CHAPTER 3: TRANSPORT LAYER

Group 01 :

Section : 3.1.2

Section Name : Overview of Transport Layer in internet

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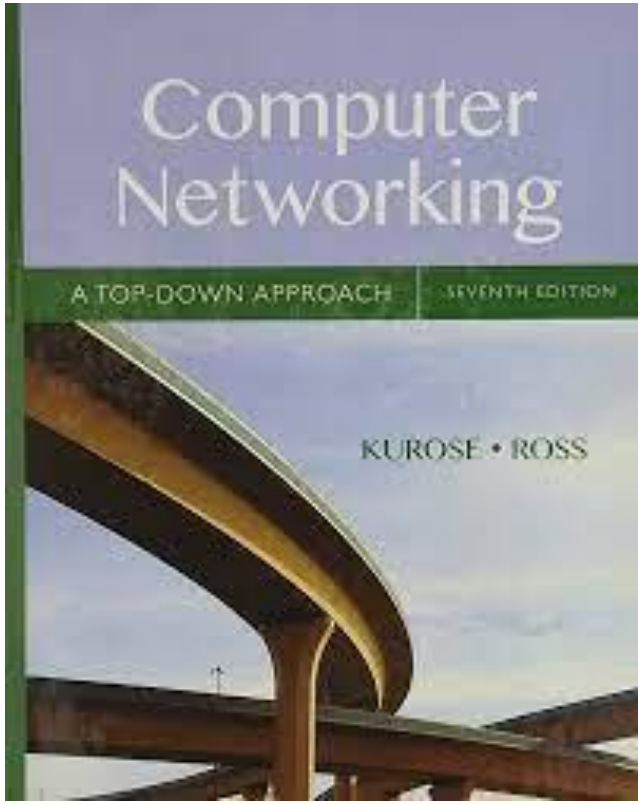
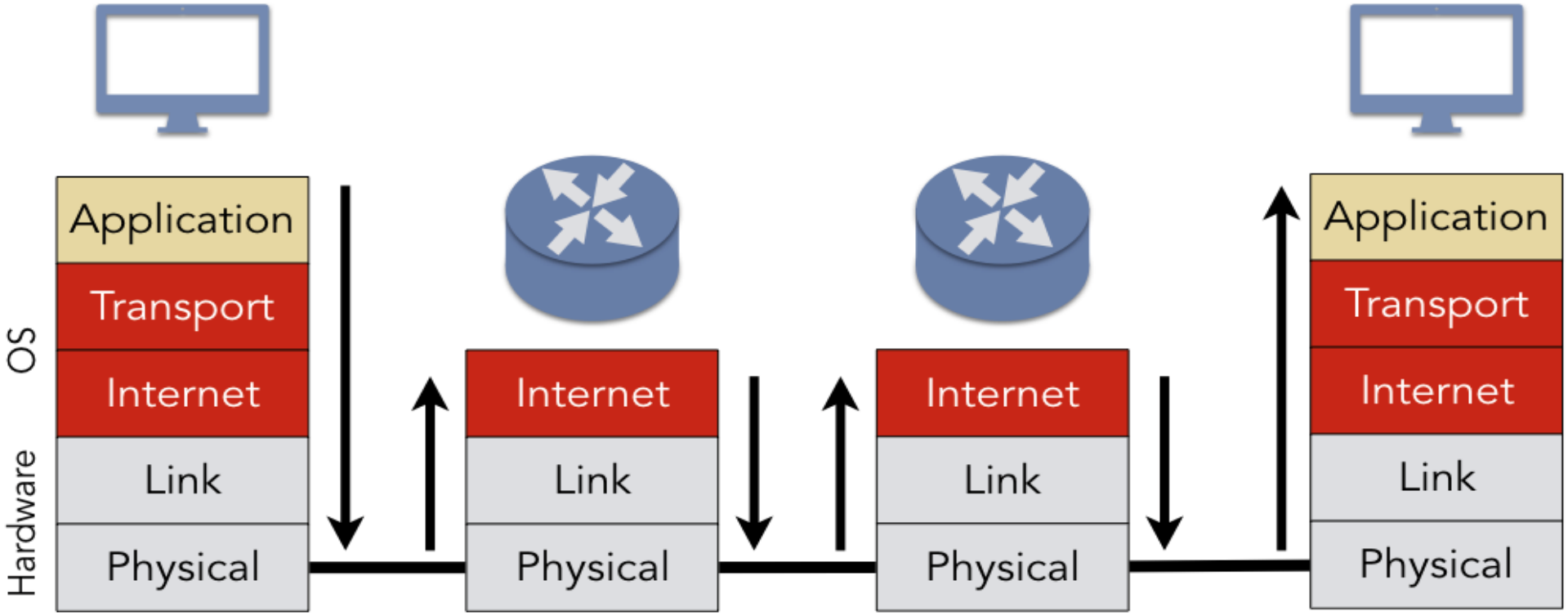


