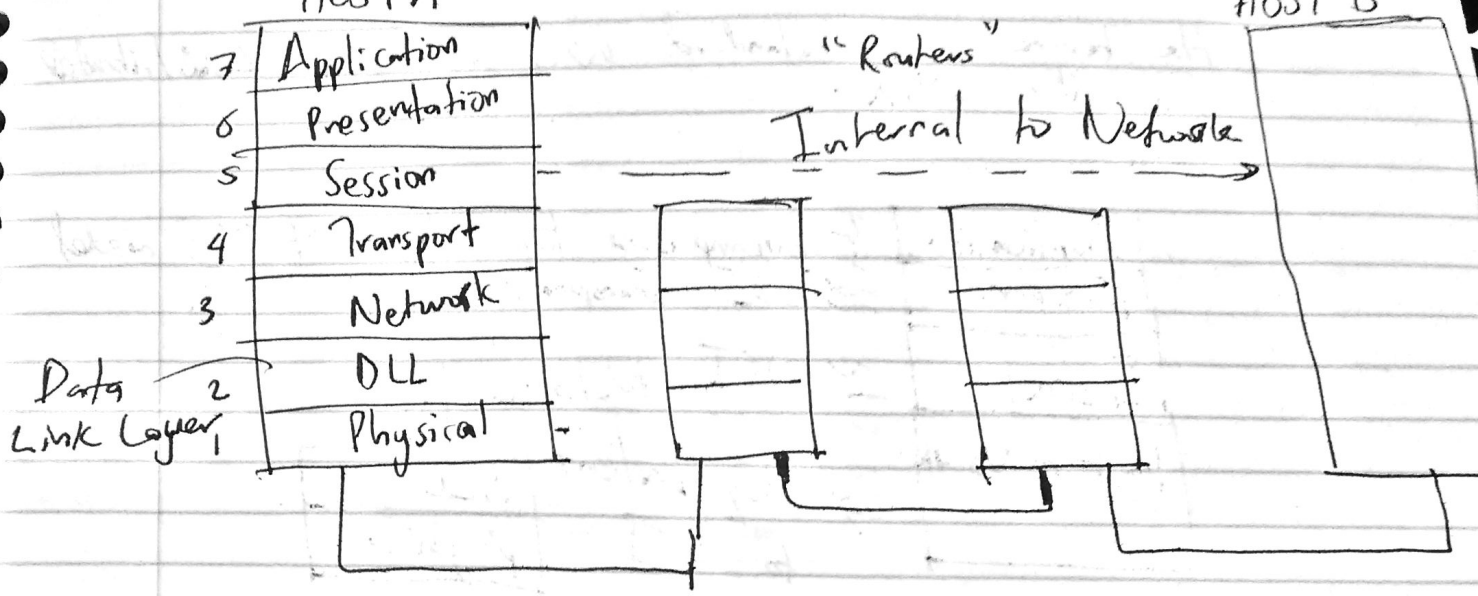
ECE 487

7-layer model



The services that layer-n provides to layer n+1 ca
- Confirmed or UnConfirmed.
- Connection-Oriented or Connectionless.

Confirmed: Acknowledgement (ACK) required from receiving process

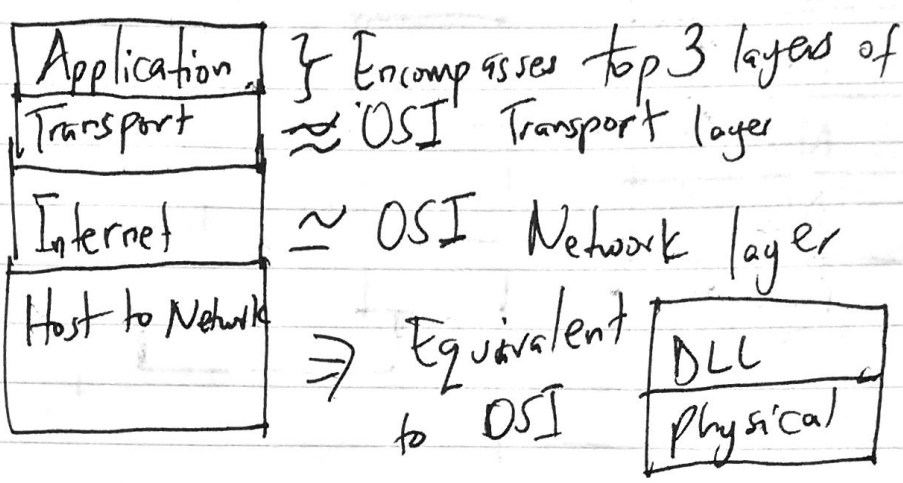
UnConfirmed: No ACK is expected from destination.

