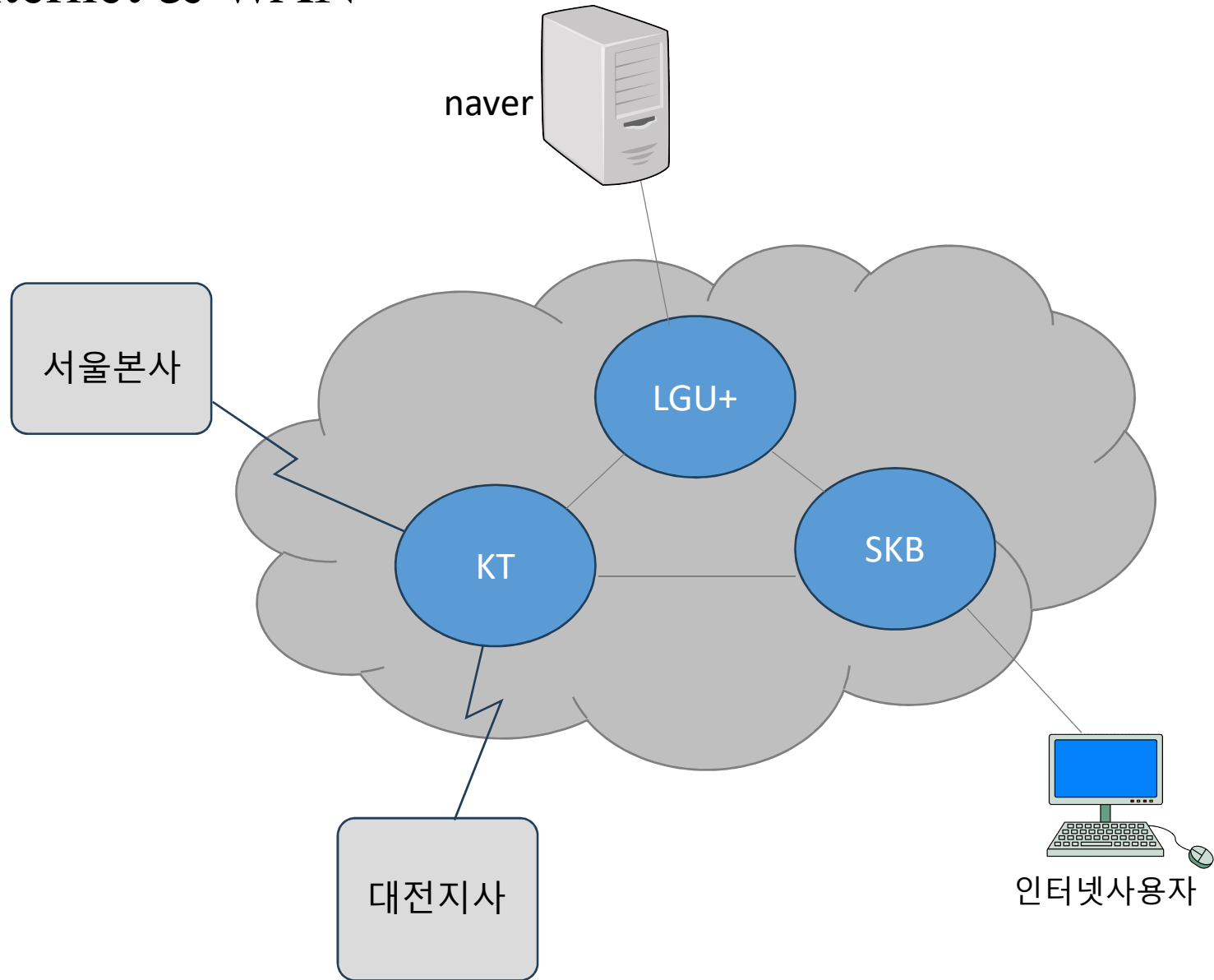
