



Configuring IPv4 Unicast Routing ECMP

By default ECMP is enabled on the host if protocols such as OSPF or IS-IS are configured on the BDI interface. There is no specific CLI to configure ECMP. ECMP based on Source IP (SIP), Destination IP (DIP), Source Port (SP), and Destination port (DP).

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IPv4 Unicast Routing ECMP

IPv4 unicast routing equal-cost multi-path (ECMP) feature enables to forward traffic to destination over multiple best paths.

If there are more than one next hop is available to reach the same next network or host, then an ECMP group is created associating all the available next hop options. When a route entry is added for the ECMP destination, the ECMP interface is associated with the route entry. This ensures that all the packets destined to this particular host is load balanced to all the available next hop options.

Limitation for IPv4 Unicast Routing ECMP

ECMP supports a maximum of four paths.

How to Configure IPv4 Unicast Routing ECMP

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Verifying IPv4 Unicast Routing ECMP Configuration

Use the following show commands to verify the IPv4 unicast routing ECMP configuration:

- **show ip route**
- **Show ip cef**

```
router#show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, m - OMP
       n - NAT, Ni - NAT inside, No - NAT outside, Nd - NAT DIA
       i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
       ia - IS-IS inter area, * - candidate default, U - per-user static route
       H - NHRP, G - NHRP registered, g - NHRP registration summary
       o - ODR, P - periodic downloaded static route, l - LISP
       a - application route
       + - replicated route, % - next hop override, p - overrides from PfR

Gateway of last resort is not set

    10.0.0.0/32 is subnetted, 1 subnets
O       10.0.0.1 [110/2] via 192.168.13.4, 1d01h, BDI210
        [110/2] via 192.0.2.4, 1d01h, BDI111
    10.0.0.1/32 is subnetted, 1 subnets
C       10.6.6.6 is directly connected, Loopback0
    10.0.0.2/32 is subnetted, 1 subnets
O       10.8.8.8 [110/2] via 192.168.13.1, 1d01h, BDI210
        [110/2] via 192.0.2.1, 1d00h, BDI111
    10.0.0.0/32 is subnetted, 1 subnets
O       192.0.2.0 [110/2] via 192.168.13.2, 03:20:31, BDI210
        [110/2] via 192.0.2.2, 03:20:29, BDI111
    192.0.2.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.0.2.0/24 is directly connected, BDI111
L       192.0.2.3/32 is directly connected, BDI111
    192.168.13.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.13.0/24 is directly connected, BDI210
L       192.168.13.3/32 is directly connected, BDI210
```