Static Floating Route With BFD

Purpose	Configure BFD for static float route.
Test setup	
Test configuration	**Router 1** ! interface GigaEthernet0/0 ip address 192.168.3.1 255.255.255.0 no ip directed-broadcast bfd enable bfd echo enable ip http firewalltype 0 ! interface GigaEthernet0/1 ip address 192.168.2.1 255.255.255.0 no ip directed-broadcast bfd enable bfd echo enable ip http firewalltype 0 ! ip route 192.168.1.0 255.255.255.0 192.168.2.10 ip route 192.168.1.0 255.255.255.0 192.168.3.2 10 ip route bfd static next-hop ip route bfd query interval 1 ip route bfd reply interval 1 ip route bfd static 192.168.2.10 ip route bfd static 192.168.3.2 ! **Router 2** interface GigaEthernet0/1 ip address 192.168.2.10 255.255.255.0

	no ip directed-broadcast ipv6 enable ipv6 dhcp client na bfd enable bfd echo enable ip http firewalltype 0 ! interface GigaEthernet0/2 ip address 192.168.1.1 255.255.255.0 no ip directed-broadcast bfd enable bfd echo enable ip http firewalltype 0 ! ip route 172.16.253.0 255.255.255.0 172.16.254.1 ip route 192.168.3.0 255.255.255.0 192.168.1.2 ip route 192.168.3.0 255.255.255.0 192.168.2.1 10 ip route bfd static next-hop ip route bfd query interval 1 ip route bfd reply interval 1 ip route bfd static 192.168.2.1 ip route bfd static 192.168.1.2 ! **Router 3** ! interface GigaEthernet0/1 ip address 192.168.3.2 255.255.255.0 no ip directed-broadcast bfd enable bfd echo enable ip http firewalltype 0 ! interface GigaEthernet0/2 ip address 192.168.1.2 255.255.255.0 no ip directed-broadcast bfd enable bfd echo enable ip http firewalltype 0 ! ip route 192.168.2.0 255.255.255.0 192.168.1.1 ip route 192.168.2.0 255.255.255.0 192.168.3.1 10 ip route bfd static next-hop ip route bfd query interval 1 ip route bfd reply interval 1 ip route bfd static 192.168.3.1 ip route bfd static 192.168.1.1 !
Procedure	Connect R1 to R2 , R2 to R3 and R3 to R1 on individual Networks.

	Configure BFD on all routers for static route, and under interfaces.
	From R1 start Ping to R3 interface -
	Disconnect link between R1 & R2
	Observe BFD static route table and ping response.
	Ping response will continue with one drop.
	Routing table will flush out primary route for R3 and install floating static route into routing table.
Test result	Start ping from R1 to R3 interface – Disconnect link between R1 & R2
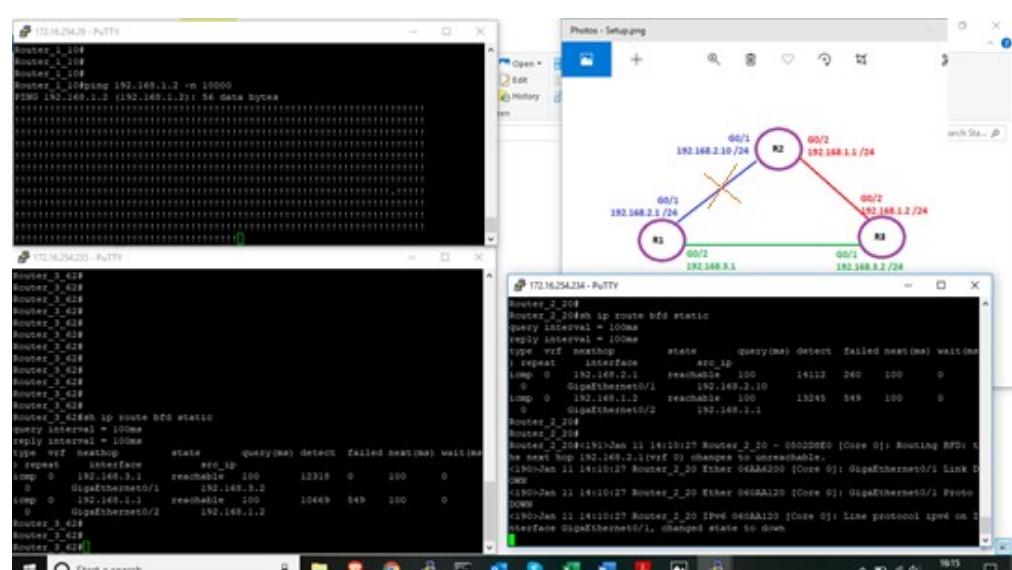
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172.16.254.29 - PuTTY                                                    —    □

Router_1_10#ping 192.168.1.2 -n 10000
PING 192.168.1.2 (192.168.1.2): 56 data bytes
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--- 192.168.1.2 ping statistics ---
1556 packets transmitted, 1554 packets received, 0% packet loss
round-trip min/avg/max = 0/15/40 ms
Router_1_10#
Router_1_10#
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```
Router_1_10#
Router_1_10#sh ip route
Codes: C - connected, S - static, R - RIP, B - BGP, BC - BGP connected
       D - BEIGRP, DEX - external BEIGRP, O - OSPF, OIA - OSPF inter area
       ON1 - OSPF NSSA external type 1, ON2 - OSPF NSSA external type 2
       OE1 - OSPF external type 1, OE2 - OSPF external type 2, L - Local
       DHCP - DHCP type, L1 - IS-IS level-1, L2 - IS-IS level-2
       IA - ISIS inter-level, I - IPSEC type

VRF ID: 0

C     1.1.1.1/32          is directly connected, Loopback0
C     30.1.1.1/32         is directly connected, Loopback30
C     50.1.1.1/32         is directly connected, Loopback50
C     60.1.1.1/32         is directly connected, Loopback60
S     172.16.253.0/24     [1,0] via 172.16.254.1(on GigaEthernet0/2)
C     172.16.254.0/24     is directly connected, GigaEthernet0/2
S     192.168.1.0/24      [10,0] via 192.168.3.2(on GigaEthernet0/0)
C     192.168.3.0/24      is directly connected, GigaEthernet0/0
Router_1_10#
```

```
172.16.254.234 - PuTTY

Router_2_20#
Router_2_20#
Router_2_20#
Router_2_20#sh ip route bfd static
query interval = 100ms
reply interval = 100ms
type  vrf  nexthop          state        query(ms) detect  failed next(ms) wait(ms
) repeat     interface           src_ip
icmp  0    192.168.2.1      unreachable 100        15810   578    100      0
  1          GigaEthernet0/1      192.168.2.10
icmp  0    192.168.1.2      reachable   100        15898   549    100      0
  0          GigaEthernet0/2      192.168.1.1
Router_2_20#
Router_2_20#
Router_2_20#
Router_2_20#
Router_2_20#
Router_2_20#
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```
Router_3_62#sh ip route bfd static
query interval = 100ms
reply interval = 100ms
type  vrf  nexthop          state       query(ms) detect  failed next(ms) wait(ms
) repeat     interface           src_ip
icmp  0    192.168.3.1      reachable   100        15239   0      100      0
  0          GigaEthernet0/1      192.168.3.2
icmp  0    192.168.1.1      reachable   100        13590   549    100      0
  0          GigaEthernet0/2      192.168.1.2
Router_3_62#
Router_3_62#
Router_3_62#
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