

제 2 장 OSI 모델과 TCP/IP 프로토콜

- 2.1 OSI 모델
- 2.2 OSI 모델의 계층
- 2.3 TCP/IP 프로토콜
- 2.4 주소지정
- 2.5 IP 버전

2.1 & 2.2 OSI 모델

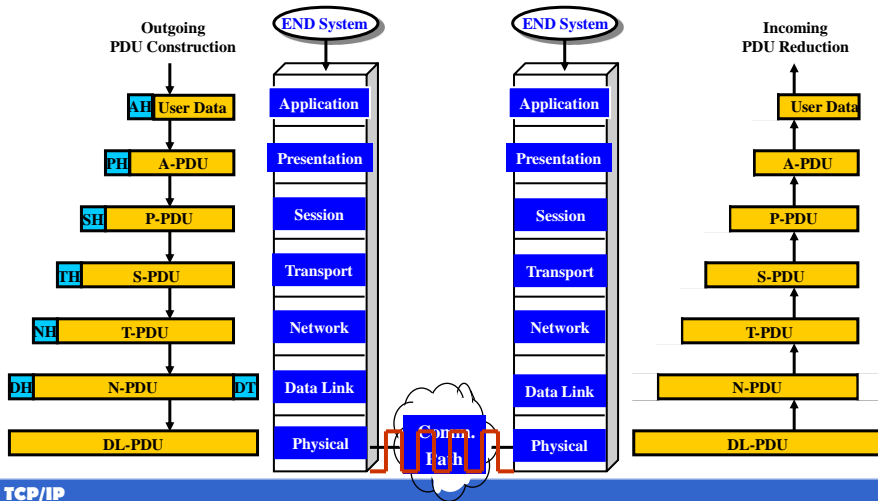
■ OSI 7계층 모델

Application	To allow access to network resources	7
Presentation	To translate, encrypt, and compress data	6
Session	To establish, manage, and terminate sessions	5
Transport	To provide reliable process-to-process message delivery and error recovery	4
Network	To move packets from source to destination; to provide internetworking	3
Data link	To organize bits into frames; to provide hop-to-hop delivery	2
Physical	To transmit bits over a medium; to provide mechanical and electrical specifications	1

2.1 & 2.2 OSI 모델 (계속)

- 계층구조 → 캡슐화 (Encapsulation)

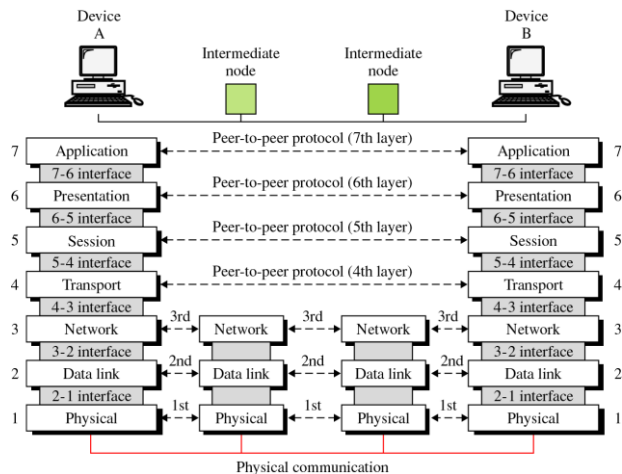
$$(N)\text{-PDU} = (N)\text{-SDU} + (N)\text{-PEI}$$



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2.1 & 2.2 OSI 모델 (계속)

