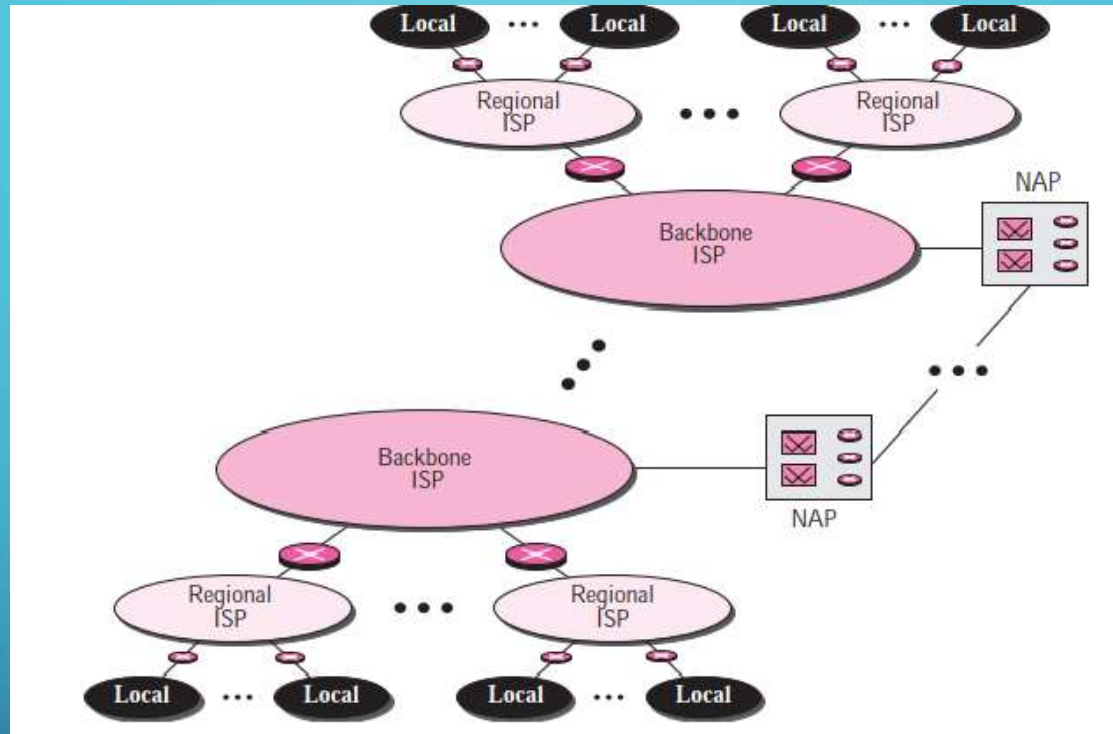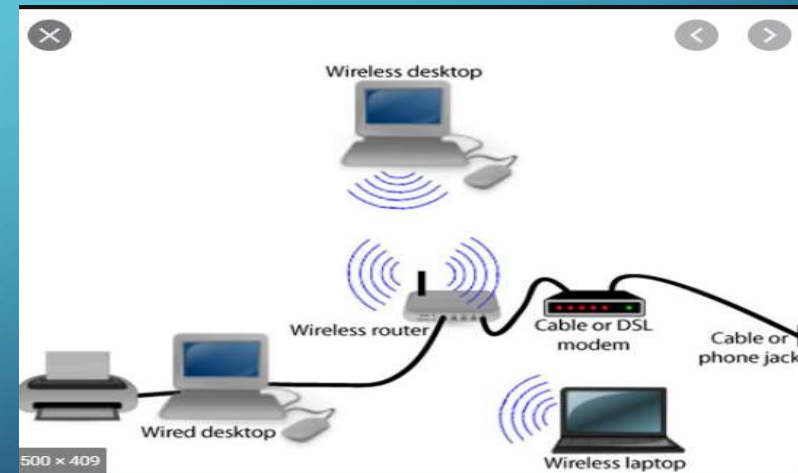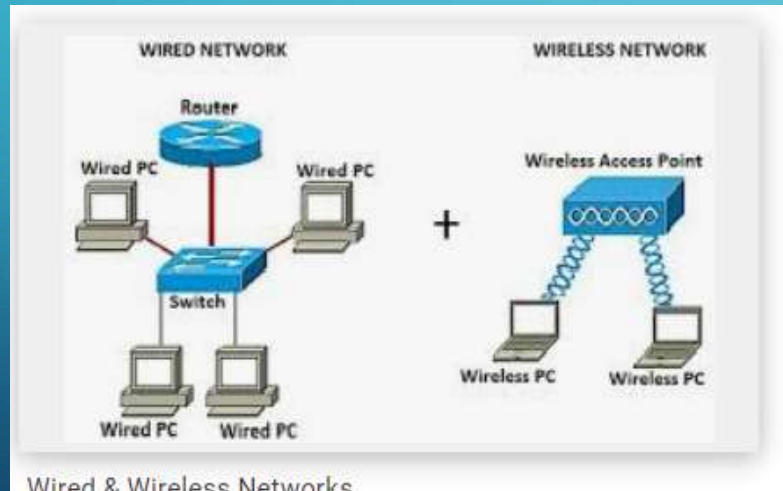# COMPUTER NETWORKS