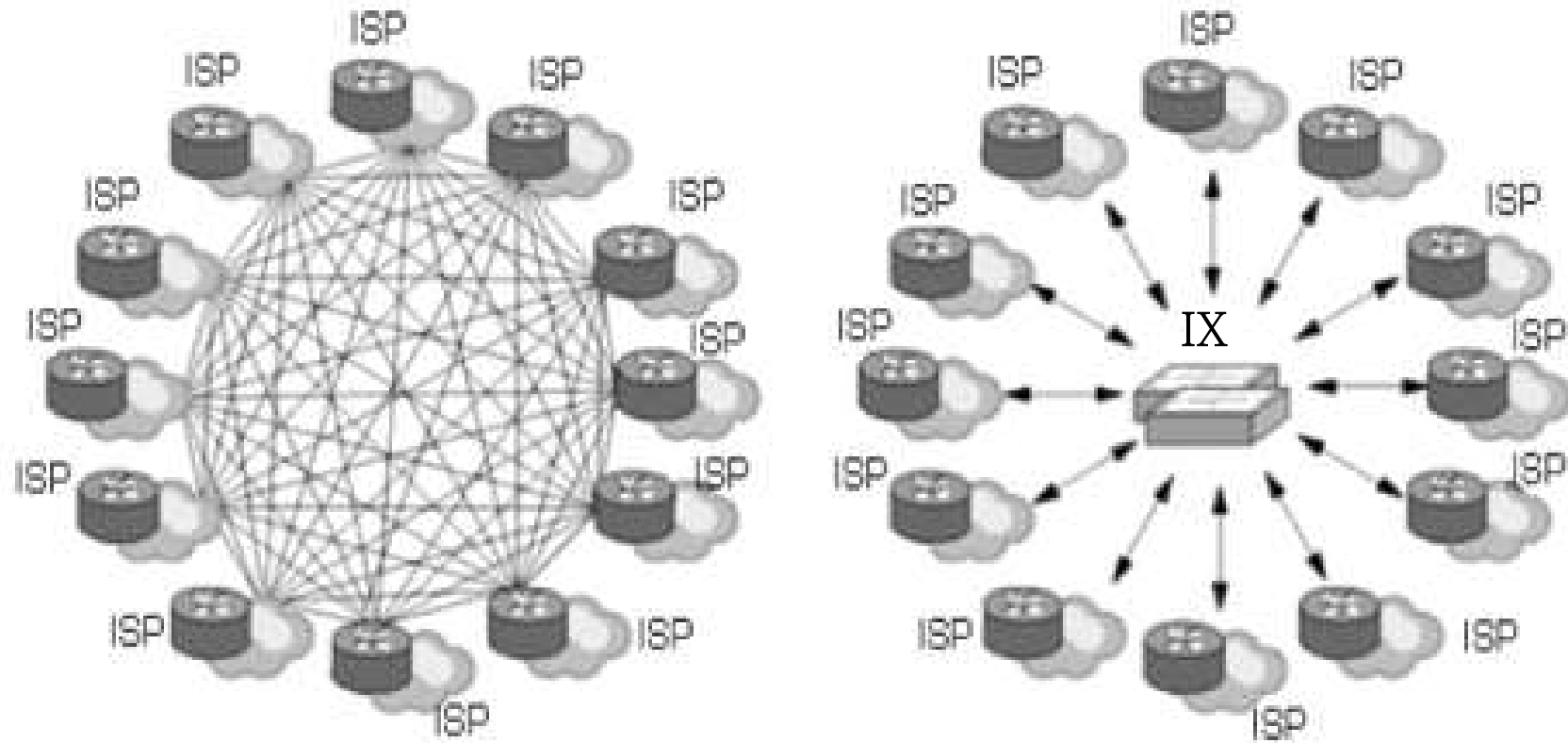


