

# TCP & UDP

---

# UDP

- User Datagram Protocol.
- Under layer 4.
- Byte stream is broken up into segments.
- Connectionless.
- unreliable.
- Fast.
- DNS example.

*Transport*

TCP

UDP

Segment

UDP

Segment

UDP

Segment

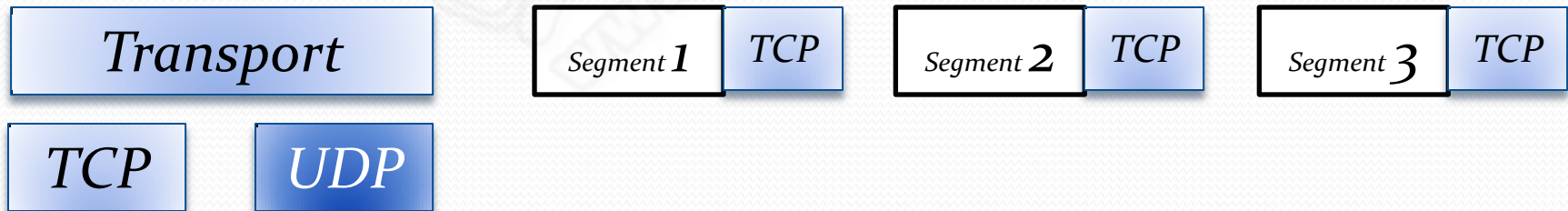
UDP

# UDP Format

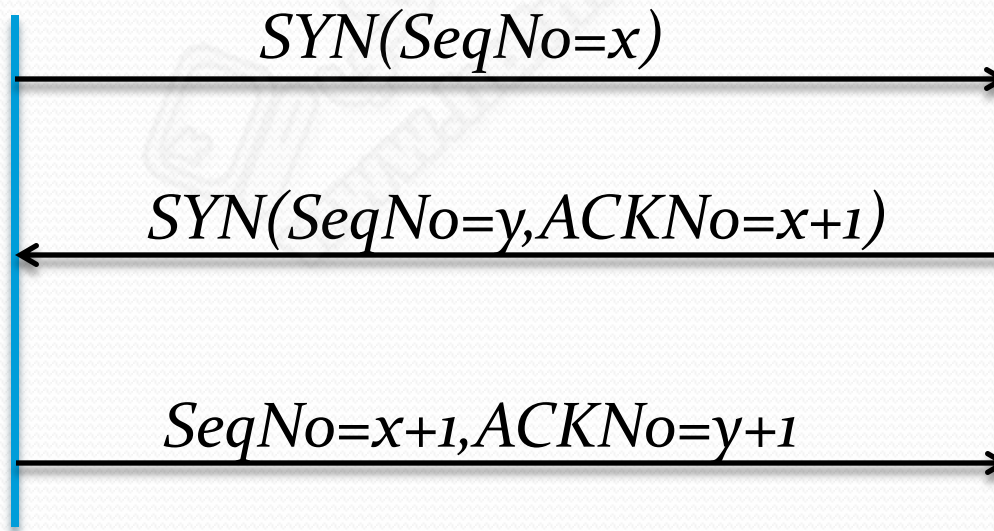
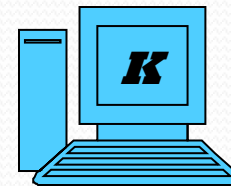
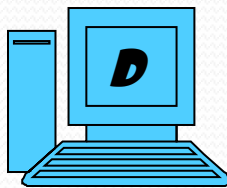
<b>Source port (16 bits)</b>	<b>Destination port (16 bits)</b>
<b>Length</b>	<b>Checksum</b>
<b>Data</b>	

# TCP

- Transmission control Protocol.
- Under layer 4.
- Byte stream is broken up into segments.
- Connection - oriented.
- Reliable.
- Detect error.



# Three-Way Handshake



# TCP Format

Source port (16 bits)		Destination port (16 bits)	
Sequence number (32 bits)			
Acknowledgment number(32 bits)			
offset(4 bits)	Reserved(4 bits)	Control bits(8 bits)	Windows size (16 bits)
Checksum(16 bits)		Urgent pointer(16 bits)	
options			
Data			