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# lldp fast-count 5
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [lldp enable](#)

1.10 lldp hold-multiplier

Function

Run the **lldp hold-multiplier** command to configure the time to live (TTL) multiplier for LLDP packets.

Run the **no** form of this command to remove this configuration.

The default TTL multiplier of LLDP packets is **4**.

Syntax

lldp hold-multiplier *tvl-value*

no lldp hold-multiplier

Parameter Description

tvl-value: TTL multiplier of LLDP packets. The value range is from 2 to 10, and the default value is **4**.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

In an LLDP packet, the value of TTL TLV is calculated using the following formula: TTL TLV = TTL multiplier × Packet transmission interval + 1. You can control the TTL of the local device information on neighbors by adjusting the TTL multiplier.

Examples

The following example sets the TTL multiplier to 5.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# lldp hold-multiplier 5
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [lldp enable](#)

1.11 lldp ignore pvid-error-detect

Function

Run the **lldp ignore pvid-error-detect** command to enable the function of ignoring the port VLAN ID (PVID) detection.

Run the **no** form of this command to disable this feature.

The function of ignoring PVID detection is disabled by default.

Syntax

lldp ignore pvid-error-detect

no lldp ignore pvid-error-detect

Parameter Description

N/A

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example enables the function of ignoring the PVID detection.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# lldp ignore pvid-error-detect
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [lldp enable](#)

1.12 lldp location civic-location identifier

Function

Run the **lldp location civic-location identifier** command to configure the civic address in LLDP-MED TLVs.

Run the **no** form of this command to remove this configuration.

Syntax

lldp location civic-location identifier *id*

no lldp location civic-location identifier *id*

Parameter Description

id: Identifier of a civic address for a network device. The value range is from 1 to 1024.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

This command is used to enter the LLDP civic address configuration mode.

You can create a civic address for a network device in LLDP civic address configuration mode.

Examples

The following example configures the civic address in LLDP-MED TLVs, and sets the ID to 1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# lldp location civic-location identifier 1
Hostname(config-lldp-civic)# exit
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [lldp enable](#)

1.13 lldp location elin identifier

Function

Run the **lldp location elin identifier** command to configure the emergency telephone number to be encapsulated in the Location Identification TLV.

Run the **no** form of this command to remove this configuration.

Syntax

```
lldp location elin identifier id elin-location tel-number
```

```
no lldp location elin identifier id
```

Parameter Description

id: Identifier of an emergency telephone number. The value range is from 1 to 1024.

tel-number: Emergency telephone number, in bytes. The value range is from 10 to 25.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

The **show lldp location elin-location { identifier *id* | interface *interface-type interface-number* | static }** command is used to display the configuration result.

Examples

The following example configures the emergency telephone number to be encapsulated in the Location Identification TLV.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# lldp location elin identifier 1 elin-location 085283671111
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [lldp enable](#)

1.14 lldp management-address-tlv

Function

Run the **lldp management-address-tlv** command to configure the management address to be advertised in an LLDP packet.

Run the **no** form of this command to remove this configuration.

By default, the management address to be advertised in an LLDP packet is the IPv4 address of the minimum VLAN supported by the interface. If no IPv4 address is configured for the VLAN with the minimum ID, LLDP keeps searching the other VLANs with the minimum ID until a qualified IPv4 address is obtained. If no IPv4 address is found, LLDP searches the IPv6 address of the minimum VLAN supported by the interface. If no IPv6 address is found, the local address 127.0.0.1 is used as the management address to be advertised.

Syntax

```
lldp management-address-tlv { ipv4-address | ipv6-address }
```

```
no lldp management-address-tlv
```

Parameter Description

ipv4-address: IPv4 management address to be advertised in an LLDP packet.

ipv6-address: IPv6 management address to be advertised in an LLDP packet.

Command Modes

Global configuration mode

Interface configuration mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example sets the management address to be advertised in an LLDP packet to **192.168.1.1**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# interface tenGigabitEthernet 0/1
Hostname(config-if-TenGigabitEthernet 0/1)# lldp management-address-tlv
192.168.1.1
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [lldp enable](#)

1.15 lldp mode

Function

Run the **lldp mode** command to configure the LLDP work mode.

Run the **no** form of this command to remove this configuration.

The default LLDP work mode is **TxRx**, that is, an interface transmits and receives LLDPDUs.

Syntax

```
lldp mode { tx | rx | txrx }
```

```
no lldp mode
```

Parameter Description

tx: Only transmits LLDPDUs.

rx: Only receives LLDPDUs.

txrx: Transmits and receives LLDPDUs.

Command Modes

Interface configuration mode

Default Level

14

Usage Guidelines

After the LLDP work mode of an interface is disabled, the interface neither transmits nor receives LLDP packets.

To make LLDP take effect on an interface, make sure to enable LLDP globally and set the LLDP work mode of the interface to **Tx**, **Rx** or **TxRx**.

Examples

The following example sets the LLDP work mode of an interface to **Tx**, that is, the interface can only transmit LLDPDUs.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# interface tenGigabitEthernet 0/1
Hostname(config-if-TenGigabitEthernet 0/1)# lldp mode tx
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [lldp enable](#)

1.16 lldp network-policy profile

Function

Run the **lldp network-policy profile** command to create an LLDP network policy and enter the LLDP network policy configuration mode.

