

# 네트워크

## ■ GRE 터널링

- 물리적인 인터넷망을 쓰기 때문에 물리회선이 연결되어야 한다.

### 1. 가상 터널 만들기

인터페이스 번호가 같아야 하는것은 아니다.

```
R1(config)#interface tunnel 1
```

```
R1(config-if)#
```

```
*Mar  1 00:11:56.411: %LINEPROTO-5-UPDOWN: Line protocol on Interface Tunnel1,
changed state to down
```

```
R1(config-if)#ip add 172.16.10.1 255.255.255.252
```

```
R1(config-if)#no sh           //해도 되지만 켜지지는 않는다. => 상대방이랑 연결되면 자동으로 켜
진다.
```

```
R1(config-if)#tunnel source serial 0/0           //외부 IP를 적어도 된다.
```

```
R1(config-if)#tunnel destination 10.10.20.1     //도착지는 네트워크가 연결된 외부 IP다. up이
안되면 라우팅 문제이다.
```

```
*Mar  1 00:14:51.107: %LINEPROTO-5-UPDOWN: Line protocol on Interface Tunnel1,
changed state to up
```

```
R1#show interfaces tunnel 1
```

```
Tunnel1 is up, line protocol is up
```

```
Hardware is Tunnel
```

```
Internet address is 172.16.10.1/30
```

```
MTU 1514 bytes, BW 9 Kbit/sec, DLY 500000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
```

```
Encapsulation TUNNEL, loopback not set
```

```
Keepalive not set
```

```
Tunnel source 10.10.10.1 (Serial0/0), destination 10.10.20.1
```

```
Tunnel protocol/transport GRE/IP
```

```
Key disabled, sequencing disabled
```

```
Checksumming of packets disabled
```

```
Tunnel TTL 255
```

```
Fast tunneling enabled
```

```
Tunnel transmit bandwidth 8000 (kbps)
```

```
Tunnel receive bandwidth 8000 (kbps)
```

```
Last input never, output never, output hang never
```

```
Last clearing of "show interface" counters never
```

```
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
```

Queueing strategy: fifo

Output queue: 0/0 (size/max)

5 minute input rate 0 bits/sec, 0 packets/sec

5 minute output rate 0 bits/sec, 0 packets/sec

0 packets input, 0 bytes, 0 no buffer

Received 0 broadcasts, 0 runs, 0 giants, 0 throttles

0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort

0 packets output, 0 bytes, 0 underruns

0 output errors, 0 collisions, 0 interface resets

0 unknown protocol drops

0 output buffer failures, 0 output buffers swapped out

R3(config-if)#interface tunnel 3

\*Mar 1 00:16:15.243: %LINEPROTO-5-UPDOWN: Line protocol on Interface Tunnel3, changed state to down

R3(config-if)#ip add 172.16.10.2 255.255.255.252

R3(config-if)#tunnel source s0/1

R3(config-if)#tunnel destination 10.10.10.1

\*Mar 1 00:16:41.691: %LINEPROTO-5-UPDOWN: Line protocol on Interface Tunnel3, changed state to up

2. GRE 내부라우팅(172, 192 경로만 설정)

R1(config)#router ospf 1

R1(config-router)#network 192.168.10.0 0.0.0.255 area 0

R1(config-router)#network 172.16.10.0 0.0.0.3 area 0

R3(config)#router ospf 3

R3(config-router)#network 172.16.10.0 0.0.0.3 area 0

R3(config-router)#network 192.168.20.0 0.0.0.255 area 0