Internet & WAN

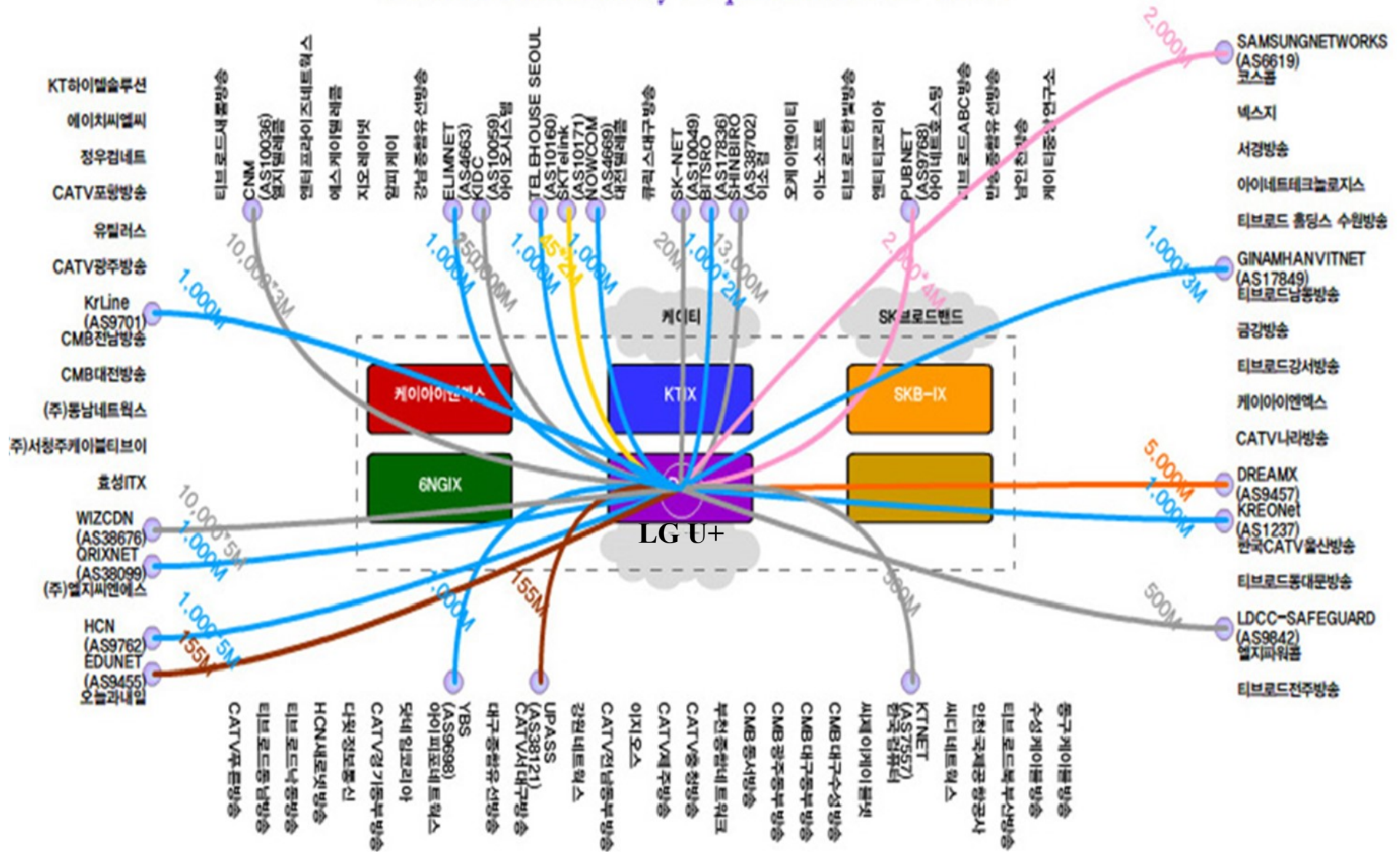


IX(Internet eXchange)



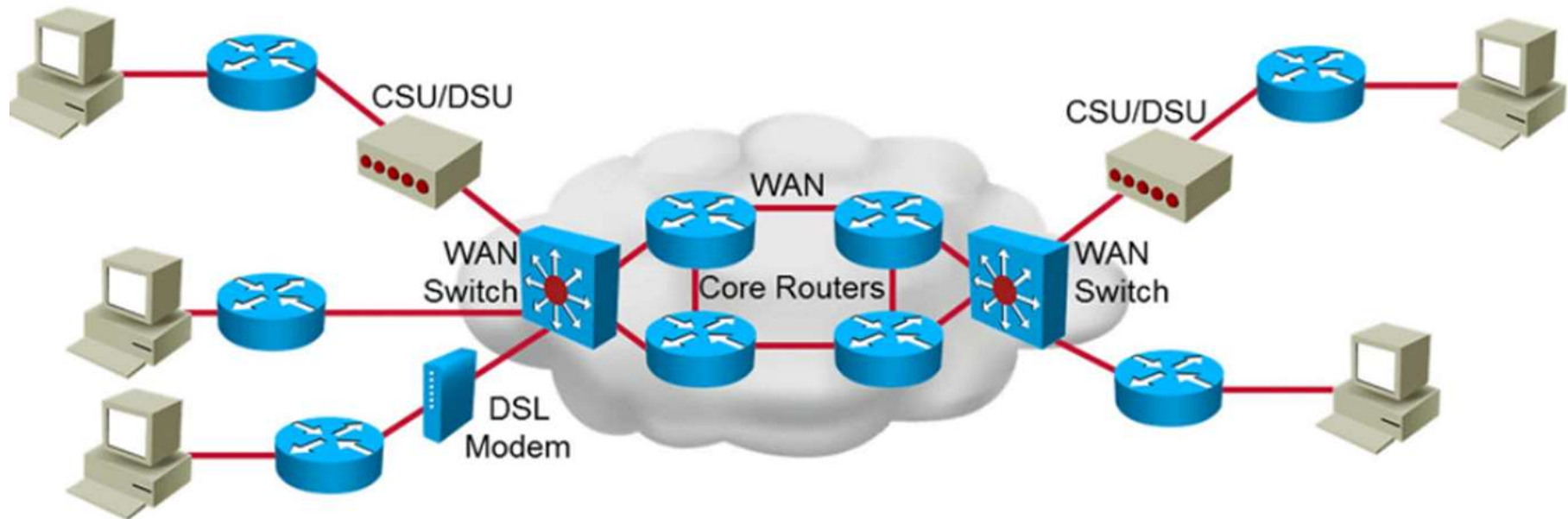
IX(Internet eXchange) -인터넷 트래픽을 상호 교환 시켜주는 역할 수행