Run the **no** form of this command to remove this configuration.

No LLDP network policy is configured by default.

Syntax

lldp network-policy profile *profile-number*

no lldp network-policy profile *profile-number*

Parameter Description

profile-number: ID of an LLDP network policy. The value range is from 1 to 1024.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

This command is used to enter the LLDP network policy mode after specifying a policy ID.

After entering the LLDP network policy mode, you can run the **voice vlan** command to configure a specific network policy.

Examples

The following example creates an LLDP network policy, with the policy ID of 1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# lldp network-policy profile 1
Hostname(config-lldp-network-policy)#
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [lldp enable](#)

1.17 lldp notification remote-change enable

Function

Run the **lldp notification remote-change enable** command to enable the LLDP trap function.

Run the **no** form of this command to disable this feature.

The LLDP trap function is disabled by default.

Syntax

lldp notification remote-change enable

no lldp notification remote-change enable

Parameter Description

N/A

Command Modes

Interface configuration mode

Default Level

14

Usage Guidelines

The LLDP trap function enables a device to send its local LLDP information (such as neighbor discovery and communication link fault) to the NMS server so that administrators learn about the network performance.

Examples

The following example enables the LLDP trap function.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# interface tenGigabitEthernet 0/1
Hostname(config-if-TenGigabitEthernet 0/1)# lldp notification remote-change
enable
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [lldp enable](#)

1.18 lldp timer notification-interval

Function

Run the **lldp timer notification-interval** command to configure the LLDP trap transmission interval.

Run the **no** form of this command to remove this configuration.

The default LLDP trap transmission interval is 5 seconds.

Syntax

lldp timer notification-interval *trap*

no lldp timer notification-interval

Parameter Description

trap: LLDP trap transmission interval, in seconds. The value range is from 5 to 3600, and the default value is 5.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

You can configure an LLDP trap transmission interval to prevent frequent transmission of LLDP trap messages. LLDP changes detected within this interval will be transmitted to the NMS server through traps.

Examples

The following example sets the LLDP trap transmission interval to 10 seconds.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# lldp timer notification-interval 10
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [lldp enable](#)

1.19 lldp timer reinit-delay

Function

Run the **lldp timer reinit-delay** command to configure an LLDP interface initialization delay.

Run the **no** form of this command to remove this configuration.

The default LLDP interface initialization delay is **2** seconds.

Syntax

lldp timer reinit-delay *reinit*

no lldp timer reinit-delay

Parameter Description

reinit: LLDP interface initialization delay, in seconds. The value range is from 1 to 10.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

An interface initialization delay can be configured to prevent frequent initialization of the state machine caused by frequent changes of the port work mode.

Examples

The following example sets the LLDP interface initialization delay to 3 seconds.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# lldp timer reinit-delay 3
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [lldp enable](#)

1.20 lldp timer tx-delay

Function

Run the **lldp timer tx-delay** command to configure an LLDP packet transmission delay.

Run the **no** form of this command to remove this configuration.

The default LLDP packet transmission delay is **2** seconds.

Syntax

lldp timer tx-delay *txdelay*

no lldp timer tx-delay

Parameter Description

txdelay: LLDP packet transmission delay, in seconds. The value range is from 1 to 8192.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

When local information of a device changes, the device immediately transmits LLDP packets to its neighbors. You can configure a transmission delay to prevent frequent transmission of LLDP packets caused by frequent changes of local information.

Examples

The following example sets the LLDP packet transmission delay to 3 seconds.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# lldp timer tx-delay 3
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [lldp enable](#)

1.21 lldp timer tx-interval

Function

Run the **lldp timer tx-interval** command to configure an LLDP packet transmission interval.

Run the **no** form of this command to remove this configuration.

The default LLDP packet transmission interval is **30** seconds.

Syntax

lldp timer tx-interval *txinterval*

no lldp timer tx-interval

Parameter Description

txinterval: LLDP packet transmission interval, in seconds. The value range is from 1 to 32768.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example sets the LLDP packet transmission interval to 10 seconds.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# lldp timer tx-interval 10
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [lldp enable](#)

1.22 lldp tlv-enable

Function

Run the **lldp tlv-enable** command to configure the types of TLVs to be advertised.

Run the **no** form of this command to remove this configuration.

By default, if a device supports the Data Center Bridging Capability Exchange protocol (DCBX), interfaces are allowed to transmit all types of TLVs except IEEE 802.3 organizationally specific TLVs and LLDP-MED TLVs. If a device does not support DCBX, interfaces are allowed to transmit all types of TLVs except the Location Identification TLV. The default transmission policy is none for the Network Policy TLV in LLDP-MED TLVs.

Syntax

lldp tlv-enable *tlv-type subtype*

no lldp tlv-enable *tlv-type subtype*

Parameter Description

tlv-type: TLV type. The value range is **basic-tlv**, **dot1-tlv**, **dot3-tlv**, and **med-tlv**. One of these types must be configured.

subtype: Sub-type. One sub-type must be configured. The sub-type varies with *tlv-type*.