COMPUTER NETWORKS

INTERNET TODAY
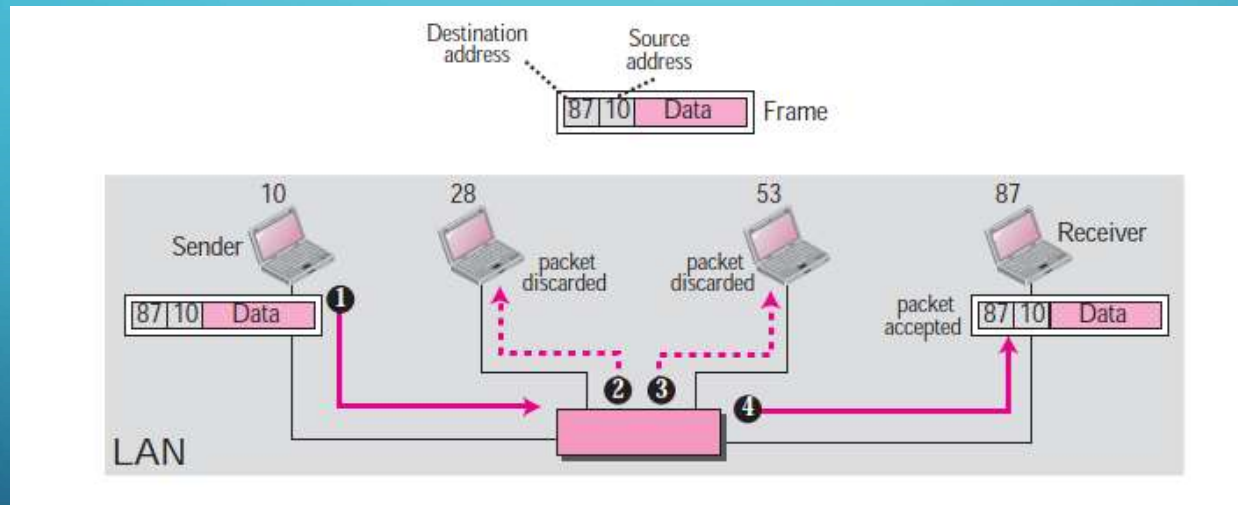
NETWORK REQUIREMENT

Media –wire –coaxial cable, twisted pair, fiber optic

wireless— radiowaves, microwaves, infrared

NETWORK REQUIREMENT

Addressing
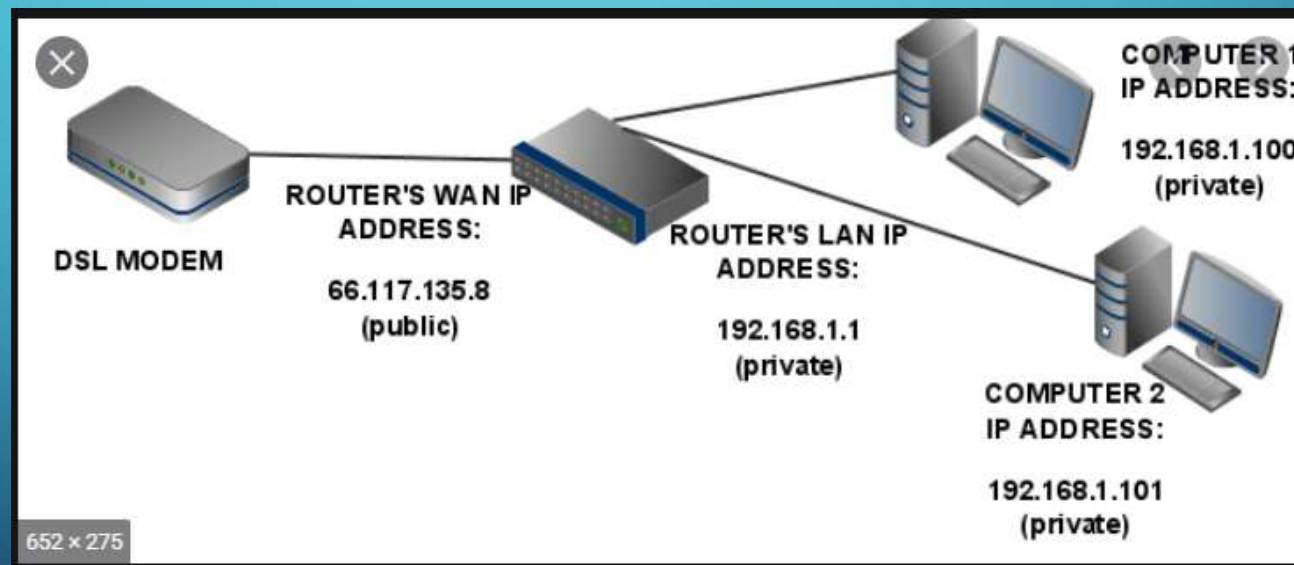
NETWORK REQUIREMENT

Addressing: Physical Address

, ex: MAC address

Logical Address,

ex: IP address

MAC

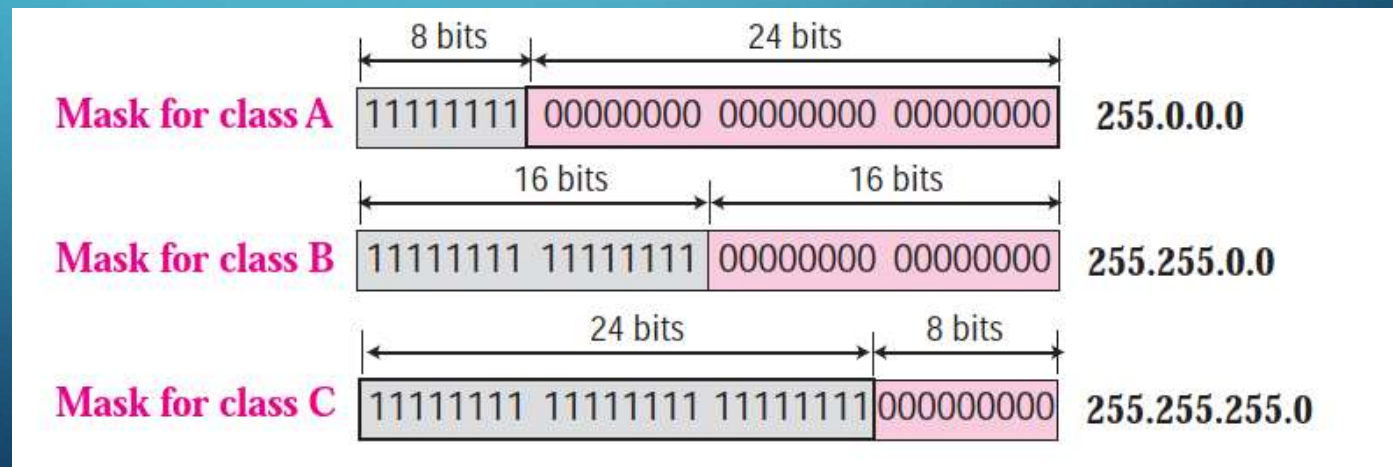# NETWORK REQUIREMENT

Addressing: Logical Address,

IP address

NETWORK REQUIREMENT

IP address classes

	Octet 1	Octet 2	Octet 3	Octet 4		Byte 1	Byte 2	Byte 3	Byte 4
Class A	0........				Class A	0–127			
Class B	10......				Class B	128–191			
Class C	110.....				Class C	192–223			
Class D	1110....				Class D	224–299			
Class E	1111....				Class E	240–255			
	Binary notation					Dotted-decimal notation			

