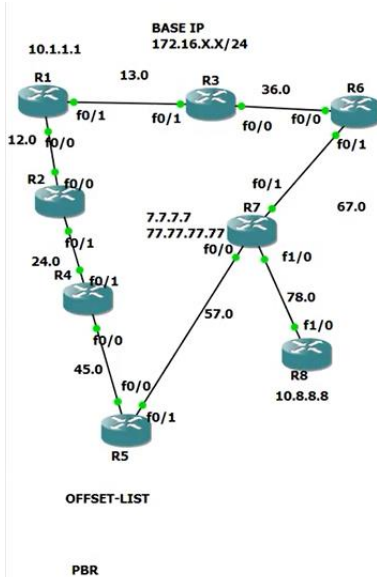


# EIGRP OFFSET\_LIST AND PBR



\*\* router has ips configured and eigrp along stub connected (has access only for 7.7.7.7 and 77.77.77.77) and R2345 has no loopback. This is only for R1 and R7

Path -List from R1 and R7

```
R1#tr
R1#traceroute 7.7.7.7 source 10.1.1.1

Type escape sequence to abort.
Tracing the route to 7.7.7.7

 0  172.16.13.3  84 msec 80 msec 80 msec
 1  172.16.36.6 152 msec 136 msec 136 msec
 2  172.16.67.7 148 msec 168 msec 136 msec
R1#
R1#traceroute 77.77.77.77 source 10.1.1.1

Type escape sequence to abort.
Tracing the route to 77.77.77.77

 0  172.16.13.3  48 msec 68 msec 72 msec
 1  172.16.36.6 104 msec 112 msec 100 msec
 2  172.16.67.7 136 msec 140 msec 144 msec
```

```
R1(config)#
R1(config)#access-list 20 permit 77.77.77.77
R1(config)#
R1(config)#router eigrp 100
R1(config-router)#offset-list ?
<0-99>      Access list of networks to apply offset (0 selects all networks)
<1300-1999> Access list of networks to apply offset (expanded range)
WORD        Access-list name

R1(config-router)#offset-list 20 ?
in  Perform offset on incoming updates
out Perform offset on outgoing updates

R1(config-router)#offset-list 20 in ?
<0-2147483647> Offset

R1(config-router)#offset-list 20 in 689400 f0/1
R1(config-router)#

R1(config-router)#do sh ip rou ei
172.16.0.0/24 is subnetted, 7 subnets
D    172.16.57.0 [90/358400] via 172.16.13.3, 00:11:12, FastEthernet0/1
D    172.16.45.0 [90/332800] via 172.16.12.2, 00:11:05, FastEthernet0/0
D    172.16.36.0 [90/307200] via 172.16.13.3, 00:11:13, FastEthernet0/1
D    172.16.24.0 [90/307200] via 172.16.12.2, 00:11:13, FastEthernet0/0
D    172.16.67.0 [90/332800] via 172.16.13.3, 00:11:12, FastEthernet0/1
7.0.0.0/32 is subnetted, 1 subnets
D    7.7.7.7 [90/460800] via 172.16.13.3, 00:11:05, FastEthernet0/1
77.0.0.0/32 is subnetted, 1 subnets
D    77.77.77.77 [90/486400] via 172.16.12.2, 00:00:15, FastEthernet0/0
```