Connection-Oriented:
1) Establish an association @ layer n
2) Transfer layer-n PDUs (Protocol Data U
3) Release association once transfer is comple

2.4 TCP/IP Suite of Protocols (Text 2.4, 2.5)

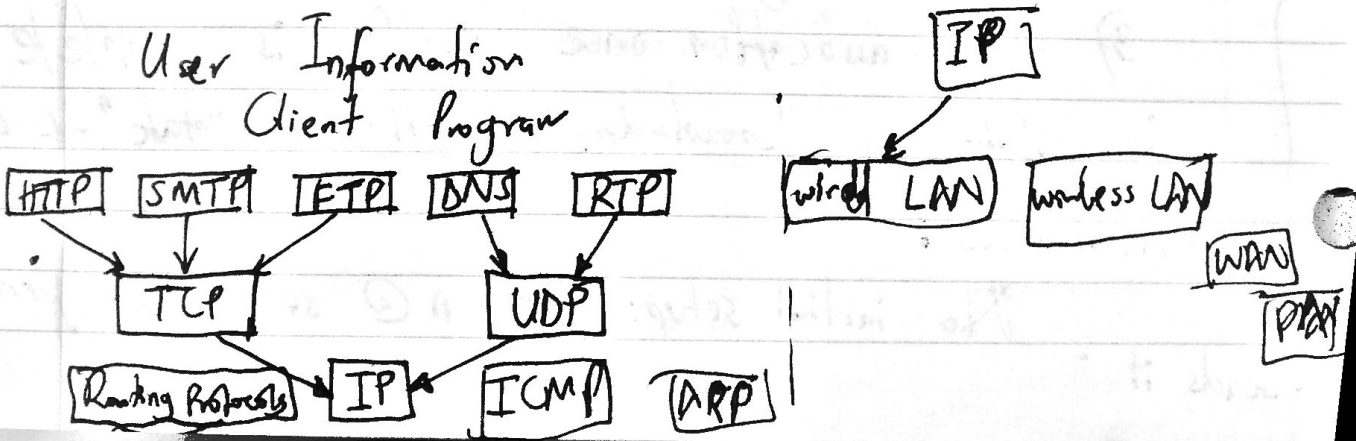
Has become de facto standard. Was developed & distributed free with UNIX.

Layers



Application Layer Protocols:
- → HTTP, SMTP, FTP
- → DNS: domain name system.
- → RTP (Real Time Protocol)

Transport Layer
- → TCP (Transmission Control Protocol)
  - → Connection Oriented, Confirmed, End To End flow Control
- → UDP (User Datagram Protocol)
  - → Connectionless, Unconfirmed.



Internet Layer:

Data Transfer: IP (Internet Protocol, V4 & V6)

→ Connectionless, UnConfirmed.

Also @ Layer 3 for Network Control, we have

ICMP (Internet Control Message Protocol)

Also routing protocols for layer 3 devices to exchange information about where destination devices are.

RIP (Routing Information Protocol)

OSPF: Open Shortest Path first

BGP: Border Gateway Protocols

To associate/resolve or learn the association between I

& the DLL Address (MAC - Medium Access Control address)

3.0 Data Link Layer Functionality

Responsibility of DLL

1) Error detection.
2) Retransmission of sequences received in error.
3) Flow Control.
4) Framing ~~Control~~ (Identifying Start & end of seque
   → Only @ DLL.
5) Medium Access Control.