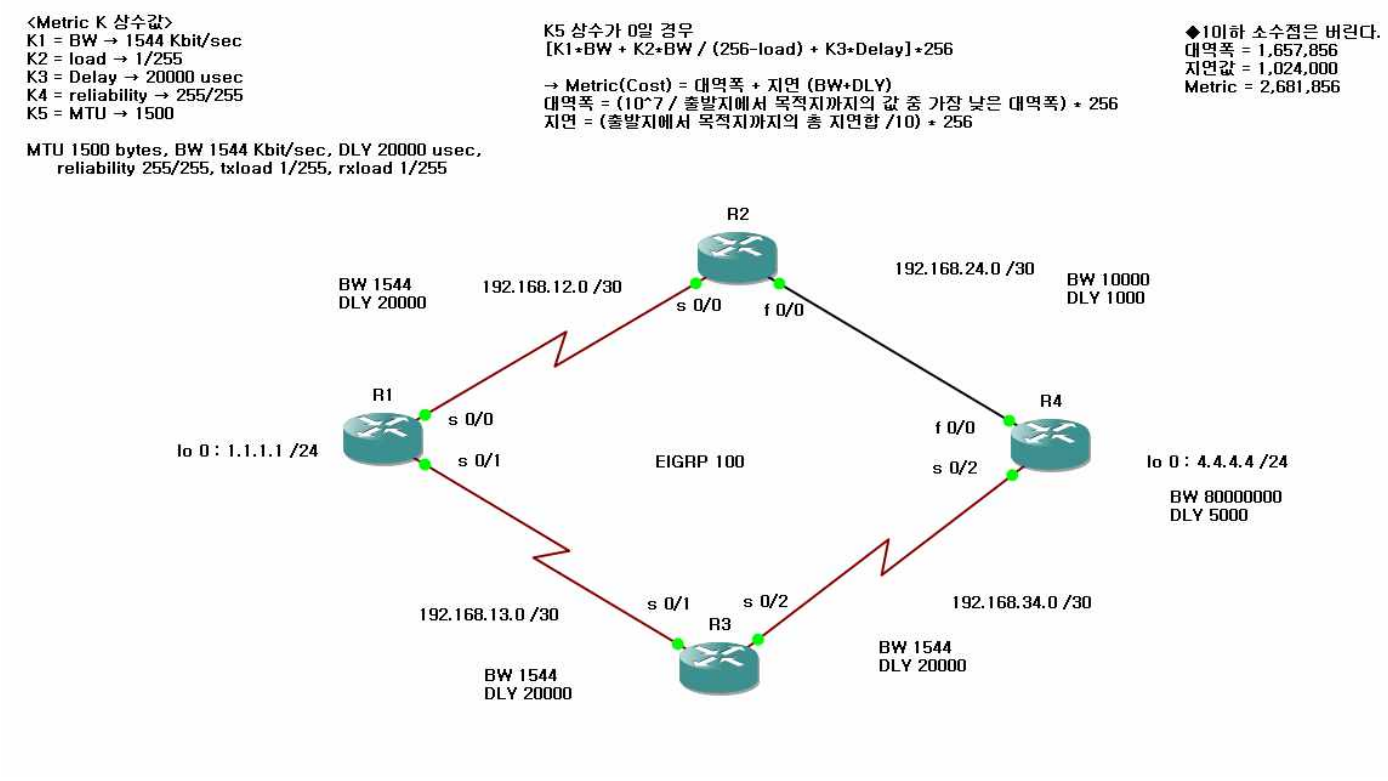
네트워크

※ EIGRP 네트워크 패킷
Hello packet → update packet → query packet → reply packet → acknowledgement packet(ACK)

<주의> OSPF 패킷
Hello packet → Database Descriptor packet → Link State Request packet → Link State Update packet → Link State Acknowledgment packet

EIGRP 프로토콜 Distance Vector으로 경로를 설정을 함
거리외 속도의 개념으로 파악함.

<EIGRP 특성>
Unequal Load Balancing을 지원
Conversance Time이(복구시간) 빠름 → 후속경로를 미리 계산 해놓기 때문에 그러함



라우팅 테이블에는 최적경로만 나옴

토폴로지

```
R1#sh ip ei to
IP-EIGRP Topology Table for AS(100)/ID(1.1.1.1)

Codes: P - Passive, A - Active, U - Update, Q - Query, R - Reply,
       r - reply Status, s - sia Status

P 1.1.1.0/24, 1 successors, FD is 128256
        via Connected, Loopback0
P 4.4.4.0/24, 1 successors, FD is 2323456
        via 192.168.12.2 (2323456/409600), Serial0/0
        via 192.168.13.2 (2809856/2297856), Serial0/1
P 192.168.34.0/30, 1 successors, FD is 2681856
        via 192.168.13.2 (2681856/2169856), Serial0/1
        via 192.168.12.2 (2707456/2195456), Serial0/0
P 192.168.12.0/30, 1 successors, FD is 2169856
        via Connected, Serial0/0
P 192.168.13.0/30, 1 successors, FD is 2169856
        via Connected, Serial0/1
P 192.168.24.0/30, 1 successors, FD is 2195456
        via 192.168.12.2 (2195456/281600), Serial0/0
```

Fizurable Distance = FD

RD값 한 홉을 더 간다음 계산한 값(DLY값이 빠짐)