	8 bits	24 bits	
Mask for class A	11111111	00000000 00000000 00000000	255.0.0.0

	16 bits	16 bits	
Mask for class B	11111111 11111111	00000000 00000000	255.255.0.0

	24 bits	8 bits	
Mask for class C	11111111 11111111 11111111	000000000	255.255.255.0

NETWORK REQUIREMENT

Flow Control

Error Control

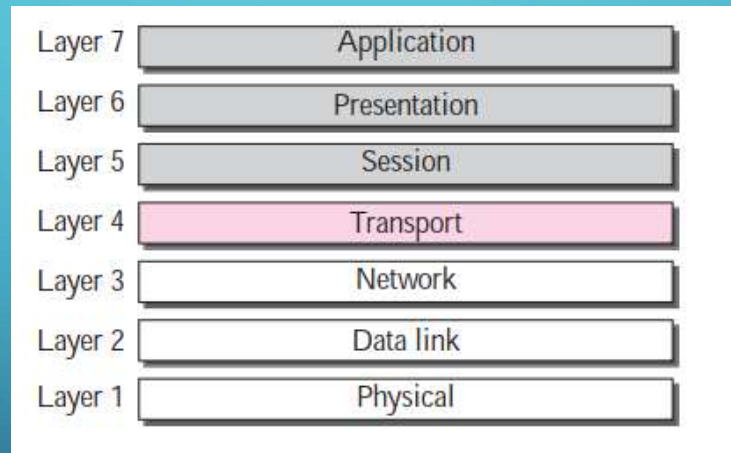Error Detection

Congestion Control

Routing

…….etc..