- OSI 계층 구조

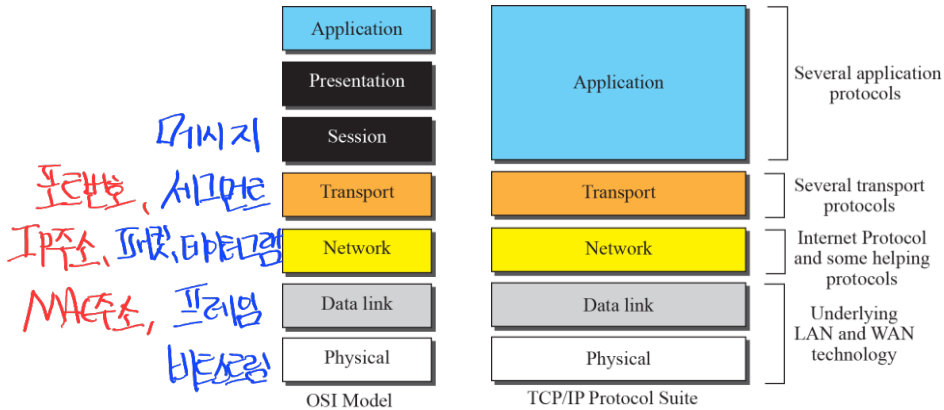


TCP/IP

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2.3 TCP/IP 프로토콜

■ TCP/IP와 OSI 모델

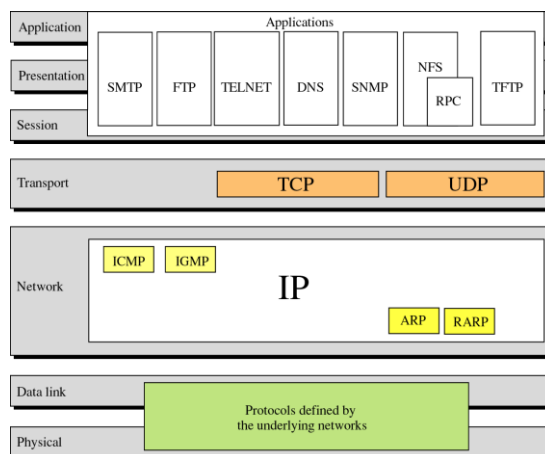


TCP/IP

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2.3 TCP/IP 프로토콜 (계속)

■ TCP/IP와 OSI 모델 (계속)



TCP/IP

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2.3 TCP/IP 프로토콜 (계속)

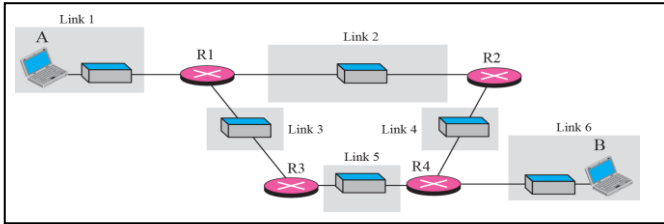
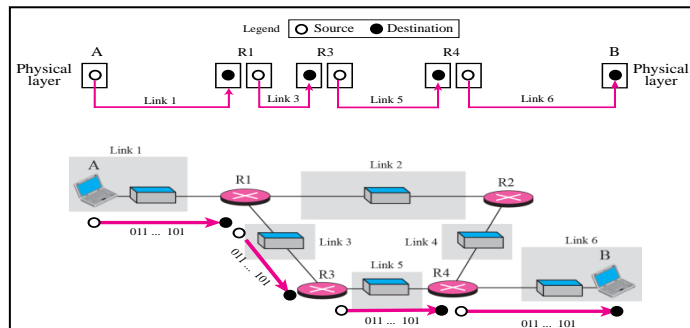


그림 2.9 사설인터넷

그림 2.10 물리 계층 통신



TCP/IP

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2.3 TCP/IP 프로토콜 (계속)