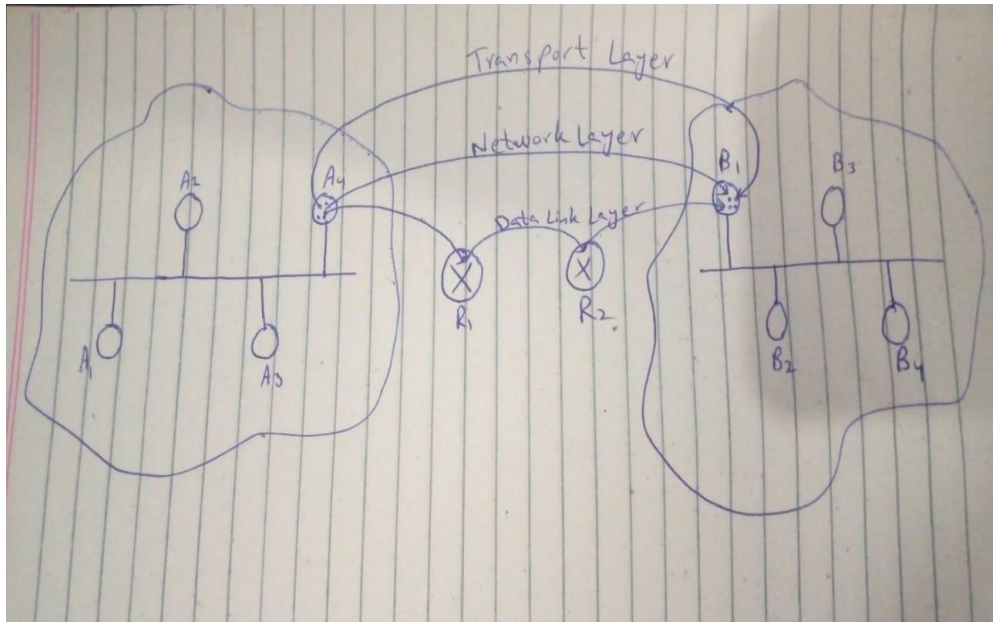
TCP/IP MODEL

- Used in Internet Communication



INTERNET'S NETWORK LAYER PROTOCOL

- Provides **logical communication** between hosts
- **Source to destination** delivery
- Every host has atleast one network layer address called as **IP Address**
- Refer Network Layer Packet as **Datagram**



