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| **BFD** |

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| BFD is described and extended by the following RFCs: **RFC 5880**, **RFC 5881** and **RFC** |

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| **5883**. |

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| In the age of very fast networks, a second of unreachability may equal millions of lost |

packets. The idea behind BFD is to detect very quickly when a peer is down and take

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| action extremely fast. |

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| BFD sends lots of small UDP packets very quickly to ensures that the peer is still alive. |

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| This allows avoiding the timers defined in BGP and OSPF protocol to expires. |

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| **Configure BFD** |

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| **set protocols bfd peer <address>** |

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| Set BFD peer IPv4 address or IPv6 address |

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| **set protocols bfd peer <address> echo-mode** |

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| Enables the echo transmission mode |

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| **set protocols bfd peer <address> multihop** |

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| Allow this BFD peer to not be directly connected |

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| **set protocols bfd peer <address> source [address <address> | interface <interface>]** |

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| Bind listener to specific interface/address, mandatory for IPv6 |

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| **set protocols bfd peer <address> interval echo-interval <10-60000>** |

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| The minimal echo receive transmission interval that this system is capable of handling |

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| **set protocols bfd peer <address> interval multiplier <2-255>** |

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| Remote transmission interval will be multiplied by this value |

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| **set protocols bfd peer <address> interval [receive | transmit] <10-60000>** |

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| Interval in milliseconds |

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| **set protocols bfd peer <address> shutdown** |

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| Disable a BFD peer |

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| **Enable BFD in BGP** |

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| **set protocols bgp neighbor <neighbor> bfd** |

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| Enable BFD on a single BGP neighbor |

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| **set protocols bgp peer-group <neighbor> bfd** |

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| Enable BFD on a BGP peer group |

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| **Enable BFD in OSPF** |

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| **set protocols ospf interface <interface> bfd** |

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| Enable BFD for OSPF on an interface |

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| **set protocols ospfv3 interface <interface> bfd** |

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| Enable BFD for OSPFv3 on an interface |

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| **Enable BFD in ISIS** |

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| **set protocols isis <name> interface <interface> bfd** |

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| Enable BFD for ISIS on an interface |

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| **Operational Commands** |

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| **show bfd peers** |

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| Show all BFD peers |

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| BFD Peers:  peer 198.51.100.33 vrf default interface eth4.100  ID: 4182341893  Remote ID: 12678929647  Status: up  Uptime: 1 month(s), 16 hour(s), 29 minute(s), 38 second(s) Diagnostics: ok  Remote diagnostics: ok  Local timers:  Receive interval: 300ms  Transmission interval: 300ms  Echo transmission interval: 50ms  Remote timers:  Receive interval: 300ms  Transmission interval: 300ms |

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| Echo transmission interval: 0ms |

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| peer 198.51.100.55 vrf default interface eth4.101 ID: 4618932327  Remote ID: 3312345688  Status: up  Uptime: 20 hour(s), 16 minute(s), 19 second(s) Diagnostics: ok  Remote diagnostics: ok  Local timers:  Receive interval: 300ms  Transmission interval: 300ms  Echo transmission interval: 50ms  Remote timers:  Receive interval: 300ms  Transmission interval: 300ms  Echo transmission interval: 0ms |
| **BFD Static Route Monitoring** |

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| A monitored static route conditions the installation to the RIB on the BFD session |

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| running state: when BFD session is up the route is installed to RIB, but when the BFD |

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| session is down it is removed from the RIB. |

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| **Configuration** |

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| **set protocols static route <subnet> next-hop <address> bfd profile <profile>** |

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| Configure a static route for <subnet> using gateway <address> and use the gateway |

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| address as BFD peer destination address. |

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| **set protocols static route <subnet> next-hop <address> bfd multi-hop source <address> profile <profile>** |

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| Configure a static route for <subnet> using gateway <address> , use source address to |

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| indentify the peer when is multi-hop session and the gateway address as BFD peer |

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| destination address. |

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| **set protocols static route6 <subnet> next-hop <address> bfd profile <profile>** |

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| Configure a static route for <subnet> using gateway <address> and use the gateway |

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| address as BFD peer destination address. |

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| --- |
| **set protocols static route6 <subnet> next-hop <address> bfd multi-hop source <address> profile <profile>** |

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| --- |
| Configure a static route for <subnet> using gateway <address> , use source address to |

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| indentify the peer when is multi-hop session and the gateway address as BFD peer |

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| destination address. |

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| **Operational Commands** |

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| **show bfd static routes** |

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| Showing BFD monitored static routes |

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| Showing BFD monitored static routes: |

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| Next hops:  VRF default IPv4 Unicast:  10.10.13.3/32 peer 192.168.2.3 (status: installed) 172.16.10.3/32 peer 192.168.10.1 (status: uninstalled) |

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| VRF default IPv4 Multicast: |

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| VRF default IPv6 Unicast: |

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