

EIGRP

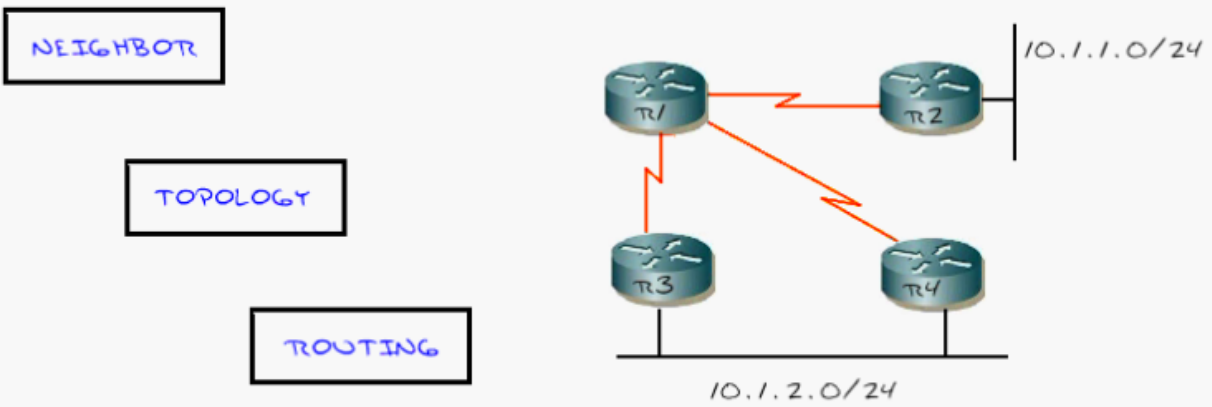
Best routing protocol but proprietary

Why use EIGRP

1. BACKUP ROUTES (FAST CONVERGENCE / DUAL)
2. SIMPLE CONFIGURATION
3. FLEXIBILITY IN SUMMARIZATION
4. UNEQUAL COST LOAD-BALANCING
5. COMBINES BEST OF DISTANCE VECTOR AND LINK STATE
6. SUPPORTS MULTIPLE NETWORK PROTOCOLS

A ROUTER RUNNING EIGRP MAINTAINS THREE TABLES:

- NEIGHBOR TABLE
- TOPOLOGY TABLE
- ROUTING TABLE



```
R2#show ip eigrp neighbors
IP-EIGRP neighbors for process 10
H   Address                Interface      Hold Uptime    SRTT   RTO   Q   Seq
 0   192.168.1.1             Fa0/0         10 00:01:04     4    200  0   2
```

```
R2#show ip route
Codes: 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
```

Gateway of last resort is not set

```
C   192.168.10.0/24 is directly connected, FastEthernet0/0.10
D   172.30.0.0/16 [90/2297856] via 192.168.2.2, 00:01:01, Serial0/1/0
C   192.168.20.0/24 is directly connected, FastEthernet0/0.20
C   192.168.1.0/24 is directly connected, FastEthernet0/0
C   192.168.2.0/24 is directly connected, Serial0/1/0
D   192.168.3.0/24 [90/2195456] via 192.168.2.2, 00:01:26, Serial0/1/0
```

```

BBH show ip eigrp topology
IP-EIGRP Topology Table for AS(1)/ID(172.30.7.1)
Codes: P - Passive, A - Active, U - Update, Q - Query, R - Reply,
       r - reply Status, s - sia Status

P 10.1.2.0/24, 1 successors, FD is 2195456
   via 10.1.24.1 (2195456/281600), Serial0/0.2
   via 10.1.34.1 (3097600/281600), Serial0/0.3
P 10.1.24.0/30, 1 successors, FD is 2169856
   via Connected, Serial0/0.2
P 10.1.34.0/30, 1 successors, FD is 3072000
   via Connected, Serial0/0.3
   via 10.1.24.1 (2707456/2195456), Serial0/0.2
P 172.30.3.0/24, 1 successors, FD is 128256
   via Connected, Loopback3
P 172.30.0.0/24, 1 successors, FD is 128256
   via Connected, Loopback0
P 172.30.1.0/24, 1 successors, FD is 128256
   via Connected, Loopback1
P 172.30.6.0/24, 1 successors, FD is 128256
   via Connected, Loopback6
P 172.30.7.0/24, 1 successors, FD is 128256
   via Connected, Loopback7

```

- BANDWIDTH

- DELAY

- RELIABILITY

- LOADING

- MTU

METRIC =

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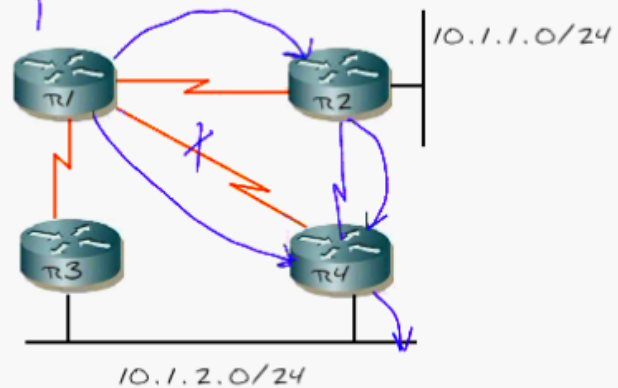
- ROUTING TABLE

NEIGHBOR

TOPOLOGY

ROUTING

10.1.2.0/24
SUCCESSOR (P)
FEAS. SUCCESSOR (B)



Router EIGRP "AS" (must be the same on all routers)

Network 192.168.0.0 or 192.168.0.0 0.0.0.255

Sh ip eigrp neighbors hello every 5 seconds holdtime 15 seconds

Sh ip route

Auto summarization in EIGRP, better do no auto summary