Internet Connectivity Map Between ISP & IX

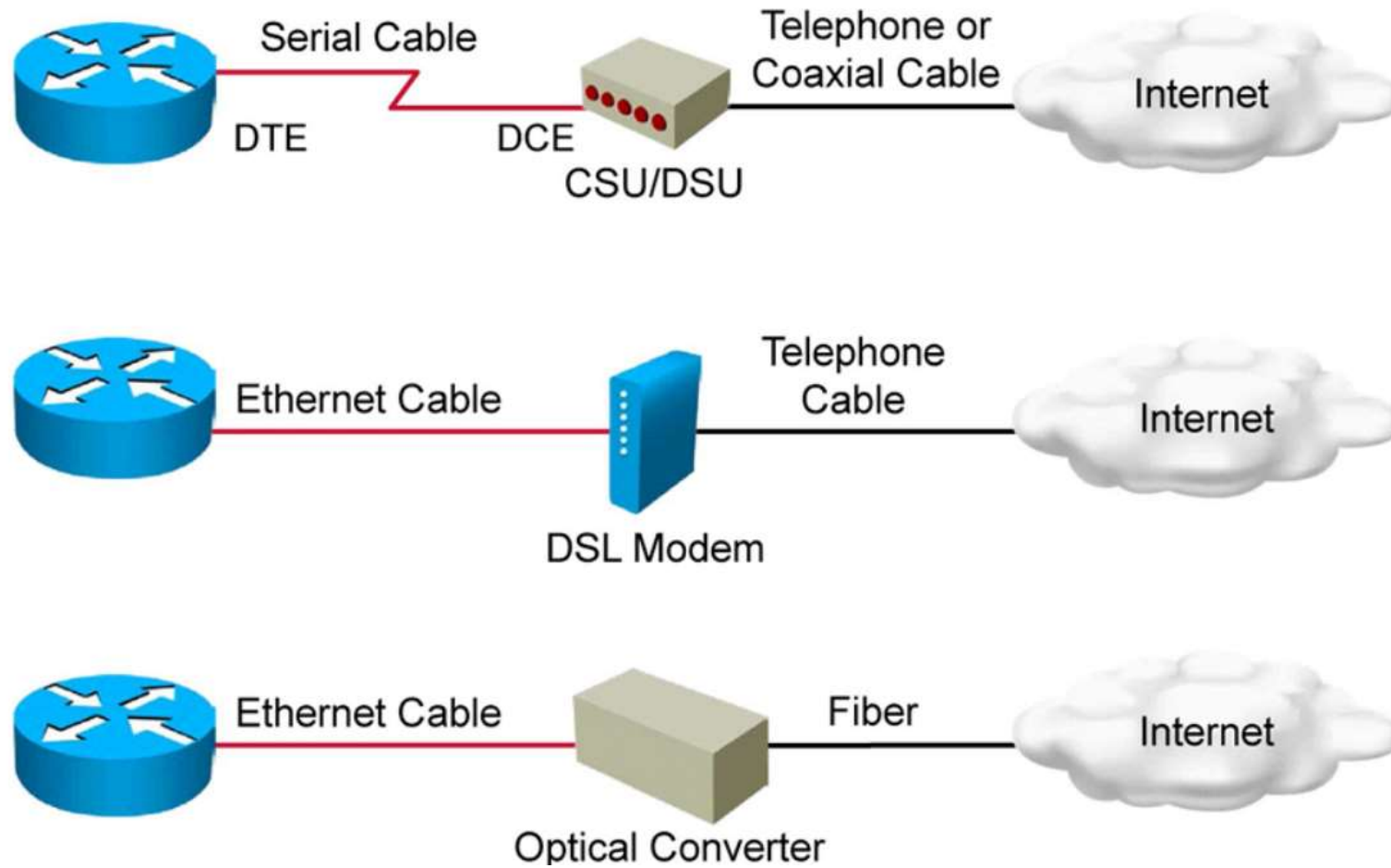


Internet & WAN Devices

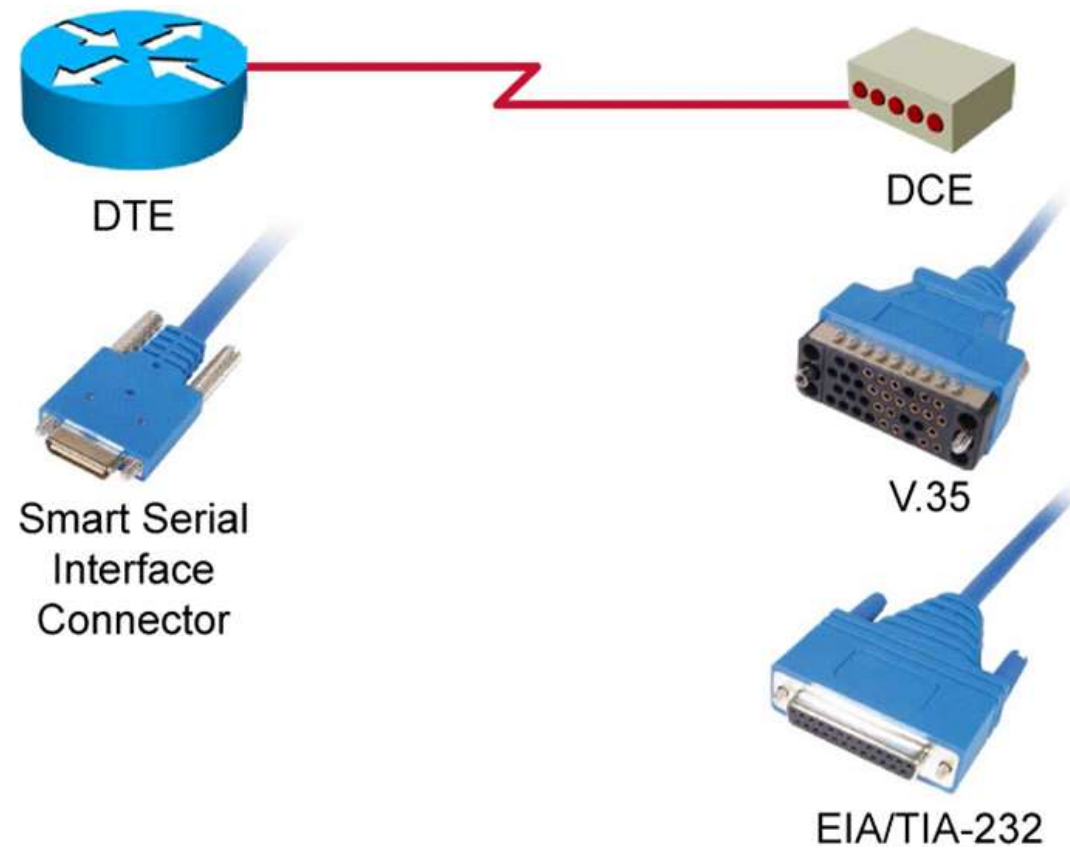
- Routers
- CSU/DSU
- WAN switches
- Core routers
- Modems