- The value range of *subtype* for **basic-tlv** (basic management TLVs) is as follows:
 - **all**: Advertises all optional TLVs of this type.
 - **port-description**: Indicates the Port Description TLV.
 - **system-capability**: Indicates the System Capabilities TLV.
 - **system-description**: Indicates the System Description TLV.
 - **system-name**: Indicates the System Name TLV.
- The value range of *subtype* for **dot1-tlv** (802.1 organizationally specific TLVs) is as follows:
 - **all**: Advertises all optional TLVs of this type.
 - **port-vlan-id**: Indicates the Port VLAN ID TLV.
 - **protocol-vlan-id** [*vlan-id*]: Indicates the Port And Protocol VLAN ID TLV. Where, *vlan-id* indicates the port protocol VLAN ID. The value range is from 1 to 4094.
 - **vlan-name** [*vlan-id*]: Indicates the VLAN Name TLV. Where, *vlan-id* indicates the VLAN ID. The value range is from 1 to 4094.
- The value range of *subtype* for **dot3-tlv** (802.3 organizationally specific TLVs) is as follows:
 - **all**: Advertises all optional TLVs of this type.
 - **link-aggregation**: Indicates the Link Aggregation TLV.
 - **mac-physic**: Indicates the MAC/PHY Configuration/Status TLV.
 - **max-frame-size**: Indicates the Maximum Frame Size TLV.
 - **power**: Indicates the Power Via MDI TLV.
- The value range of *subtype* for **med-tlv** (LLDP MED TLVs) is as follows:
 - **all**: Advertises all types of LLDP-MED TLVs other than the **Location** Identification TLV.
 - **capability**: Indicates the LLDP-MED Capabilities TLV.
 - **inventory**: Indicates the inventory management TLV, which contains the hardware version, firmware version, software version, SN, manufacturer name, module name, and asset identifier.
 - **location** { **civic-location** | **elin** } **identifier** *id*: Indicates the Location Identification TLV. **civic-location**

indicates the civic address information of the network connectivity device to be encapsulated, **elin** indicates the emergency telephone number to be encapsulated, and **identifier id** indicates the policy ID, with the value range from 1 to 1024.

- **network-policy profile** [*profile-num*]: Indicates the Network Policy TLV. Where, *profile-num* indicates the network policy ID. The value range is from 1 to 1024.
- **power-over-ethernet**: Indicates the Extended Power-via-MDI TLV.

Command Modes

Interface configuration mode

Default Level

14

Usage Guidelines

- If you configure the **all** parameter for the basic management TLVs, IEEE 802.1 organizationally specific TLVs, and IEEE 802.3 organizationally specific TLVs, all optional TLVs of these types are advertised.
- If you configure the **all** parameter for the LLDP-MED TLVs, all LLDP-MED TLVs except the Location Identification TLV are advertised.
- If you want to configure the LLDP-MED **capability** TLV, configure the LLDP IEEE 802.3 **mac-physic** TLV first. If you want to cancel the LLDP IEEE 802.3 **mac-physic** TLV, cancel the LLDP-MED **capability** TLV first.
- If you want to configure LLDP-MED TLVs, configure the LLDP-MED **capability** TLV before configuring other types of LLDP-MED TLVs. If you want to cancel the advertisement of LLDP-MED TLVs, cancel the LLDP-MED **capability** TLV before canceling other types of LLDP-MED TLVs. If a device is connected to an IP phone in the downlink direction and the IP phone supports LLDP-MED, you can configure the Network Policy TLV to deliver policies to the IP phone.

Examples

The following example configures the advertisement of all optional IEEE 802.1 organizationally specific TLVs.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# interface tenGigabitEthernet 0/1
Hostname(config-if-TenGigabitEthernet 0/1)# lldp tlv-enable dot1-tlv all
```

The following example applies the LLDP network policy 1 to TenGigabitEthernet 0/1.

```
Hostname(config-if-TenGigabitEthernet 0/1)# lldp tlv-enable med-tlv network-
policy profile 1
```

The following example applies the LLDP civic address configuration to TenGigabitEthernet 0/1.

```
Hostname(config-if-TenGigabitEthernet 0/1)# lldp tlv-enable med-tlv location
civic-location identifier 1
```

The following example applies the emergency telephone number to TenGigabitEthernet 0/1.

```
Hostname(config-if-TenGigabitEthernet 0/1)# lldp tlv-enable med-tlv location elin
identifier 1
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [lldp enable](#)

1.23 show lldp local-information

Function

Run the **show lldp local-information** command to display the LLDP information on the local device, which will be organized as TLVs and sent to neighbors.

Syntax

```
show lldp local-information [ global | interface interface-type interface-number ]
```

Parameter Description

global: Displays the global LLDP information to be transmitted.

interface *interface-type interface-number*: Displays the LLDP information of a specified interface type and number to be transmitted.

Command Modes

All modes except the user EXEC mode

Default Level

2

Usage Guidelines

If no parameter is specified, all the LLDP information will be displayed, including the global and interface LLDP information.

