

1 DLDP Commands

Command	Function
clear dldp	Clear statistics on the link up/down counts of a Data Link Detection Protocol (DLDP) monitoring point.
dldp	Enable the DLDP detection function.
dldp passive	Set the DLDP detection mode of a port to passive mode.
dldp interval	Configure a global detection interval for DLDP detection.
dldp retry	Configure the number of global retransmission times for DLDP detection.
dldp resume	Configure the number of link recovery times for all the DLDP detection operations.
show dldp	Display the configuration or statistics of DLDP monitoring points.

1.1 clear dldp

Function

Run the **clear dldp** command to clear statistics on the link up/down counts of a Data Link Detection Protocol (DLDP) monitoring point.

Syntax

```
clear dldp [ interface interface-type interface-number [ ipv4-address ] ]
```

Parameter Description

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

ipv4-address: IP address of the peer device.

Command Modes

Privileged EXEC mode

Default Level

2

Usage Guidelines

DLDP records the statistics on link up/down counts. You can run this command to clear the statistics on link up/down counts of a specified monitoring point and restart counting.

You can specify an L3 port or device IP address to clear the statistics of all the monitoring points or a monitoring point on the specified L3 port. When no parameter is specified, the statistics of all the monitoring points are cleared.

Examples

The following example clears statistics on the link up/down counts of each DLDP monitoring point.

```
Hostname> enable
Hostname# clear dldp
```

The following example clears statistics on the link up/down counts of all the monitoring points on port GigabitEthernet 0/1.

```
Hostname> enable
Hostname# clear dldp interface gigabitethernet 0/1
```

The following example clears statistics on the up/down counts of the link to 192.168.0.1 on port GigabitEthernet 0/1.

```
Hostname> enable
Hostname# clear dldp interface gigabitethernet 0/1 192.168.0.1
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.2 dldp

Function

Run the **dldp** command to enable the DLDP detection function.

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

By default, the number of retransmission times of DLDP detection is **4**, the number of recovery times is **3**, and the detection interval is **1** second.

Syntax

```
dldp ipv4-address [ next-hop-ipv4-address ] [ mac-address mac-address ] [ interval tick-interval | resume resume-number | retry retry-number ]
```

```
no dldp ipv4-address
```

Parameter Description

ipv4-address: IP address of the peer device to be detected.

next-hop-ipv4-address: Next-hop IP address. If the peer device to be detected is in a different network segment, the next-hop IP address must be specified.

mac-address *mac-address*: Indicates the MAC address to be bound. If a next-hop IP address is specified, set this parameter to the MAC address of the next-hop device.

interval *tick-interval*: Configures the detection interval, in ticks (1 tick = 10 milliseconds). The value range is from 5 to 6000, and the value must be an integral multiple of 5.

resume *resume-number*: Configures the number of times for link recovery of the peer device to be detected, namely, the number of DLDP detection packets that need to be received consecutively before the link state changes from down to up. The value range is from 1 to 200.

retry *retry-number*: Configures the number of retransmission times. The value range is from 1 to 3600.

Command Modes

Interface configuration mode

Default Level

14

Usage Guidelines

This command is used to enable DLDP detection, to rapidly detect an Ethernet link failure.

DLDP can detect multiple IP addresses configured on an L3 port. DLDP sets the port to down when none of the IP addresses returns an ICMP reply. If one of the IP addresses resumes communication, DLDP sets the port to up.

Examples

The following example sets the IP address of port GigabitEthernet 0/1 to 192.168.0.1/24, enables DLDP detection on this port, and sets the IP address of the peer device to be detected to 192.168.0.2.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# interface gigabitethernet 0/1
Hostname(config-if-GigabitEthernet0/1)# no switchport
Hostname(config-if-GigabitEthernet0/1)# ip address 192.168.0.1 255.255.255.0
Hostname(config-if-GigabitEthernet0/1)# dldp 192.168.0.2
```