WAN Device & Cable



Serial Cable



Serial Communication Links

- Typical WAN speeds for the U.S.:
 - T1 = (1.544 Mb/s)
 - T2 = 4 T1 lines (6 Mb/s)
 - T3 = 28 T1 lines (45 Mb/s)
 - T4 = 168 T1 lines (275 Mb/s)
- Typical WAN speeds for Europe:
 - E1 = (2 Mb/s)
 - E2 = 128 E0 lines (8 Mb/s)
 - E3 = 16 E1 lines (34 Mb/s)
 - E4 = 64 E1 lines (140 Mb/s)

Fiber Cable

- 데이터 전송을 위해서 광섬유로 만든 케이블
- 레이저를 이용해서 통신하기 때문에 장거리 & 고속 통신이 가능



SM(Single Mode)광 케이블

- 장거리용(10~50Km)
- 장거리 고속 전송에 적합
- 가격이 MM광 케이블 보다 비쌈
- 노랑색 케이블



MM(Multi Mode)광 케이블

- 단거리용(1~10Km)
- 근거리 통신망에 적합
- 가격이 SM광 케이블 보다 저렴
- 주황색 케이블



<<광케이블 커넥터 유형>>

인터넷

A건물



L2 Switch

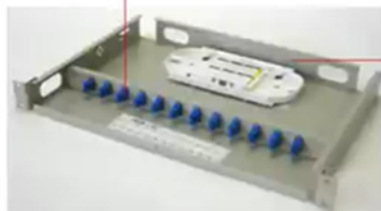
UTP

광패치코드



전원

광컨버터



FDF

B건물



UTP

광패치코드



전원

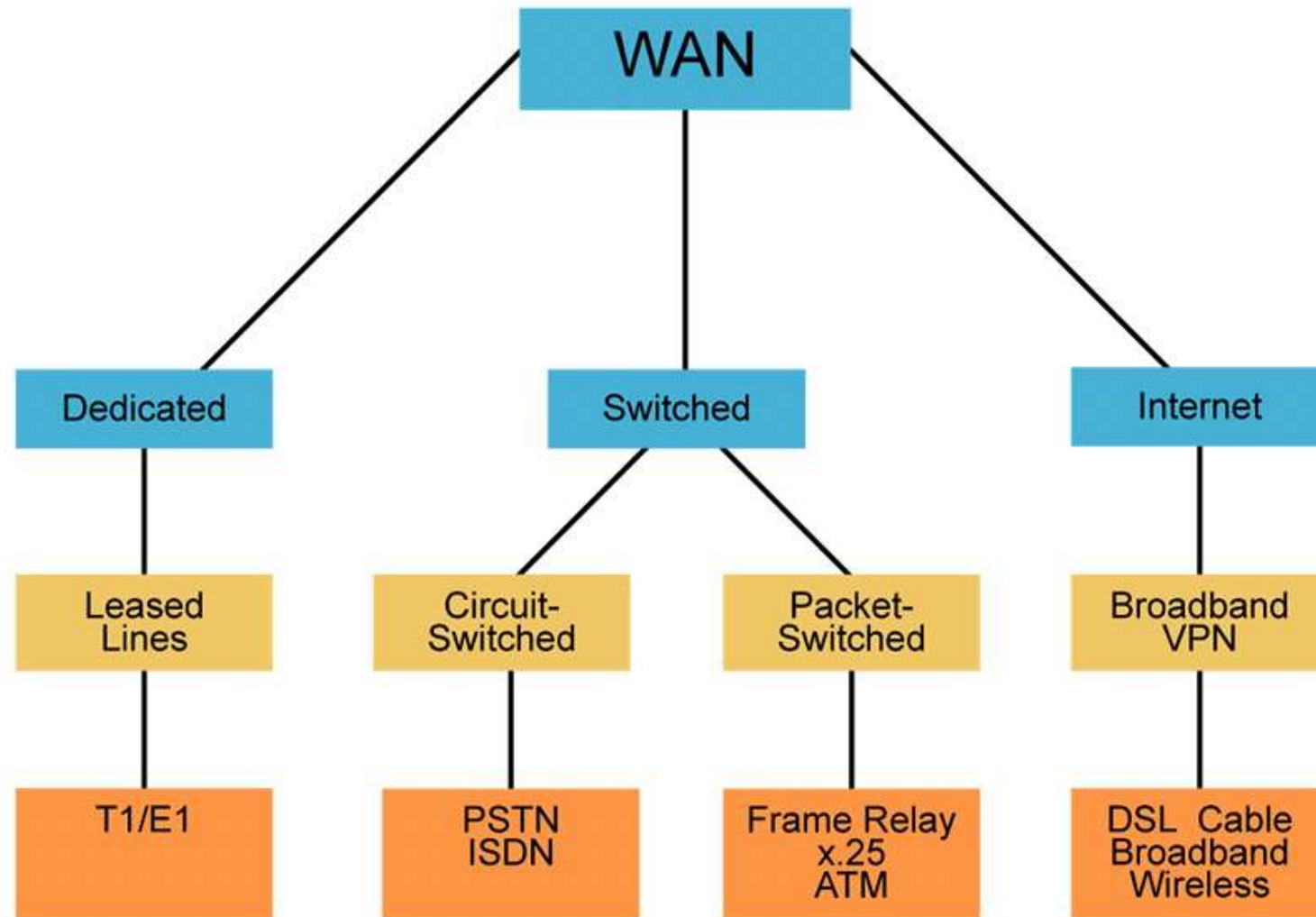
광컨버터



FDF

광케이블

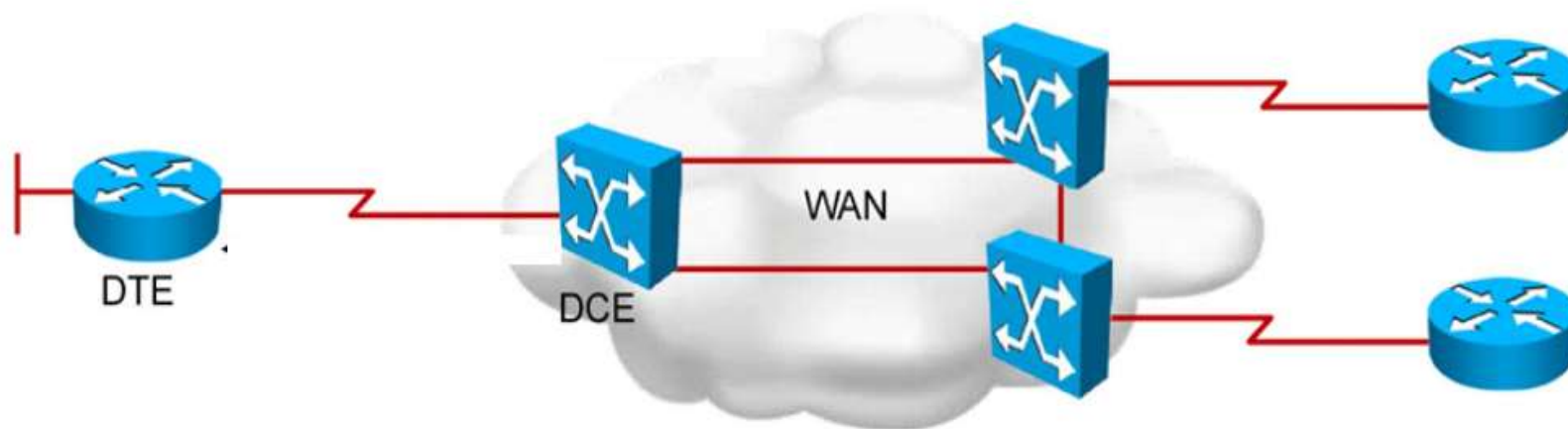
WAN(Wide Area Network) 구축 형태



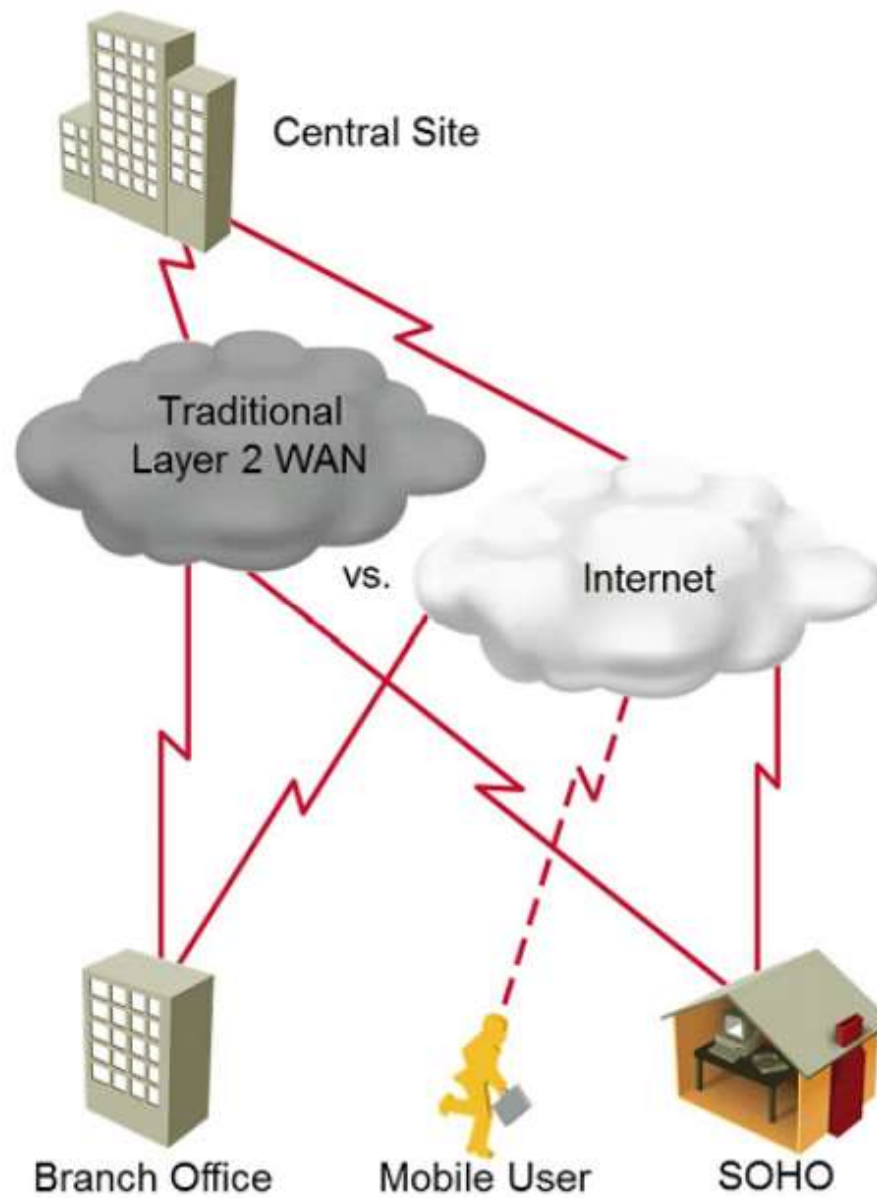
① Dedicated(Leased lines)