LAYER ARCHITECTURE AND PROTOCOLS

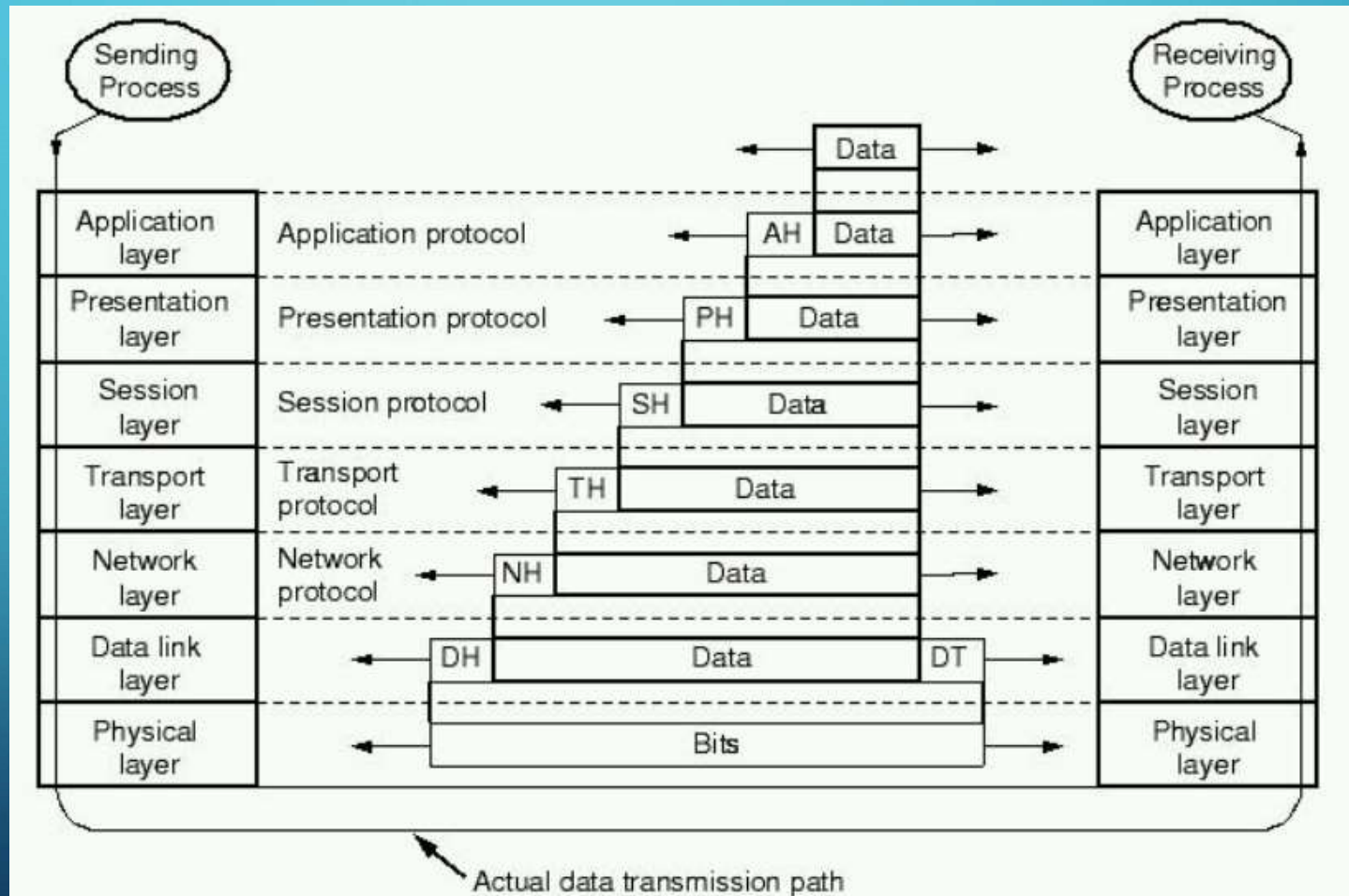