BFD Configuration Commands

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Chapter 1   BFD Configuration Commands

BFD configuration commands are shown as follows:

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- bfd enable

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- bfd min_echo_rx_interval

- bfd authentication-mode

- show bfd

1.1.1   bfd init-mode

To enable the initial BFD mode, run the following

command: **bfd init-mode** *[active | passive]*

no bfd init-mode

Parameter

Parameter	Description
active	Means that the BFD neighbor sends the control packets actively to establish the BFD connection.
passive	Means that the BFD neighbor won't send any BFD packets when BFD neighbor is down.

Default value

The value of the **init-mode** parameter is **active**.

Command mode

Global configuration mode

Usage Guidelines

The BFD connection requires one terminal to be active in its initial mode, or the BFD connection cannot be set up.

Example

The following example shows how to set the BFD mode of local system to **passive**.

Router#
Router#conf
Router_config#bfd init-mode passive

Related command

bfd slow-timers

1.1.2   bfd slow-timers

To set the slow timer of BFD, run **bfd slow-timers**; to resume the default settings, run **no bfd slow-timers**.

bfd slow-timers <*value*>

no bfd slow-timers

Parameter

Parameter	Description
value	It ranges between 1000ms and 30000ms.

Default value

The default value of slow-timers is 1ms.

Command mode

Global configuration mode

Usage Guidelines

This command is used to set the BFD slow-timers, which is 1 second by default. The BFD neighbor transmits control packets at an interval of this configured time before it is up. This is mainly to prevent those not-up sessions from consuming too much bandwidth.

When the echo function is activated, echo packets are responsible for conducting real connectivity checkup. Hence, BFD control packets are not frequently forwarded and

the system takes this configured slow-timers as the interval for transmitting control packets.

Example

The following example shows how to set the slow-timers of BFD to 2 seconds:

Router#
Router#conf
Router_config#bfd slow-timers 2000

Related command

bfd init-mode

1.1.3   bfd demand enable

To activate the BFD query mode, run **bfd demand enable**; to disable the BFD query mode, run **no bfd demand enable**.

bfd demand enable

no bfd demand enable

Parameter

N/A

Default value

The BFD query mode is not activated by default.

Command mode

Interface configuration mode

Usage Guidelines

In query mode, we suppose that each system has an independent method to confirm its connection with other systems. Once a BFD session is conducted, the system stops transmitting BFD control packets unless a certain system requires explicit connectivity checkup. In a system where explicit connectivity checkup is required, the system transmits short-sequence BDF control packets and claims the session is down if it doesn't receive the response packets in the checkup period.

Example

The following example shows how to enable the GigaEthernet0/1 BFD query mode.

Router_config#

Router_config#int g0/1

Router_config_g0/1#bfd enable

Router_config_g0/1#bfd demand enable

Related command

bfd enable

1.1.4   bfd echo enable

To activate BFD echo, run **bfd echo enable**; to disable BFD echo, run **no bfd echo enable**.

bfd echo enable *<cr>|<number>*

no bfd echo enable

Parameter

Parameter	Description
number	Stands for the allowable maximum number of dropped echo packets, which is 3 by default and ranges from 3 to 10.

Default value

The BFD echo is not activated by default.

Command mode

Interface configuration mode

Usage Guidelines

After BFD echo is activated, connectivity checkup is conducted by the echo packets.

Example

The following example shows how to activate VLAN1 GigaEthernet0/1 and set the allowable maximum number of echo packet losses to **4**.

Router_config#

Router_config#int g0/1

Router_config_g0/1#bfd enable

Router_config_g0/1#bfd echo enable 4

Related command

bfd enable

bfd min_echo_rx_interval

1.1.5   bfd enable

To activate BFD on a port, run **bfd enable**; to disable BFD on a port, run **no bfd enable**.

bfd enable *<cr>* | *[**min_tx_interval** <tx_value> **min_rx_interval** <rx_value> **multiplier** <m_value>]*

no bfd enable

Parameter

Parameter	Description
tx_value	Sets the minimum interval of transmitting control packets, which ranges from 10ms to 999ms and the default value of which is 50ms.
rx_value	Sets the minimum interval of receiving control packets, which ranges from 10ms to 999ms and the default value of which is 50ms.
m_value	Sets the checkup coefficient of BFD control packets, which ranges from 3 to 50 and the default value of which is 3.