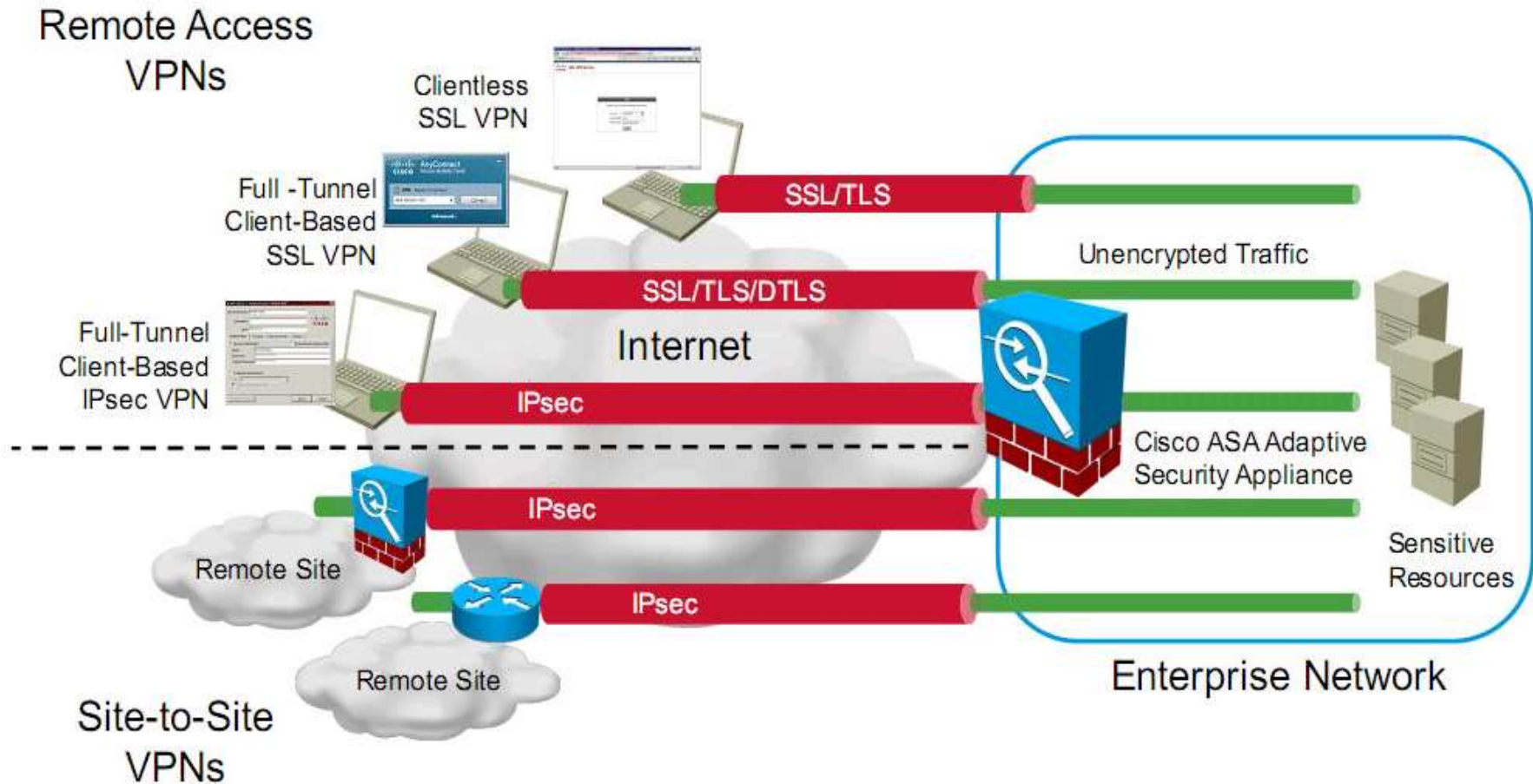
② Switched



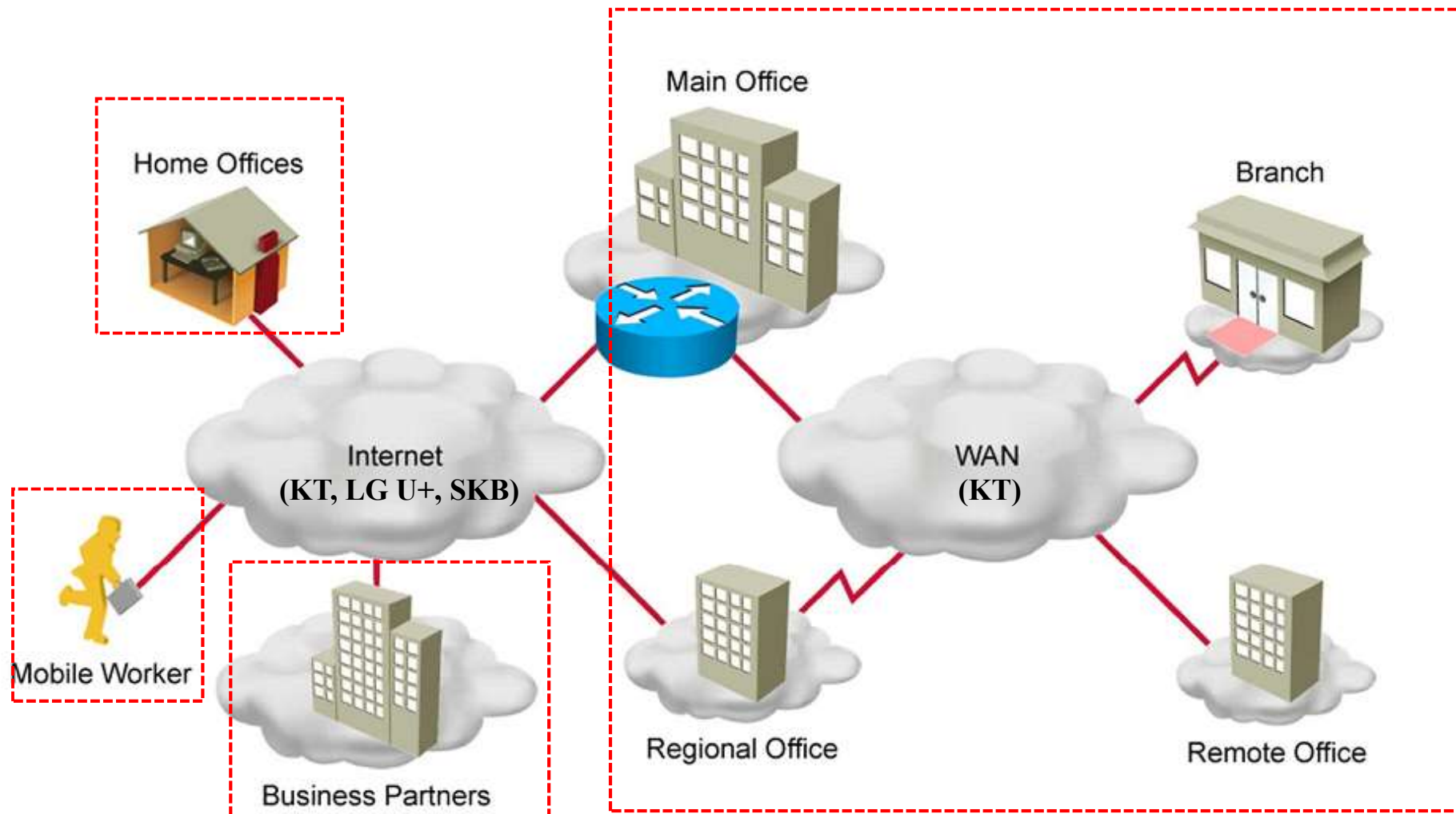
③ Internet



Virtual Private Networks (VPNs)



Internet & WAN



WAN= A Collection of LANs