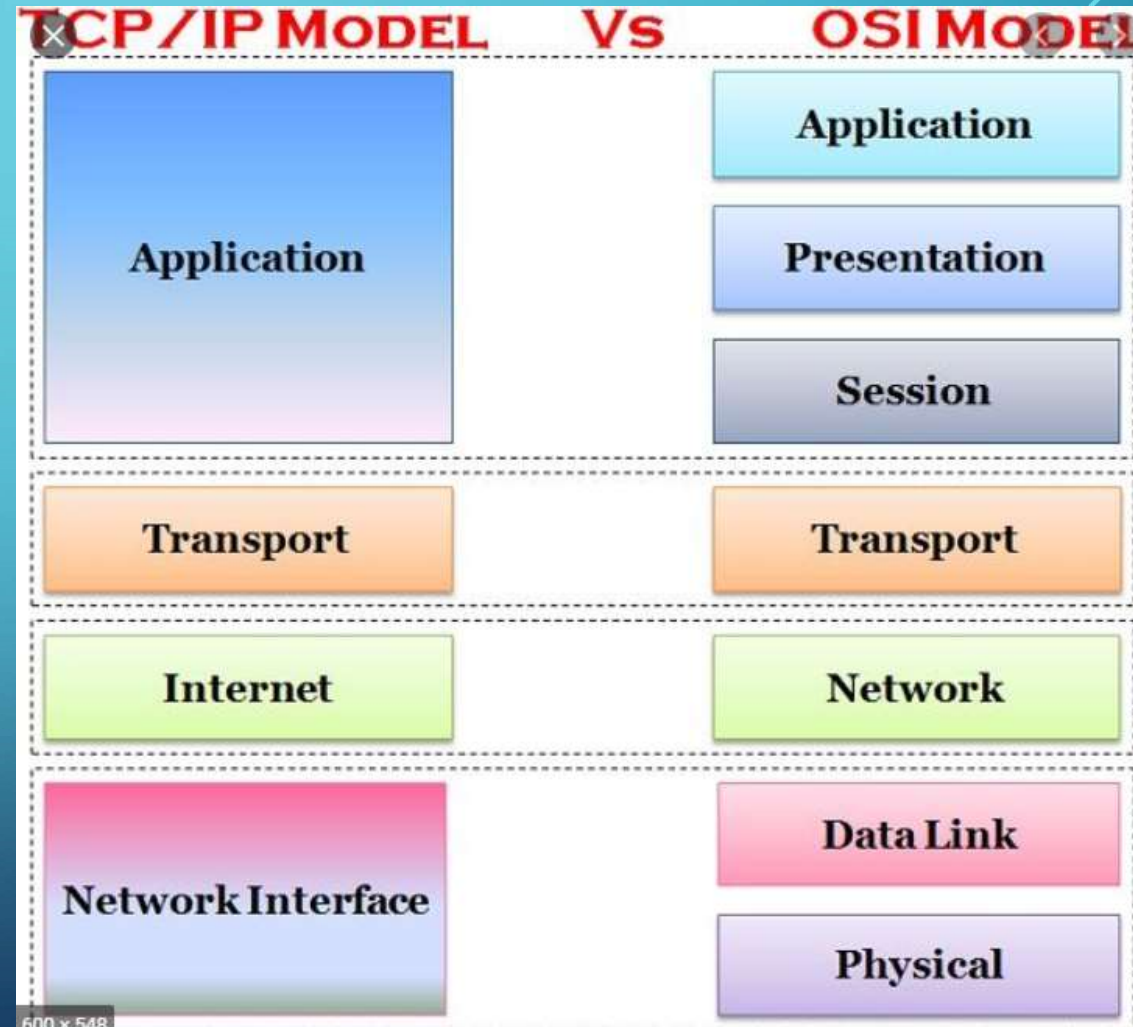## (1) OSI (OPEN SYSTEM INTERCONNECTION) LAYERS
(2) TCP / IP LAYERS