Examples

The following example displays LLDP information on the local device, which will be organized as TLVs and sent to neighbors.

```
Hostname> enable
Hostname# show lldp local-information
Global LLDP local-information:
  Chassis ID type           : MAC address
  Chassis id                : 00d0.f822.33aa
  System name               : System name
```

```

System description           : System description
System capabilities supported : Repeater, Bridge, Router
System capabilities enabled  : Repeater, Bridge, Router
LLDP-MED capabilities       : LLDP-MED Capabilities, Network Policy,
Location Identification, Extended Power via MDI-PD, Inventory
Device class                 : Network Connectivity
HardwareRev                  : 1.0
FirmwareRev                  :
SoftwareRev                  :
SerialNum                    : 1234942570001
Manufacturer name            : Manufacturer name
Asset tracking identifier     :
-----
LLDP local-information of port [TenGigabitEthernet 0/1]
-----
Port ID type                 : Interface name
Port id                      : TenGigabitEthernet 0/1
Port description             :
Management address subtype  : 802 mac address
Management address          : 00d0.f822.33aa
Interface numbering subtype  :
Interface number             : 0
Object identifier           :
802.1 organizationally information
Port VLAN ID                 : 1
Port and protocol VLAN ID (PPVID) : 1
    PPVID Supported          : YES
    PPVID Enabled           : NO
VLAN name of VLAN 1         : VLAN0001
Protocol Identity           :
802.3 organizationally information
Auto-negotiation supported  : YES
Auto-negotiation enabled    : YES
PMD auto-negotiation advertised :
Operational MAU type        : Speed(100)/Duplex(Half)
PoE support                  : NO
Link aggregation supported   : YES
Link aggregation enabled     : NO
Aggregation port ID         : 0
Maximum frame Size          : 1500
LLDP-MED organizationally information
Power-via-MDI device type    : PD
Power-via-MDI power source   : Local
Power-via-MDI power priority :
Power-via-MDI power value    :
Model name                   : Model name

```

Table 1-1 Output Fields of the show lldp local-information Command

Field	Description
Chassis ID type	Chassis ID type, used to identify the Chassis ID field.
Chassis ID	Device ID, represented using a MAC address.
System name	Device name.
System description	Device description, including the hardware version, software version, and operating system information.
System capabilities supported	Functions supported by the system.
System capabilities enabled	Functions enabled in the system.
LLDP-MED capabilities	LLDP-MED capabilities supported by the system.
Device class	<p>MED device type. There are two types: network connectivity device and terminal device.</p> <ul style="list-style-type: none"> ● Network connectivity device: Network connection device. ● Class I: General terminal device. ● Class II: Media terminal device, which supports the capabilities of class I devices and media streaming. ● Class III: Communication terminal device, which supports the capabilities of class I and class II devices, and IP communication.
HardwareRev	Hardware version.
FirmwareRe	Firmware version.
SoftwareRev	Software version.
SerialNum	Serial number.
Manufacturer name	Manufacturer.
Asset tracking identifier	Asset identifier.
Port ID type	Port ID type.
Port ID	Port ID.
Port description	Port descriptor.
Management address subtype	Management address type.
Management address	Management address.
Interface numbering subtype	Management address interface type.

Field	Description
Interface number	Management address interface ID.
Object identifier	Management address object identifier.
Port VLAN ID	Port VLAN ID.
Port and protocol VLAN ID	Port and protocol VLAN ID.
PPVID Supported	Whether the port and protocol VLAN is supported. <ul style="list-style-type: none"> ● Yes: Supported. ● No: Not supported.
PPVID Enabled	Whether the port and protocol VLAN is enabled. <ul style="list-style-type: none"> ● Yes: Enabled. ● No: Disabled.
VLAN name of VLAN 1	Name of VLAN 1.
Protocol Identity	Protocol identifier.
Auto-negotiation supported	Whether auto-negotiation is supported. <ul style="list-style-type: none"> ● Yes: Supported. ● No: Not supported.
Auto-negotiation enabled	Whether auto-negotiation is enabled. <ul style="list-style-type: none"> ● Yes: Enabled. ● No: Disabled.
PMD auto-negotiation advertised	Auto-negotiation capability advertised by the interface: <ul style="list-style-type: none"> ● 1000BASE-T(FD) ● 1000BASE-T(HD) ● 1000BASE-X, -LX, -SX, -CX(FD) ● 1000BASE-X, -LX, -SX, -CX(HD) ● Asymmetric and Symmetric PAUSE(FD) ● Symmetric PAUSE(FD) ● Asymmetric PAUSE(FD) ● PAUSE(FD) ● 100BASE-T2(FD) ● 100BASE-T2(HD) ● 100BASE-TX(FD) ● 100BASE-TX(HD) ● 100BASE-T4 ● 10BASE-T(FD) ● 10BASE-T(HD) ● Other: Capability other than values above.
Operational MAU type	Interface auto-negotiation rate and duplex mode.

Field	Description
PoE support	Whether PoE is supported. <ul style="list-style-type: none"> ● Yes: Supported. ● No: Not supported.
Link aggregation supported	Whether link aggregation is supported. <ul style="list-style-type: none"> ● Yes: Supported. ● No: Not supported.
Link aggregation enabled	Whether link aggregation is enabled. <ul style="list-style-type: none"> ● Yes: Enabled. ● No: Disabled.
Aggregation port ID	Link aggregation port ID.
Maximum frame Size	Maximum frame length supported by an interface.
Power-via-MDI device type	Device type, including power sourcing equipment (PSE) and powered device (PD).
Power-via-MDI power source	Power supply type.
Power-via-MDI power priority	Power supply priority.
Power-via-MDI power value	Interface power.
Model name	Module name.