Default value

The BFD function is not activated on ports.

Command mode

Interface configuration mode

Usage Guidelines

The precondition for activating BFD on a port is that the IP address of this port must exist.

Note:

Both **min_tx_interval** and **min_rx_interval** are used as references for the local BFD and the peer BFD. They are not real intervals of packet reception and transmission. The multiplier has no role in the local BFD, but is used for the peer BFD to calculate the checkup time.

Example

The following example shows how to enable GigaEthernet0/1 BFD, set the minimum intervals of both transmitting and receiving control packets to **80ms** and the checkup coefficient to **5**.

Router_config#

Router_config#int g0/1

Router_config_g0/1#bfd enable min_tx 80 min_rx 80 multi 5

Related command

ip address

1.1.6   bfd neighbor

To set the static BFD neighbor, run **bfd neighbor**; to delete the static BFD neighbor, run **no bfd neighbor**.

bfd neighbor *<ip-add>*

no bfd neighbor *<ip-add>*

Parameter

Parameter	Description
Ip-add	Stands for the to-be-configured IP address.

Default value

No static BFD neighbor exists on the port.

Command mode

Interface configuration mode

Usage Guidelines

BFD is a two-way checkup protocol. If it is used to check the unidirectional paths such as static route, a problem may arise that no BFD neighbor exists on the peer end. Hence you have to use this command to set a static neighbor. Of course, you can solve this problem through dynamic protocol.

Example

The following example shows how to set static BFD 172.16.1.100 on interface GigaEthernet0/1.

Router_config#

Router_config#int g0/1

Router_config_g0/1#bfd enable

Router_config_g0/1#bfd neighbor 172.16.1.100

Related command

bfd enable

1.1.7   bfd min_echo_rx_interval

To set the minimum interval of receiving BFD echo packets, run **bfd min_echo_rx_interval**; to resume the default settings, run **no bfd min_echo_rx_interval**.

bfd min_echo_rx_interval *<value>*

no bfd min_echo_rx_interval

Parameter

Parameter	Description
value	<10-999>, unit: millisecond

Default value

The default value of **min_echo_rx_interval** is 50ms.

Command mode

Interface configuration mode

Usage Guidelines

This command is used to set the minimum interval of receiving BFD echo packets. Because echo packets are locally transmitted and locally received, the echo packet transmission interval in the local system is also set via this command.

Example

The following example shows how to activate BFD echo on interface GigaEthernet0/1 and set the minimum interval of receiving BFD echo packets to 80ms.

Router_config#

Router_config#int g0/1

Router_config_g0/1#bfd enable

Router_config_g0/1#bfd echo enable

Router_config_g0/1#bfd min_echo_rx_interval 80

Related command

bfd enable

bfd echo enable

1.1.8   bfd authentication-mode

To set the authentication of BFD packets, run **bfd authentication-mode**; to disable the authentication of BFD packets, run **no authentication-mode**.

bfd authentication-mode *[md5 | meticulous md5 | simple]* *<key id> <key>*

no bfd authentication-mode

Parameter

Parameter	Description
md5	MD5 authentication
meticulous md5	Securer MD5 authentication
simple	Simple password authentication
key id	Authentication ID
key	Authentication password (up to 16 characters)

Default value

The authentication function is not enabled.

Command mode

Interface configuration mode

Usage Guidelines

After BFD authentication is configured, BFD will transmit control packets with the authentication field. Normal link checkup can be performed only when two BFD terminals have the same authentication configuration.

Note: Those BFD neighbors in UP state are not subject to authentication changes.

Example

The following example shows how to enable BFD MD5 authentication on interface GigaEthernet0/1:

Router_config#

Router_config#int g0/1

Router_config_g0/1#bfd enable

Router_config_g0/1#bfd authentication-mode md5 1 aacom

Related command

bfd enable

1.1.9　show bfd

To display the BFD-related information, run the following

command: **show bfd interfaces** *[details]* **| neighbors** *[details]*

Parameter

N/A

Default value

Command mode

Global configuration mode

Usage Guidelines

This command is used to set the BFD-related information.

Example

N/A

Related command

bfd enable

bfd neighbor