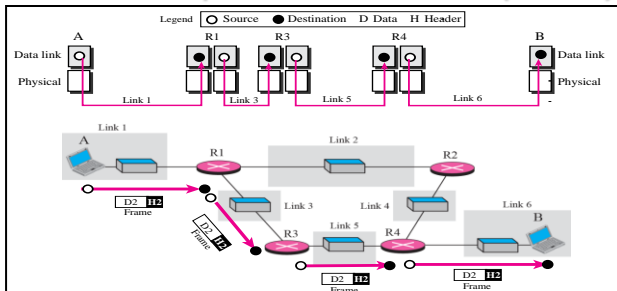
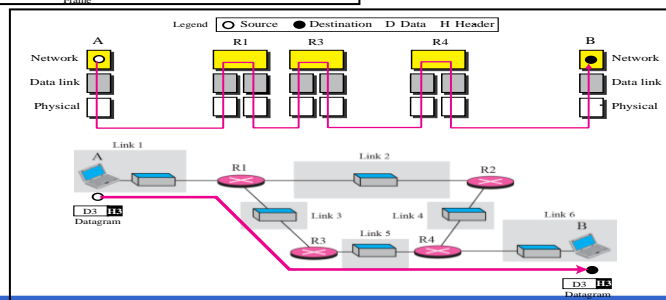


그림 2.11 데이터링크 계층 통신

그림 2.12 네트워크 계층 통신



TCP/IP

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2.3 TCP/IP 프로토콜 (계속)

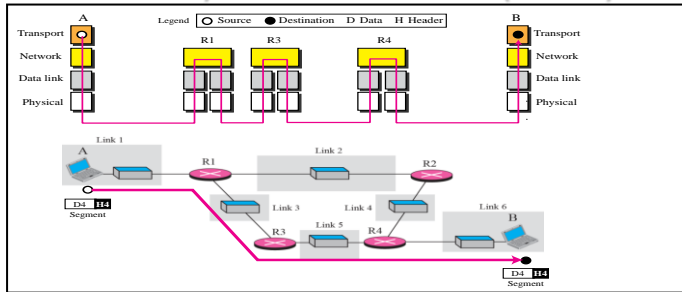
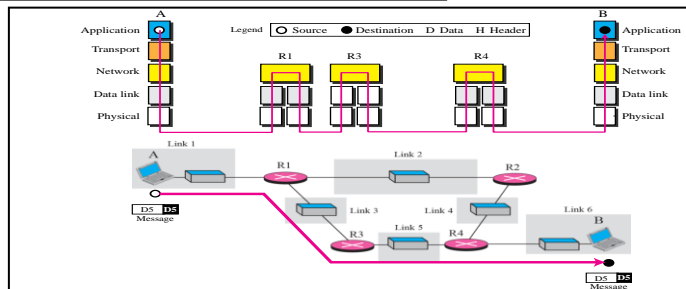