The following example sets the IP address of port GigabitEthernet 0/1 to 192.168.0.1/24, enables inter-network segment DLDP detection on this port, and sets the IP address of the peer device to be detected to 192.168.1.1 and the next-hop routing IP address to 192.168.0.2.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# interface gigabitethernet 0/1
Hostname(config-if-GigabitEthernet0/1)# no switchport
Hostname(config-if-GigabitEthernet0/1)# ip address 192.168.0.1 255.255.255.0
Hostname(config-if-GigabitEthernet0/1)# dldp 192.168.1.1 192.168.0.2
```

The following example disables DLDP detection for the peer IP address 192.168.0.2 on the port GigabitEthernet 0/1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# interface gigabitethernet 0/1
Hostname(config-if-GigabitEthernet0/1)# no dldp 192.168.0.2
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [dldp interval](#)
- [dldp retry](#)
- [dldp resume](#)

1.3 dldp passive

Function

Run the **dldp passive** command to set the DLDP detection mode of a port to passive mode.

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

The default DLDP detection mode is active mode.

Syntax

dldp passive

no dldp passive

Parameter Description

N/A

Command Modes

Interface configuration mode

Default Level

14

Usage Guidelines

If DLDP detection is enabled on the devices at both ends and both devices send ICMP echo packets to each other to realize connectivity detection, duplicate packets will exist. During DLDP detection, so long as the device at one end sends an ICMP echo packet and the peer device judges whether the packet can be received in time by using the same detection parameters, both devices can detect the link connectivity. In this way, DLDP detection saves bandwidth and CPU resources. Therefore, the device responsible for sending ICMP echo packets can be configured to work in active mode, and the device used for only receiving ICMP echo packets can be configured to work in passive mode.

When the passive mode is enabled, ensure that the time parameter configuration of the peer device is completely consistent with that of the local device so that the link detection state is synchronized. Otherwise, in the passive mode, the link state may be misjudged because the peer device fails to send packets synchronously.

Examples

The following example sets the DLDP detection mode to passive mode for port GigabitEthernet 0/1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# interface gigabitethernet 0/1
Hostname(config-if-GigabitEthernet0/1)# dldp passive
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [dldp](#)

1.4 dldp interval

Function

Run the **dldp interval** command to configure a global detection interval for DLDP detection.

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

The default global detection interval of DLDP detection is **1** second.

Syntax

dldp interval *tick-interval*

no dldp interval

Parameter Description

tick-interval: Detection interval, in ticks (1 tick = 10 milliseconds). The value range is from 5 to 6000, and the value must be an integral multiple of 5.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

The configuration of this command takes effect immediately for all DLDP detection operations.

When a network device does not receive any reply packet from the peer device within the period of the detection interval multiplied by the number of detection retransmission times, the device determines that the L3 port is down (despite the physical link reachable). When normal communication is resumed, the L3 port is up.

When adjusting this parameter, you need to take into account the number of DLDP sessions and the CPP bandwidth; otherwise the device performance is consumed, and misjudgment and network flapping can be caused easily. Generally, you are advised to use the default configuration. When the number of DLDP sessions exceeds 10, you are advised to configure a detection interval not less than 100 ticks.

Examples

The following example sets a global detection interval of DLDP detection to 200 milliseconds (200 ticks).

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# dldp interval 20
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.5 dldp retry

Function

Run the **dldp retry** command to configure the number of global retransmission times for DLDP detection.

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

The default number of global retransmission times of DLDP detection is **4**.

Syntax

dldp retry *retry-number*

no dldp retry

Parameter Description

retry-number: Number of retransmission times. The value range is from 1 to 3600.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

The configuration of this command takes effect immediately for all DLDP detection operations.

Setting the number of retransmission times to 1 can easily lead to misjudgment and network flapping. You are advised to set the number of retransmission times to 2 at least.

Examples

The following example sets the number of retransmission times to 4 for all DLDP detection operations.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# dldp retry 4
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.6 dldp resume

Function

Run the **dldp resume** command to configure the number of link recovery times for all the DLDP detection operations.

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

The default number of link recovery times of all DLDP detection operations is **3**.

Syntax

dldp resume *resume-number*

no dldp resume

Parameter Description

no dldp resume: Configures the number of times for link recovery for the peer device to be detected. This parameter specifies the number of DLDP detection packets that need to be received consecutively before the link state changes from down to up. The value range is 1 to 200.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

The configuration of this command takes effect immediately for all DLDP detection operations.

Setting the number of recovery times to 1 can easily lead to misjudgment and network flapping. You are advised to set the number of recovery times to 2 at least.

Examples

The following example sets the number of link recovery times to 4 for all DLDP detection operations.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# dldp resume 4
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.7 show dldp**Function**

Run the **show dldp** command to display the configuration or statistics of DLDP monitoring points.

Syntax

