



## BFD Commands

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### alarms alarm bfd-state-change syslog

To enable the BFD syslog messages, use the **alarms alarm bfd-state-change syslog** command in system configuration mode. To disable BFD syslog messages, use the **no** form of this command.

```
alarms alarm bfd-state-change syslog
no alarms alarm bfd-state-change syslog
```

<b>Syntax Description</b>	<b>bfd-state-change</b> BFD state change.
	<b>syslog</b> Enables syslog for this feature.

**Command Default** If the command is not used, the BFD state change syslog messages are not reported in the console.

**Command Modes** System configuration (config-system)

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	Cisco IOS XE Release 17.6.3	This command was introduced.

**Usage Guidelines** When the command is configured, if there is a BFD state change event in the device , then the BFD state change syslog message is displayed for every session.

The following example shows how to enable BFD syslog messages:

```
Device(config)# system
Device(config-system)# alarms alarm bfd-state-change syslog
Device(config-alarm-bfd-state-change)# commit
```

The following example shows how to disable BFD syslog messages:

```
Device(config-system)# no alarms alarm bfd-state-change syslog
Device(config-system)# commit
Commit complete.
```

## bfd app-route

To configure Bidirectional Forwarding Protocol timers used by application-aware routing, use the **bfd app-route** command. To disable, use the **no** form of this command.

```
bfd app-route { multiplier | poll-interval }
no bfd app-route
```

### Syntax Description

<b>multiplier</b> <i>number</i>	<p>Multiplier for the Polling Interval:</p> <p>Value to multiply the poll interval by to set how often application-aware routing acts on the data plane tunnel statistics to figure out the loss and latency and to calculate new tunnels if the loss and latency times do not meet configured SLAs.</p> <p>Range: 1 through 6</p> <p>Default: 6</p>
<b>poll-interval</b> <i>milliseconds</i>	<p>Polling Interval:</p> <p>How often BFD polls all data plane tunnels on a vEdge router to collect packet latency, loss, and other statistics to be used by application-aware routing.</p> <p>Range:</p> <p>1 through 4,294,967,295 (<math>2^{32} - 1</math>) milliseconds</p> <p>Default:</p> <p>600,000 milliseconds (10 minutes)</p>

**Command Default** None.

**Command Modes** Global configuration (config)

### Command History

Release	Modification
Cisco IOS XE Release 17.2.1v	Command qualified for use in Cisco vManage CLI templates.

### Usage Guidelines



**Note** BFD multiplier does not account for processing delays during BFD convergence. There is a delay of a few additional seconds for BFD convergence to complete.

**Example**

Change the polling interval and multiplier to use for application-aware routing:

```
bfd app-route multiplier 6
bfd app-route poll-interval 4294967295
```

# bfd color

To configure the Bidirectional Forwarding Protocol timers used on transport tunnels use the **bfd color** command. To disable this command, use the **no** form of this command.

```
bfd color { mpls | lte | 3g }
no bfd color
```

**Syntax Description**

<b>color</b> <i>color</i>	<p>Identifier for the Transport Tunnel:</p> <p>Transport tunnel for data traffic moving between vEdge routers. The color identifies a specific WAN transport provider.</p> <p>Values:</p> <p><b>3g, biz-internet, blue, bronze, custom1, custom2, custom3, default, gold, green, lte, metro-ethernet, mpls, private1 through private6, public-internet, red, silver</b></p> <p>Default:</p> <p><b>default</b></p>
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**Command Default**

None.

**Command Modes**

Global configuration (config)

**Command History**

Release	Modification
Cisco IOS XE Release 17.2.1v	Command qualified for use in Cisco vManage CLI templates.

**Usage Guidelines**

The following are examples for this command

```
bfd color mpls
hello-interval 300000
no pmtu-discovery
multiplier 60
!
```

```
bfd color lte
hello-interval 300000
pmtu-discovery
```

```

multiplier    60
!

bfd color 3g
hello-interval 300000
no pmtu-discovery
multiplier    60

```

## hello-interval

To set the BFD Hello interval for a transport color, use the **hello-interval** command in BFD transport color configuration mode. To remove the BFD Hello interval, use the **no** form of this command.

**hello-interval** *milliseconds*

<b>Syntax Description</b>	<i>milliseconds</i> Specifies how often BFD sends Hello packets. Range: 100 through 310000 milliseconds				
<b>Command Default</b>	BFD Hello interval is set to 1000 milliseconds (1 second) by default.				
<b>Command Modes</b>	Transport color configuration ( <i>config-color-transport-color</i> )				
<b>Command History</b>	<table border="1"> <thead> <tr> <th>Release</th> <th>Modification</th> </tr> </thead> <tbody> <tr> <td>Cisco IOS XE Catalyst SD-WAN Release 17.2.1v</td> <td>Command qualified for use in Cisco vManage CLI templates.</td> </tr> </tbody> </table>	Release	Modification	Cisco IOS XE Catalyst SD-WAN Release 17.2.1v	Command qualified for use in Cisco vManage CLI templates.
Release	Modification				
Cisco IOS XE Catalyst SD-WAN Release 17.2.1v	Command qualified for use in Cisco vManage CLI templates.				
<b>Usage Guidelines</b>	BFD uses Hello packets to detect the liveness and faults on a connection. BFD Hello Interval packet is sent at the default interval of 1000 milliseconds on all connections. This command can be used to change the hello interval for a transport color.				

### Example

The following example shows how to configure the hello-interval on the transport MPLS to 3 seconds (3000 milliseconds).

```

Device(config)# bfd color mpls
Device(config-color-mpls)# hello-interval 3000

```

## pmtu-discovery

To enable Path MTU (PMTU) discovery for a transport color, use the **pmtu-discovery** command in BFD transport color configuration mode. To disable PMTU discovery, use the **no** form of this command.

**pmtu-discovery**

**no pmtu-discovery**

**Command Default** PMTU discovery is disabled.

**Command Modes** Transport color configuration (*config-color-transport-color*)

Command History	Release	Modification
	Cisco IOS XE Catalyst SD-WAN Release 17.2.1v	Command qualified for use in Cisco vManage CLI templates.

**Usage Guidelines** When PMTU discovery is enabled, the path MTU for the connection is checked periodically, about once in twenty minutes, and it is updated dynamically. When PMTU discovery is disabled, the expected connection MTU is 1472 bytes, but the effective connection MTU is 1468 bytes. Use this command to enable PMTU discovery.

### Example

The following example shows how to enable PMTU discovery on the transport MPLS.

```
Device(config)# bfd color mpls
Device(config-color-mpls)# pmtu-discovery
```

### Related Commands

Command	Description
<b>hello-interval</b>	Set the interval at which Hello Packets are sent. Range: 100 to 310000 milliseconds.
<b>multiplier</b>	Sets the maximum number of attempts. Range: 1 to 60.