## Result

```
Type escape sequence to abort.
Tracing the route to 7.7.7.7

 1 172.16.13.3 28 msec 24 msec 40 msec
 2 172.16.36.6 48 msec 60 msec 68 msec
 3 172.16.67.7 88 msec 92 msec 92 msec
R1(config-router)#
R1(config-router)#do trace 77.77.77.77 source 10.1.1.1

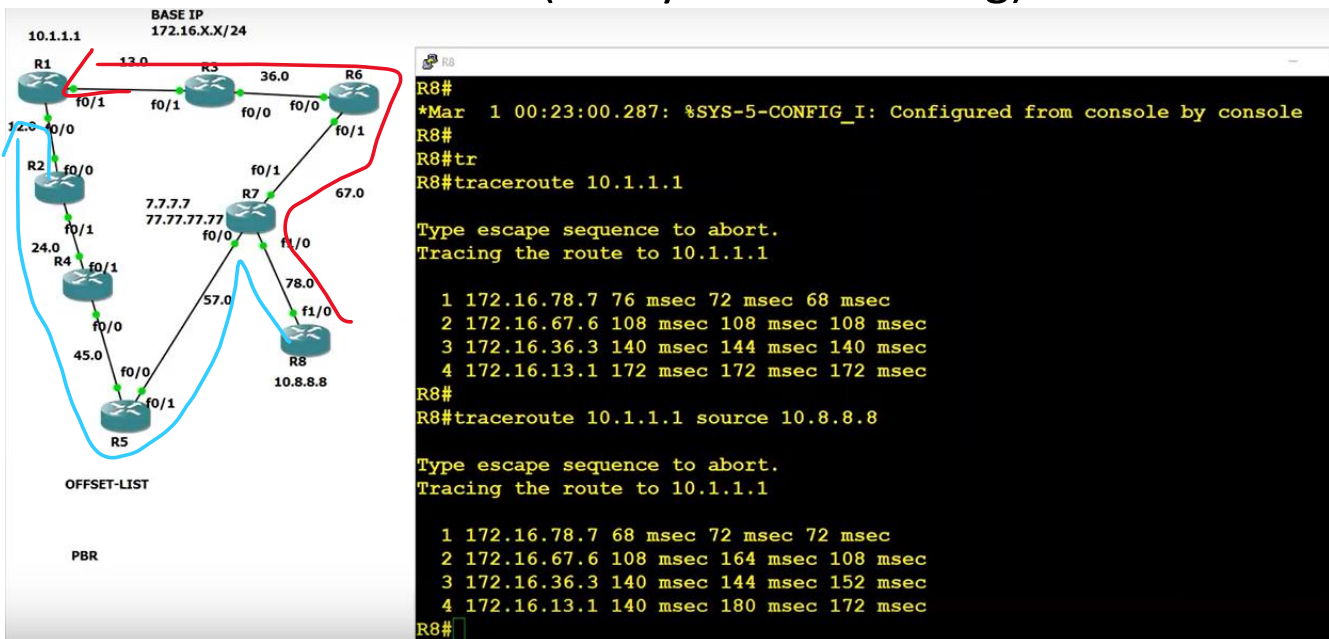
Type escape sequence to abort.
Tracing the route to 77.77.77.77

 1 172.16.12.2 80 msec 72 msec 72 msec
 2 172.16.24.4 104 msec 100 msec 112 msec
 3 172.16.45.5 144 msec 148 msec 140 msec
 4 172.16.57.7 188 msec 172 msec 136 msec
```

## ## On R7

```
R7#config t
Enter configuration commands, one per line. End with CNTL/Z.
R7(config)#
R7(config)#
R7(config)#access-list 30 permit 7.7.7.7
R7(config)#router eigrp 100
R7(config-router)#offset-list 30 out 986400 f0/1
R7(config-router)#
*Mar 1 00:17:45.163: %DUAL-5-NBRCHANGE: IP-EIGRP(0) 100: Neighbor 172.16.67.6 (
FastEthernet0/1) is resync: route configuration changed
** It will change the path from f0/1 to f0/0
```

## PBR (Policy-Based-Routing)



\*\* we want to change the direction we use policy based route so it will decrease overhead on R7

```
R7(config)#
R7(config)#access-list 123 permit ip host 10.8.8.8 host 10.1.1.1
R7(config)#
R7(config)#route-map NH permit
R7(config-route-map)#match ip add 123
R7(config-route-map)#set ip next-hop 172.16.57.5
R7(config-route-map)#exit
R7(config)#int f1/0
R7(config-if)#ip policy route-map NH
R7(config-if)#

** if router wants to reach 10.1.1.1 it should take path from 172.16.57.5

R8#traceroute 10.1.1.1 source 10.8.8.8

Type escape sequence to abort.
Tracing the route to 10.1.1.1

 1 172.16.78.7 72 msec 72 msec 72 msec
 2 172.16.57.5 116 msec 104 msec 100 msec
 3 172.16.45.4 108 msec 120 msec 144 msec
 4 172.16.24.2 168 msec 184 msec 140 msec
 5 172.16.12.1 168 msec 180 msec 140 msec
```

(1<sup>st</sup> = set acl, 2<sup>nd</sup> = use the router map to set ip, 3<sup>rd</sup> = set policy on router where it is receiving)