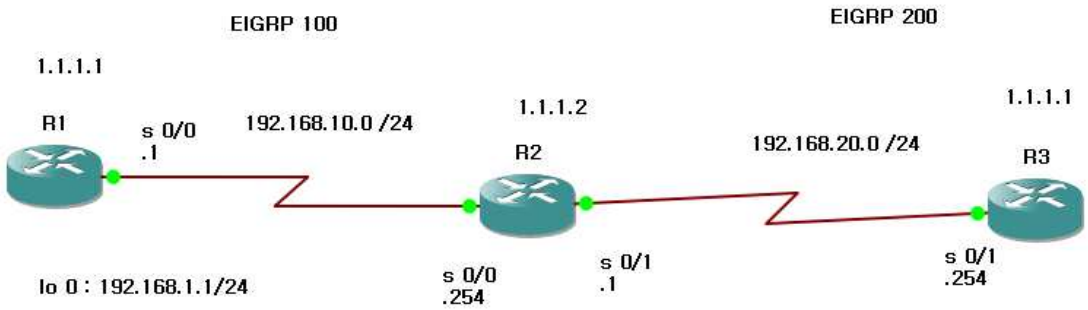
(2323456/409600)에 대한 설명

```
R1#sh ip pro
Routing Protocol is "eigrp 100"
  Outgoing update filter list for all interfaces is not set
  Incoming update filter list for all interfaces is not set
  Default networks flagged in outgoing updates
  Default networks accepted from incoming updates
  EIGRP metric weight K1=1, K2=0, K3=1, K4=0, K5=0
  EIGRP maximum hopcount 100
  EIGRP maximum metric variance 1
  Redistributing: eigrp 100
  EIGRP NSF-aware route hold timer is 240s
  Automatic network summarization is not in effect
  Maximum path: 4
  Routing for Networks:
    1.1.1.0/24
    192.168.12.0/30
    192.168.13.0/30
  Routing Information Sources:
    Gateway         Distance      Last Update
    192.168.12.2           90      00:47:28
    192.168.13.2           90      00:47:28
  Distance: internal 90 external 170
```

<unequal load balancing>

variance 값 커지면 최적경로 끌어올려짐

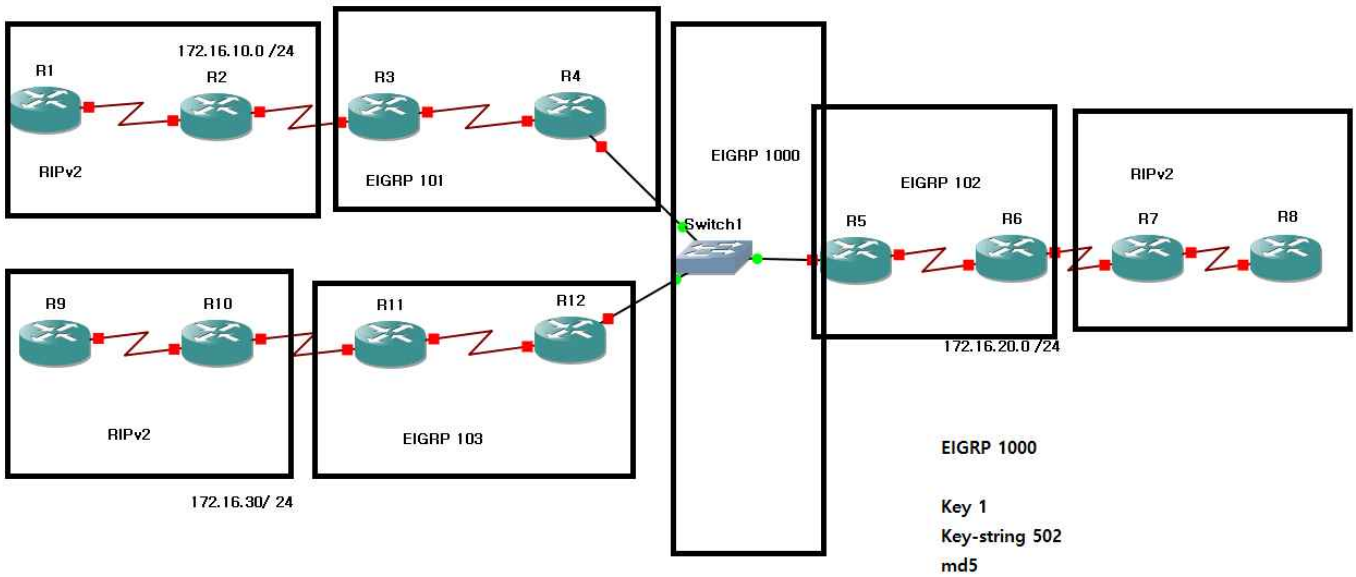
후속경로가 있을 때만 사용이 가능



<수동 축약해주기>
router ei 100상태에서 int s 0/0
ip summary-address ei 100 192.168.0.0 255.255.252.0
→프로토콜이 eigrp 100이고 시리얼 0/0인 라우터의 ip 축약함

summary 할 때 null값
null 쓰레기통과 같음

<실습>



keychain (키체인)주기
<명령어>
key chain+키 이름(R1-Key)
key+번호(1)
key-string 502
exit
int s 0/1

ip authentication eigrp 1000 key-chain R1-KEY
ip authentication eigrp mode md5(암호를 해시값으로 만듬)

ip add dhcp → 아이피 자동설정부여
dhcp는 sh ip int b해서 확인후 ip 확인해야 함