

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

Syntax Description

bfd-state-change	BFD state change.
syslog	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)

Command History

Release	Modification
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

multiplier *number*	Multiplier for the Polling Interval: 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. Range: 1 through 6 Default: 6
poll-interval *milliseconds*	Polling Interval: 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. Range: 1 through 4,294,967,295 ($2^{32} – 1$) milliseconds Default: 600,000 milliseconds (10 minutes)

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 enhanced-app-route

To enable enhanced PfR measurements for SLA enforcement, use the **bfd enhanced-app-route enable** command. To disable enhanced PfR measurements for SLA enforcement, use the **no** form of this command.

bfd enhanced-app-route enable
no bfd enhanced-app-route enable

pfr-poll-interval	This command is used for SLA enforcement and switchover. Default poll-interval: 10 milliseconds
pfr-multiplier *number*	This command is used for SLA enforcement and switchover. Default multiplier (aggressive mode): 6
ignore-local-loss	This command is used to ignore local loss on the router which is caused by QOS queues. By default, loss includes both local and WAN loss.

Command Default

None

Command Modes

Global configuration (config)

Release	Modification
Cisco IOS XE Release 17.12.1a	This command was introduced.
Cisco IOS XE Release 17.12.6, 17.15.5 and 17.18.2 onwards	The **ignore-local-loss** command is available.

Usage Guidelines

Enabling the application-aware routing feature on a Cisco IOS XE Catalyst SD-WAN device requires you to enable the PfR CLI on both the remote Cisco IOS XE Catalyst SD-WAN device and the local Cisco IOS XE Catalyst SD-WAN device.

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

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

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*

Syntax Description

milliseconds	Specifies how often BFD sends Hello packets. Range: 100 through 310000 milliseconds

Command Default

BFD Hello interval is set to 1000 milliseconds (1 second) by default.

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

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