그림 2.13 전송 계층 통신

그림 2.14 응용 계층 통신

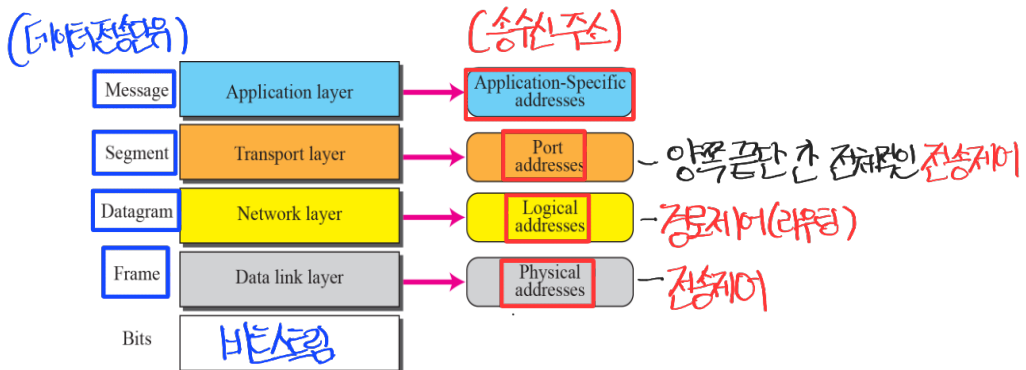


TCP/IP

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2.4 주소지정

■ TCP/IP에서 사용하는 주소

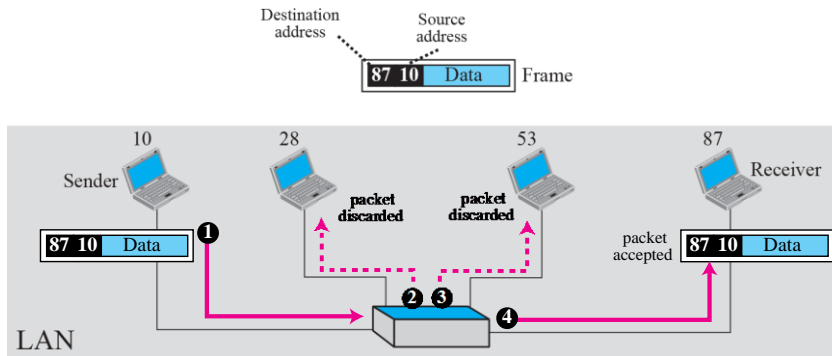


TCP/IP

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2.4 주소지정(계속)

■ 물리 주소 (예제 2.3 & 2.4)



07:01:02:01:2C:4B

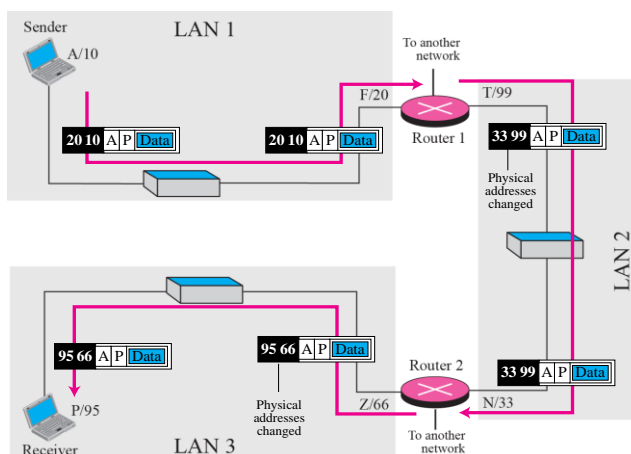
- Example of 6-byte (12 hexadecimal digits) physical address

TCP/IP

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2.4 주소지정(계속)

■ 논리 주소 (예제 2.5)

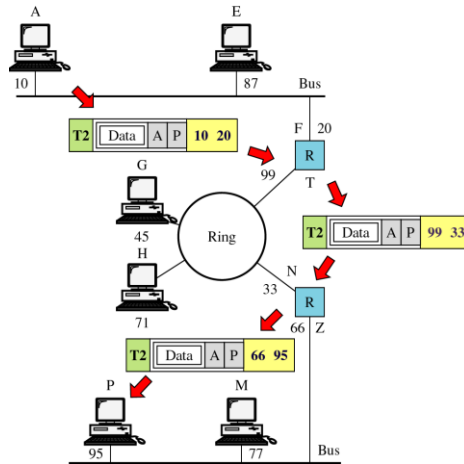


TCP/IP

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2.4 주소지정(계속)

■ 논리 주소 (계속)



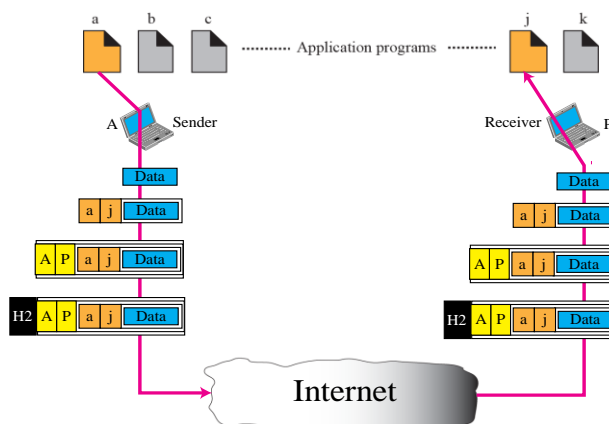
TCP/IP

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2.4 주소지정(계속)

■ 포트 주소 (예제 2.6)

➡ 프로세스를 식별하는 주소: 16 bits



TCP/IP

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