Notifications

N/A

Platform Description

N/A

Related Commands

- [lldp enable](#)

1.24 show lldp location

Function

Run the **show lldp location** command to display the LLDP civic address or emergency telephone number of the local device.

Syntax

```
show lldp location { civic-location | elin-location } { identifier id | interface interface-type interface-number
| static }
```

Parameter Description

civic-location: Indicates the encapsulated civic address information of the network connectivity device.

elin-location: Indicates the encapsulated emergency telephone number.

identifier id: Displays the address or emergency telephone number configured by users in a policy of a specified policy ID. The value range is from 1 to 1024.

interface interface-type interface-number: Displays the address or emergency telephone number on a specified interface. *interface-type interface-number* indicates the interface type and number.

static: Displays all addresses or emergency telephone numbers configured by users.

Command Modes

All modes except the user EXEC mode

Default Level

2

Usage Guidelines

If a policy ID is specified, the specific address or emergency telephone number will be displayed.

If an interface type and number are specified, the address and emergency telephone configured for this interface will be displayed.

If no parameter is specified, all addresses or emergency telephone numbers will be displayed.

Examples

The following example displays the LLDP civic address configured for the local device.

```
Hostname> enable
Hostname# show lldp location civic-location static
Civic location information
-----
Identifier                : 1
County                    : CH
City Division              : fuzhou
Leading street direction: 44
Street number              : 68
Landmark                   : 233
Name                       : liuy
Building                   : 19bui
Floor                      : 1
Room                       : 33
City                       : fuzhou
Country                    : 86
Additional location        : aaa
```



```
Ports                : Te0/1
-----
Identifier           : tee
-----
```

The following example displays the emergency telephone number of the local device.

```
Hostname# show lldp location elin-location static
Elin location information
-----
Identifier : t
Elin      : iiiiiiiiii
Ports     : Te1/0/3
-----
```

Notifications

N/A

Platform Description

N/A

Related Commands

- [lldp enable](#)
- [lldp location civic-location identifier](#)
- [lldp location elin identifier](#)

1.25 show lldp neighbors

Function

Run the **show lldp neighbors** command to display the LLDP information of a neighbor received by an interface.

Syntax

```
show lldp neighbors [ interface interface-type interface-number ] [ detail ]
```

Parameter Description

interface *interface-type interface-number*: Displays the LLDP information of a neighbor received by a specified interface. If this parameter is not specified, the LLDP information received by all interfaces is displayed.

detail: Displays the details about a neighbor. If this parameter is not specified, the neighbor summary is displayed.

Command Modes

All modes except the user EXEC mode

Default Level

2

Usage Guidelines

If no parameter is specified, the LLDP summaries of neighbors received by all interfaces are displayed.

Examples

The following example displays the LLDP details of neighbors received by all interfaces.

```

Hostname> enable
Hostname# show lldp neighbors detail
-----
LLDP neighbor-information of port [TenGigabitEthernet 0/1]
-----
Neighbor index                : 1
Device type                   : LLDP Device
Update time                   : 1hour 53minutes 30seconds
Aging time                    : 5seconds
Chassis ID type               : MAC address
Chassis id                    : 00d0.f822.33cd
System name                   : System name
System description            : System description
System capabilities supported  : Repeater, Bridge, Router
System capabilities enabled    : Repeater, Bridge, Router
Management address subtype    : 802 mac address
Management address            : 00d0.f822.33cd
Interface numbering subtype    :
Interface number              : 0
Object identifier             :
LLDP-MED capabilities         :
Device class                  :
HardwareRev                   :
FirmwareRev                   :
SoftwareRev                   :
SerialNum                     :
Manufacturer name             :
Asset tracking identifier      :
Port ID type                  : Interface name
Port id                       : TenGigabitEthernet 0/1
Port description              :
802.1 organizationally information
Port VLAN ID                  : 1
Port and protocol VLAN ID (PPVID) : 1
    PPVID Supported           : YES
    PPVID Enabled             : NO
VLAN name of VLAN 1          : VLAN0001
Protocol Identity             :
802.3 organizationally information
Auto-negotiation supported    : YES

```

```

Auto-negotiation enabled          : YES
PMD auto-negotiation advertised  : 1000BASE-T full duplex mode, 100BASE-TX
full duplex mode, 100BASE-TX half duplex mode, 10BASE-T full duplex mode, 10BASE-
T half duplex mode
Operational MAU type              : speed(1000)/duplex(Full)
PoE support                       : NO
Link aggregation supported        : YES
Link aggregation enabled          : NO
Aggregation port ID              : 0
Maximum frame Size                : 1500
LLDP-MED organizationally information
Power-via-MDI device type         :
Power-via-MDI power source        :
Power-via-MDI power priority      :
Power-via-MDI power value         :

```

Table 1-1 Output Fields of the show lldp neighbors Command

Field	Description
Neighbor index	Neighbor index.
Device type	Neighbor type.
Update time	Last update time of neighbor information.
Aging time	Aging time of neighbor information, namely, the number of seconds after which the neighbor information will be deleted due to aging.
Chassis ID type	Chassis ID type.
Chassis ID	Device ID, represented using a MAC address.
System name	Device name.
System description	Device description, including the hardware version, software version, and operating system information.
System capabilities supported	Functions supported by the system.
System capabilities enabled	Functions enabled in the system.
Management address subtype	Management address type.
Management address	Management address.
Interface numbering subtype	Management address interface type.
Interface number	Management address interface ID.

