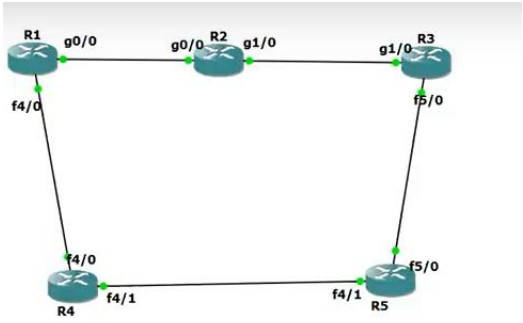
Classic and Wide Metric



#R1

```
R1(config)#
R1(config)#router eigrp ?
  <1-65535>  Autonomous System
  WORD       EIGRP Virtual-Instance Name

R1(config)#router eigrp NH
R1(config-router)#address-family ipv4 unicast autonomous-system 50
R1(config-router-af)#net 0.0.0.0 0.0.0.0
R1(config-router-af)#^Z
R1#
*Aug 28 20:11:53.571: %SYS-5-CONFIG_I: Configured from console by console
R1#
```

*****Config same on the R2,R3,R4,R5**

```
R1#sh ip eigrp top 10.5.5.5/32
EIGRP-IPv4 VR(NH) Topology Entry for AS(50)/ID(10.1.1.1) for 10.5.5.5/32
  State is Passive, Query origin flag is 1, 1 Successor(s), FD is 14499840, RI
is 113280
  Descriptor Blocks:
  172.16.12.2 (GigabitEthernet0/0), from 172.16.12.2, Send flag is 0x0
      Composite metric is (14499840/13844480), route is Internal
      Vector metric:
        Minimum bandwidth is 100000 Kbit
        Total delay is 121250000 picoseconds
        Reliability is 255/255
        Load is 1/255
        Minimum MTU is 1500
        Hop count is 3
        Originating router is 10.5.5.5
  172.16.14.4 (FastEthernet4/0), from 172.16.14.4, Send flag is 0x0
      Composite metric is (19742720/13189120), route is Internal
      Vector metric:
        Minimum bandwidth is 100000 Kbit
        Total delay is 201250000 picoseconds
        Reliability is 255/255
        Load is 1/255
        Minimum MTU is 1500
        Hop count is 2
        Originating router is 10.5.5.5
R1#
```

Higher bandwidth that's y it select R2 path

```
R2(config)#do sh ip rou ri
R2(config)#do sh ip rou ei
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
       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
       o - ODR, P - periodic downloaded static route, H - NHRP, l - LISP
       + - replicated route, % - next hop override

Gateway of last resort is not set

      10.0.0.0/32 is subnetted, 2 subnets
D        10.1.1.1 [90/10880] via 172.16.12.1, 00:00:48, GigabitEthernet0/0
      172.16.0.0/16 is variably subnetted, 5 subnets, 2 masks
D        172.16.14.0/24
           [90/107520] via 172.16.12.1, 00:00:48, GigabitEthernet0/0
R2(config)#do sh ip ei top 10.1.1.1/32
EIGRP-IPv4 VR(NH) Topology Entry for AS(50)/ID(10.2.2.2) for 10.1.1.1/32
  State is Passive, Query origin flag is 1, 1 Successor(s), FD is 1392640, RIB is 10880
  Descriptor Blocks:
  172.16.12.1 (GigabitEthernet0/0), from 172.16.12.1, Send flag is 0x0
      Composite metric is (1392640/163840), route is Internal
      Vector metric:
        Minimum bandwidth is 1000000 Kbit
        Total delay is 11250000 picoseconds
        Reliability is 255/255
        Load is 1/255
        Minimum MTU is 1500
        Hop count is 1
        Originating router is 10.1.1.1
```

** red is =wide metric

Blue is = actual FD value from neighbor