TCP and UDP

06 February 2024 14:33

[TCP and UDP] — Ports,

Transport Layer protocols — L4 layers

Service to Service delivery

UDP — User Datagram protocol

1) Transport application data — Both TCP and UDP

2) UDP is connection less — Won't maintain any information about the connection.
Start transmitting packet — No connection/Session Establishment

3) UDP — Unreliable — Packet — No guarentee that the packet will be delivered
Network — Segment ✗ (L3)

UDP — Connectionless — No connection establishment
— Unreliable — Sequence — No sequence
— Loss — Can be lost / Recovery not possible
— Re-transmission — No Re-trans
— Congestion/Flow control — ✗ won't provide any flow control

5 packets
1, 2, 3, 4, 5

Delivery — Very fast / Quick Delivery

Where is UDP used?

— Real time applications like phone calls (VoIP) gaming, Video streaming

VoIP — Voice over IP — Internet calling.

Which application layer protocols use UDP?

Fast Delivery

1) DNS — UDP (Mostly) (Quick Replies)

2) DHCP ?. — UDP

Fast Delivery — UDP Reliable Ddivery — TCP

TCP provides Reliable Delivery

TCP provides Reliable Delivery
Congestion control / Flow control
Connectionful — Maintains info about connection

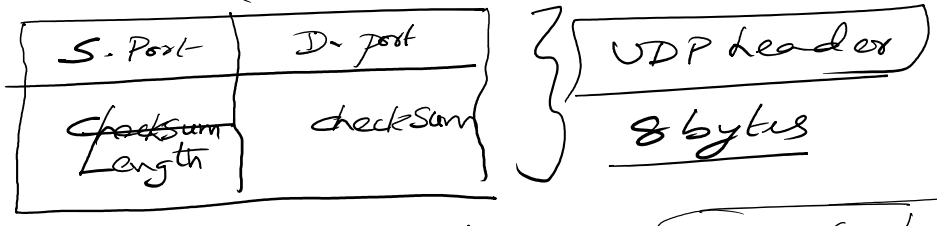
TCP 3-way handshake (5 mins)

TCP Segment Structure

Transport Layer - (Segments)

Graphic Tablet - HS 64 -
- {Huion HS64} -

UDP header — 8 bytes — Simple



= TCP header = 20 — 60 bytes
20 - No option
upto 60 bytes

TCP Segment Structure
(Header)

TCP - { 1) Flow control
2) Congestion control

TCP Flow control (3)
window Size -
↑
Acknowledgments
Re-transmit
(lost)

TCP - 200 pages

NETSEC team

{ 1) NETSEC
2) SAPT
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