Field	Description
Object identifier	Management address object identifier.
Device class	<p>MED device type. There are two types: network connectivity device and terminal device.</p> <ul style="list-style-type: none"> ● Network connectivity device: Network connection device. ● Class I: General terminal device. ● Class II: Media terminal device, which supports the capabilities of class I devices and media streaming. ● Class III: Communication terminal device, which supports the capabilities of class I and class II devices, and IP communication.
HardwareRev	Hardware version.
FirmwareRev	Firmware version.
SoftwareRev	Software version.
SerialNum	Serial number.
Manufacturer name	Manufacturer.
Asset tracking identifier	Asset identifier.
Port ID type	Port ID type.
Port ID	Port ID.
Port description	Port descriptor.
Port VLAN ID	Port VLAN ID.
Port and protocol VLAN ID	Port and protocol VLAN ID.
PPVID Supported	<p>Whether the port and protocol VLAN is supported.</p> <ul style="list-style-type: none"> ● Yes: Supported. ● No: Not supported.
PPVID Enabled	<p>Whether the port and protocol VLAN is enabled.</p> <ul style="list-style-type: none"> ● Yes: Enabled. ● No: Disabled.
VLAN name of VLAN 1	Name of VLAN 1.
Protocol Identity	Protocol identifier.
Auto-negotiation supported	<p>Whether auto-negotiation is supported.</p> <ul style="list-style-type: none"> ● Yes: Supported. ● No: Not supported.
Auto-negotiation enabled	<p>Whether auto-negotiation is enabled.</p> <ul style="list-style-type: none"> ● Yes: Enabled. ● No: Disabled.

Field	Description
PMD auto-negotiation advertised	<p>Auto-negotiation capability advertised by the interface:</p> <ul style="list-style-type: none"> ● 1000BASE-T(FD) ● 1000BASE-T(HD) ● 1000BASE-X, -LX, -SX, -CX(FD) ● 1000BASE-X, -LX, -SX, -CX(HD) ● Asymmetric and Symmetric PAUSE(FD) ● Symmetric PAUSE(FD) ● Asymmetric PAUSE(FD) ● PAUSE(FD) ● 100BASE-T2(FD) ● 100BASE-T2(HD) ● 100BASE-TX(FD) ● 100BASE-TX(HD) ● 100BASE-T4 ● 10BASE-T(FD) ● 10BASE-T(HD) ● Other: Capability other than values above.
Operational MAU type	Interface auto-negotiation rate and duplex mode.
PoE support	<p>Whether PoE is supported.</p> <ul style="list-style-type: none"> ● Yes: Supported. ● No: Not supported.
Link aggregation supported	<p>Whether link aggregation is supported.</p> <ul style="list-style-type: none"> ● Yes: Supported. ● No: Not supported.
Link aggregation enabled	<p>Whether link aggregation is enabled.</p> <ul style="list-style-type: none"> ● Yes: Enabled. ● No: Disabled.
Aggregation port ID	Link aggregation port ID.
Maximum frame Size	Maximum frame length supported by an interface.
Power-via-MDI device type	<p>Device type.</p> <ul style="list-style-type: none"> ● PSE: Power sourcing equipment. ● PD: Powered device.
Power-via-MDI power source	Power supply type.
Power-via-MDI power priority	Power supply priority.
Power-via-MDI power value	Interface power.

Notifications

N/A

Platform Description

N/A

Related Commands

- [lldp enable](#)

1.26 show lldp network-policy

Function

Run the **show lldp network-policy** command to display the LLDP network policy configuration of the local device.

Syntax

```
show lldp network-policy { profile [ profile-num ] | interface interface-type interface-number }
```

Parameter Description

profile *profile-num*: Displays the configuration of a specified network policy. The value range of a policy ID is from 1 to 1024.

interface *interface-type interface-number*: Displays the network policy configuration of a specified interface.

Command Modes

All modes except the user EXEC mode

Default Level

2

Usage Guidelines

If no parameter is specified, the information about all network policies is displayed.

Examples

The following example displays the LLDP network policy configuration of the local device.

```
Hostname> enable
Hostname# show lldp network-policy profile
network-policy information:
-----
Network Policy Profile 1
  voice vlan 2 cos 4 dscp 6
  voice-signaling vlan 2000 cos 4 dscp 6
```

Notifications

N/A

Platform Description

N/A

Related Commands

- [lldp enable](#)

1.27 show lldp statistics

Function

Run the **show lldp statistics** command to display the LLDP statistics.

Syntax

```
show lldp statistics [ global | interface interface-type interface-number ]
```

Parameter Description

global: Displays the global LLDP statistics.

interface *interface-type interface-number*: Displays the LLDP statistics of a specified interface.

Command Modes

All modes except the user EXEC mode

Default Level

2

Usage Guidelines

If no parameter is specified, the global LLDP statistics and LLDP statistics of all interfaces are displayed.