INTERNET'S NETWORK LAYER PROTOCOL

- IP Service model is **Best-effort delivery service**

- **Makes best effort to deliver segments between communicating hosts**

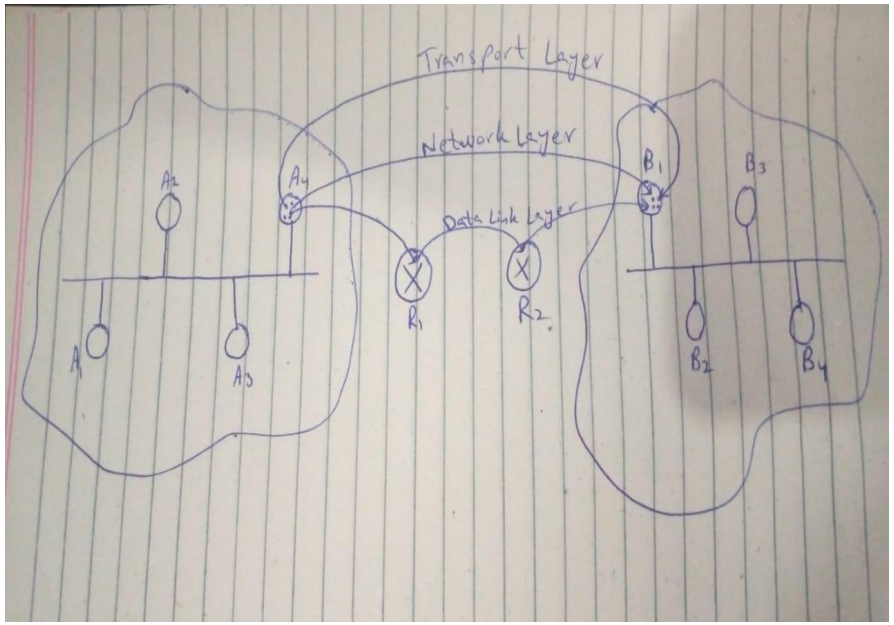
- **Unreliable** because it does not guarantees
  - **Segment delivery**
  - **Orderly delivery of segments**
  - **Integrity of data in segments**

TRANSPORT LAYER PROTOCOL

- Has **TCP, UDP**

- Responsibility is to extend IP's delivery service between two end systems to a delivery between two processes running on end systems known as **Transport Layer Multi-Complexing and Decomplexing**

- One of transport layer(TCP or UDP) must be specified by developer when designing network application. e.g. sockets



TRANSPORT LAYER PROTOCOL

TCP

- Tramission Layer Protocol
- Referred as Segment
- Connection-oriented service to invoking application

UDP

- User Datagram Protocol
- Referred as Segment somewhere and as Datagram somewhere
- Connectionless service to invoking applications

TRANSPORT LAYER PROTOCOL

TCP

- Process-to-Process data delivery
- Error Checking

- **Reliable data transfer**(using flow control, sequence numbers, acknowledgment & timers, TCP ensures data is correctly & orderly transferred)
- Converts unreliable servive between end systems into reliable data transport service between processes.

UDP

- Process-to-Process data delivery

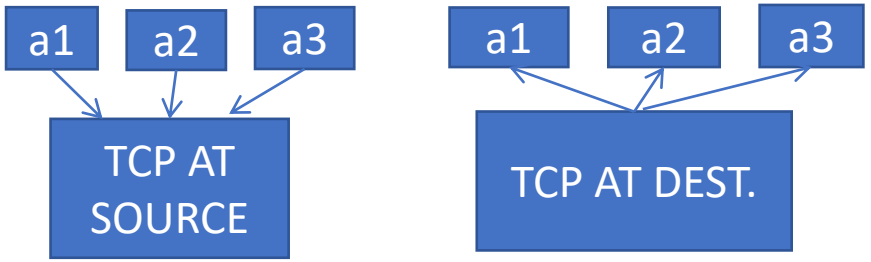
- Error Checking

- Unreliable data transfer

TRANSPORT LAYER PROTOCOL

TCP

- **Congestion control:** TCP strives to give each connection traversing a congestion link an equal share of the bandwidth. This is done by regulating the rate at which sending sides of TCP connections send traffic into network.



UDP

- App using UDP can send data at any rate that pleases it