OSI Model

Layer 7	Application
Layer 6	Presentation
Layer 5	Session
Layer 4	Transport
Layer 3	Network
Layer 2	Data link
Layer 1	Physical

OSI Layers
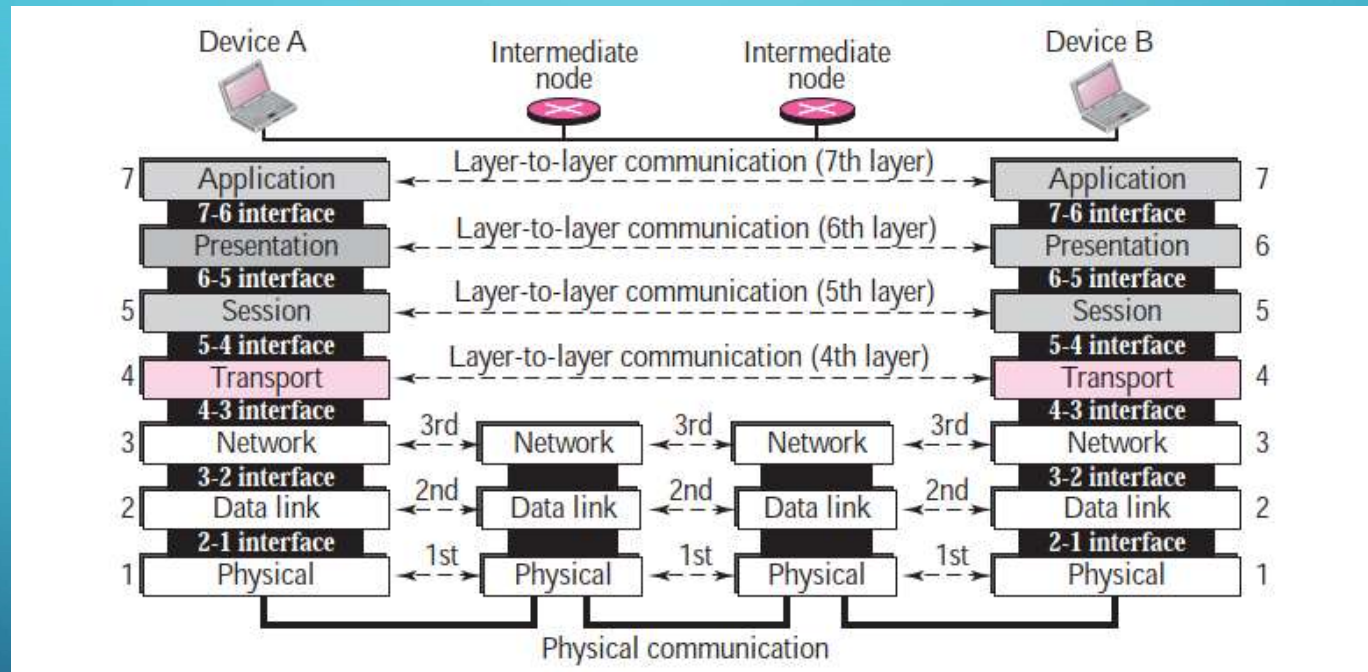
An exchange using the OSI model

Actual data transmission path

TCP/IP and OSI model

Communication in TCP/IP Model