Examples

The following example displays the LLDP statistics of all interfaces.

```
Hostname> enable
Hostname# show lldp statistics
lldp statistics global Information:
Neighbor information last changed time      : 1hour 52minute 22second
The number of neighbor information inserted : 2
The number of neighbor information deleted  : 0
The number of neighbor information dropped  : 0
The number of neighbor information age out  : 1
Lldp statistics information of port [TenGigabitEthernet 0/1]
The number of lldp frames transmitted      : 26
The number of frames discarded              : 0
The number of error frames                  : 0
The number of lldp frames received         : 12
The number of TLVs discarded                : 0
The number of TLVs unrecognized            : 0
The number of neighbor information aged out : 0
```

Table 1-1 Output Fields of the show lldp statistics Command

Field	Description
lldp statistics global Information	LLDP global statistics.
Neighbor information last change time	Last update time of neighbor information.
The number of neighbor information inserted	Number of times that neighbor information is updated.
The number of neighbor information deleted	Number of times that neighbor information is deleted.
The number of neighbor information dropped	Number of times that neighbor information is discarded.
The number of neighbor information aged out	Number of timeout times of neighbor information.
Lldp statistics information of port [GigabitEthernet 0/1]	LLDP statistics on the port GigabitEthernet 0/1.
The number of lldp frames transmitted	Number of LLDP frames that are transmitted by the interface.
The number of frames discarded	Number of LLDP frames that are discarded by the interface.
The number of error frames	Number of LLDP error frames occurring on the interface.
The number of lldp frames received	Number of LLDP frames that are received by the interface.
The number of TLVs discarded	Number of LLDP TLVs that are discarded by the interface.
The number of TLVs unrecognized	Number of LLDP TLVs that cannot be recognized by the interface.
The number of neighbor information aged out	Number of timeout times of neighbor information on the interface.

Notifications

N/A

Platform Description

N/A

Related Commands

- [lldp enable](#)
- [clear lldp statistics](#)

1.28 show lldp status**Function**

Run the **show lldp status** command to display the LLDP status.

Syntax

```
show lldp status [ interface interface-type interface-number ]
```

Parameter Description

interface interface-type interface-number: Displays the LLDP status of a specified interface.

Command Modes

All modes except the user EXEC mode

Default Level

2

Usage Guidelines

If the **interface** is not specified, the LLDP statuses of all interfaces are displayed.

Examples

The following example displays the LLDP statuses of all interfaces.

```

Hostname> enable
Hostname# show lldp status
Global status of LLDP                : Enable
Neighbor information last changed time : 1hour 52minute 22second
Transmit interval                    : 30s
Hold multiplier                      : 4
Reinit delay                         : 2s
Transmit delay                       : 2s
Notification interval                : 5s
Fast start counts                    : 3
-----
Port [TenGigabitEthernet 0/1]
-----
Port status of LLDP                  : Enable
Port state                           : UP
Port encapsulation                   : Ethernet II
Operational mode                     : RxAndTx
Notification enable                  : NO
Error detect enable                  : YES
Number of neighbors                  : 1
Number of MED neighbors              : 0

```

Table 1-1 Output Fields of the show lldp status Command

Field	Description
Global status of LLDP	Whether the global LLDP function is enabled. <ul style="list-style-type: none"> ● Enable: Enabled. ● Disable: Disabled.

Field	Description
Neighbor information last changed time	Last update time of neighbor information.
Transmit interval	LLDP packet transmission interval.
Hold multiplier	TTL multiplier.
Reinit delay	Interface initialization delay.
Transmit delay	LLDP packet transmission delay.
Notification interval	LLDP trap transmission interval.
Fast start counts	Number of LLDP packets that are transmitted rapidly.
Port status of LLDP	Whether the LLDP function is enabled on an interface. <ul style="list-style-type: none"> ● Enable: Enabled. ● Disable: Disabled.
Port state	Interface link state. <ul style="list-style-type: none"> ● UP: The link is up. ● DOWN: The link is down.
Port encapsulation	LLDP packet encapsulation format.
Operational mode	LLDP work mode.
Notification enable	Whether the LLDP trap function is enabled on an interface. <ul style="list-style-type: none"> ● Yes: Enabled. ● No: Disabled.
Error detect enable	Whether the error detection function is enabled on an interface. <ul style="list-style-type: none"> ● Yes: Enabled. ● No: Disabled.
Number of neighbors	Number of neighbors.
Number of MED neighbors	Number of MED neighbors.

Notifications

N/A

Platform Description

N/A

Related Commands

- [lldp enable](#)

1.29 show lldp tlv-config

Function

Run the **show lldp tlv-config** command to display the configuration of TLVs to be advertised by an interface.

Syntax

```
show lldp tlv-config [ interface interface-type interface-number ]
```

Parameter Description

interface *interface-type interface-number*: Displays the LLDP TLV configuration of a specified interface.

Command Modes

All modes except the user EXEC mode

Default Level

2

Usage Guidelines

If the **interface** parameter is not specified, the LLDP TLV configuration of all interfaces is displayed.

