



Configuring BFD Hardware Offload

Bidirectional Forwarding Detection (BFD) offload support provides the functionality to offload a BFD session to the hardware. BFD is a forwarding path failure detection protocol and reduces the overall network convergence time by sending rapid failure detection packets (messages) to the routing protocols for recalculating the routing table. Previously the performance of BFD was restricted to the capabilities of CPU and IOS on the switch. Effective failure detection requires BFD to run at high frequencies (using aggressive timers as low as 50ms), which was not possible because of CPU and IOS restrictions.

For information on configuring BFD, see the *Configuring BFD* section in the [ME 3800x and ME 3600x Switches Software Configuration Guide](#).

Table 5-1 Supported Hardware for BFD Hardware Offload

ME 3600X Switch	ME-3600X-24CX Series Switch	ME 3800 X Switch
No	Yes	No

Restrictions for BFD Hardware Offload Support

- Only BFD version 1 is supported.
- Only FPGA offloaded BFD sessions are supported on Cisco ME 3600X-24CX-M.
- The switch supports BFD in Asynchronous and Echo modes.
- The switch supports 511 BFD sessions.
- BFD hardware offload is supported for IPv4 sessions with Asynchronous and Echo modes.
- The ME-3600-24X Series switch supports 511 BFD sessions. There can be either 255 IPv4 Echo sessions or 511 IPv4 Asynchronous sessions.
- BFD hardware offload is supported on port-channel interfaces.
- BFD hardware offload is supported only for the ethernet interface.
- BFD hardware offload is not supported for IPv6 BFD sessions.
- BFD hardware offload is not supported for BFD with TE/FRR.
- If the **no echo** command is executed when the session is up, use the **shut/no shut** command to offload BFD in hardware.

Configuring BFD Hardware Offload Support in Asynchronous Mode

```
interface GigabitEthernet0/9
no switchport
ip address 10.1.1.6 255.255.255.0
bfd interval 50 min_rx 50 multiplier 3
no bfd echo
```

Configuring BFD Hardware Offload Support in Echo Mode

```
interface GigabitEthernet0/9
no switchport
ip address 10.1.1.6 255.255.255.0
bfd interval 50 min_rx 50 multiplier 3
```

Verifying BFD Hardware Offload Support

Ensure that the Session host value displays "Hardware". Use the **show bfd neighbors detail** to verify the configuration of BFD Hardware Offload. Hardware BFD sessions have a LD of 1-511.



Note

Sometimes if BFD session is brought up after the registered protocol is up, the session may come up in Software. Shut down the interface and apply the BFD configuration to ensure that session comes back up in Hardware (Session Host: Hardware as shown below).

```
Switch# show bfd neighbours details

NeighAddr                LD/RD          RH/RS          State          Int
34.34.34.3                1/11          Up             Up             V13336
Session state is UP and not using echo function.
Session Host: Hardware
OurAddr: 34.34.34.1
Handle: 295
Local Diag: 0, Demand mode: 0, Poll bit: 0
MinTxInt: 50000, MinRxInt: 50000, Multiplier: 3
Received MinRxInt: 100000, Received Multiplier: 3
Holddown (hits): 0(0), Hello (hits): 100(0)
Rx Count: 574748
Tx Count: 673965
Elapsed time watermarks: 0 0 (last: 0)
Registered protocols: ISIS CEF OSPF
Uptime: 14:22:46
Last packet: Version: 1                - Diagnostic: 0
                State bit: Up          - Demand bit: 0
                Poll bit: 0           - Final bit: 0
                C bit: 0
                Multiplier: 3         - Length: 24
                My Discr.: 11         - Your Discr.: 294
                Min tx interval: 100000 - Min rx interval: 100000
                Min Echo interval: 0 ould
```