```
show dldp [ interface interface-type interface-number ] [ statistic ]
```

Parameter Description

interface interface-type interface-number: Configures the port type and number. If this parameter is not configured in the command, the related information of all ports is displayed.

statistic: Displays the statistics of DLDP monitoring points. If this parameter is not configured in the command, the configuration is displayed.

Defaults

N/A

Command Modes

All modes except the user EXEC mode

Default Level

2

Usage Guidelines

You can specify parameters of an L3 port to display the configuration and statistics of all the monitoring points on the port.

Examples

The following example displays the configuration of all the monitoring points of DLDP.

```

Hostname> enable
Hostname# show dldp
Interface  Type      Ip          Next-hop    Interval  Retry  Resume  State
Gi0/1     Active   192.168.0.1 192.168.1.2 100        4      3       Up
Gi0/2     Passive  192.168.2.1          100        4      3       Up

```

The following example displays the configuration of all the monitoring points on L3 port GigabitEthernet 0/1.

```

Hostname> enable
Hostname# show dldp intface gigabitethernet 0/1
Interface  Type      Ip          Next-hop    Interval  Retry  Resume  State
Gi0/1     Active   192.168.0.1 192.168.1.2 100        4      3       Up

```

Table 1-1 Output Fields of the show dldp Command

Field	Description
Interface	Name of a detected port.
Type	Detection mode.
Ip	IP address of the detected peer device.
Next-hop	Next-hop IP address for detection.
Interval	Detection interval.
Retry	Number of retransmission times.
Resume	Number of link recovery times.
State	Detection state.

The following example displays the statistics of all the monitoring points of DLDP.

```

Hostname> enable
Hostname# show dldp statistic
Interface  Type      Ip      record-time  Up-count  Down-count
Gi0/1     Active   192.168.0.1  2h34m5s     10        9
Gi0/2     Passive  192.168.2.1  1d2h3m52s   6         8

```

The following example displays the statistics of all the monitoring points on L3 port GigabitEthernet 0/1.

```

Hostname> enable
Hostname# show dldp interface gigabitethernet 0/1 statistic
Interface  Type      Ip      record-time  Up-count  Down-count
Gi0/1     Active   192.168.0.1  2h34m5s     10        9

```

Table 1-2 Output Fields of the show dldp statistic Command

Field	Description
Interface	Name of a detected port.
Type	Detection mode.
Ip	IP address of the detected peer device.
record-time	Time duration for collecting statistics on link up/down counts. The format of the displayed time duration is *y**d**h**m**s, where "y" indicates year, "d" indicates day, "h" indicates hour, "m" indicates minute, and "s" indicates second. Based on the values of the Up-count and Down-count parameters, you can know about the link up and down counts in this duration.
Up-count	Number of times that the protocol state is up, recorded for the corresponding monitoring point.
Down-count	Number of times that the protocol state is down, recorded for the corresponding

Field	Description
	monitoring point.

Notifications

N/A

Platform Description

N/A

Related Commands

N/A