Examples

The following example displays the configuration of TLVs to be advertised by interface TenGigabitEthernet 0/1.

```

Hostname> enable
Hostname# show lldp tlv-config interface tenGigabitEthernet 0/1
LLDP tlv-config of port [TenGigabitEthernet 0/1]
-----
                NAME                STATUS  DEFAULT
-----
Basic optional TLV:
Port Description TLV                YES    YES
System Name TLV                     YES    YES
System Description TLV              YES    YES
System Capabilities TLV             YES    YES
Management Address TLV             YES    YES
IEEE 802.1 extend TLV:
Port VLAN ID TLV                   YES    YES
Port And Protocol VLAN ID TLV      YES    YES
VLAN Name TLV                      YES    YES
IEEE 802.3 extend TLV:
MAC-Physic TLV                     YES    YES
Power via MDI TLV                  YES    YES
Link Aggregation TLV               YES    YES
Maximum Frame Size TLV             YES    YES
LLDP-MED extend TLV:
Capabilities TLV                    YES    YES
Network Policy TLV                 YES    YES

```

Location Identification TLV	NO	NO
Extended Power via MDI TLV	YES	YES
Inventory TLV	YES	YES

Notifications

N/A

Platform Description

N/A

Related Commands

- [lldp enable](#)

1.30 voice vlan

Function

Run the **voice vlan** command to configure an LLDP network policy, in which the application type is specified for a voice VLAN.

Run the **no** form of this command to remove this configuration.

Run the **default { voice | voice-signaling } vlan** command to restore the default configuration.

No voice VLAN policy is configured by default.

Syntax

```
{ voice | voice-signaling } vlan { { { vlan-id | dot1p } [ cos cos | dscp dscp ] } | untagged | none }
```

```
no { voice | voice-signaling } vlan
```

```
default { voice | voice-signaling } vlan
```

Parameter Description

voice: Applies a policy to a voice VLAN.

voice-signaling: Specifies the voice-signaling application type. The function is the same as that of the **voice** command.

{ *vlan-id* | **dot1p** } [**cos** *cos* | **dscp** *dscp*]: Configures the transmission of tagged frames in a voice VLAN.

vlan-id: ID of the VLAN where the voice stream is transmitted. The value range is from 1 to 4094. This VLAN ID will be added to voice packets.

dot1p: Sets the VLAN ID in the VLAN tag to 0. This tag frame contains only the following priority information: *cos* and *dscp*.

cos *cos*: Configures the Class of Service (CoS) value for the voice stream in a voice VLAN. The value range is from 0 to 7, and the default value is **5**. A larger value indicates a higher priority. The CoS value is 0 for a common VLAN packet, indicating the lowest priority. By default, the CoS value of the voice stream packets transmitted to a voice VLAN is raised to 6, higher than the priority of a common VLAN packet. The CoS value indicates the L2 priority and is saved in the L2 header of a packet. It is filled in the **PRI** field of the IEEE 802.1Q VLAN tag.

dscp dscp: Configures the Differentiated Services Code Point (DSCP) for the voice stream in a voice VLAN. The value range is from 0 to 63, and the default value is **46**. A larger value indicates a higher priority. The DSCP value is 0 for a common IP packet, indicating the lowest priority. By default, the DSCP value of the voice stream packets transmitted to a voice VLAN is 46, higher than the priority of a common IP packet. The DSCP value indicates the IP priority (IP PRE) and is saved in the L3 header of a packet. For an IPv4 packet, the DSCP value is filled in the first six bits (bit 0 to bit 5) in the **ToS** field of the IPv4 packet header. For an IPv6 packet, the DSCP value is filled in the first six bits in the **Traffic Class** field of the IPv6 packet header.

untagged: Configures a VoIP device to transmit untagged frames. In this case, the VLAN ID and CoS value are ignored.

none: Indicates that no network policy is delivered, and the VoIP device determines the frames to be sent according to its configuration.

Command Modes

LLDP network-policy configuration mode

Default Level

14

Usage Guidelines

Configure an LLDP network policy after entering the LLDP network policy configuration mode.

If a device is connected to an IP phone in the downlink direction and the IP phone supports LLDP-MED, you can configure the Network Policy TLV to deliver a policy to the IP phone so that the IP phone changes the voice stream tag and QoS. The configuration procedure is as follows:

- (1) Enable the voice VLAN function, and add the interface connected to the IP phone to the voice VLAN statically. For configuration details, see "Configuring Voice VLAN" in "Ethernet Switch."
- (2) Configure the interface connected to the IP phone as an QoS trust interface (you are advised to use the DSCP trust mode). For configuration details, see "Configuring QoS" in "ACL and QoS."
- (3) If 802.1x authentication is enabled on this interface, you also need to configure a secure channel to allow packets in the voice VLAN to pass. For details, see "Configuring ACL" in "ACL and QoS".
- (4) If the IP phone does not support LLDP-MED, be sure to enable the voice VLAN function and add the MAC address of the IP phone to the voice VLAN OUI list manually.

Examples

The following example configures LLDP network policy 1, in which tagged frames need to be transmitted, the VLAN ID is set to 3, CoS is set to 4, and DSCP is set to 40.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# lldp network-policy profile 1
Hostname(config-lldp-network-policy)# voice-signaling vlan 3 cos 4
Hostname(config-lldp-network-policy)# voice-signaling vlan 3 dscp 40
Hostname(config-lldp-network-policy)# exit
```

The following example configures LLDP network policy 2, in which untagged frames need to be transmitted.

```
Hostname(config)# lldp network-policy profile 2
```

```
Hostname(config-lldp-network-policy)# voice vlan untagged
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [lldp enable](#)