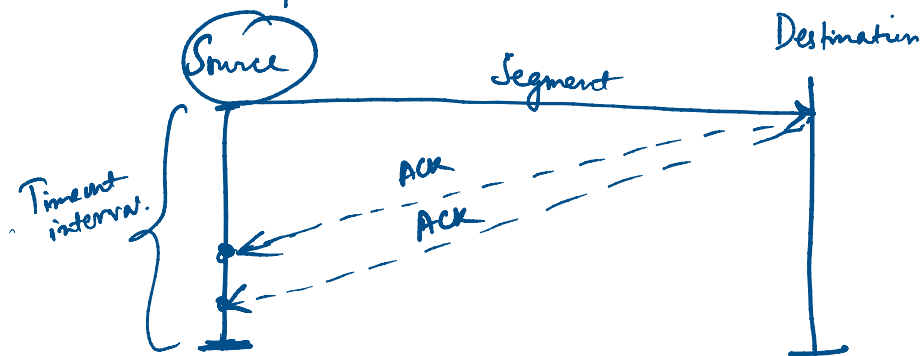


## Module-3: Transport Layer-2

Friday, February 18, 2022 10:59 AM



- ✓ Longer timeout interval  $\rightarrow$  induces more delay at the Source's site.
- ✓ Shorted timeout interval  $\rightarrow$  induces unnecessary retransmissions leading to increased n/w Congestion.

Timeout interval  $\gg$  Estimated RTT.

$$\Rightarrow \text{Timeout Interval} = \text{Estimated RTT} + \Delta$$

$\Delta$   $\rightarrow$  fluctuating parameter and is decided by the n/w condition.

Reliable data transfer is ensured by TCP using two mechanisms: (1) timeout (2) retransmission.

- (i) TCP starts with timeout interval = 1 second. and sends one or more segment(s) to the receiver.
- ... within the timeout interval,

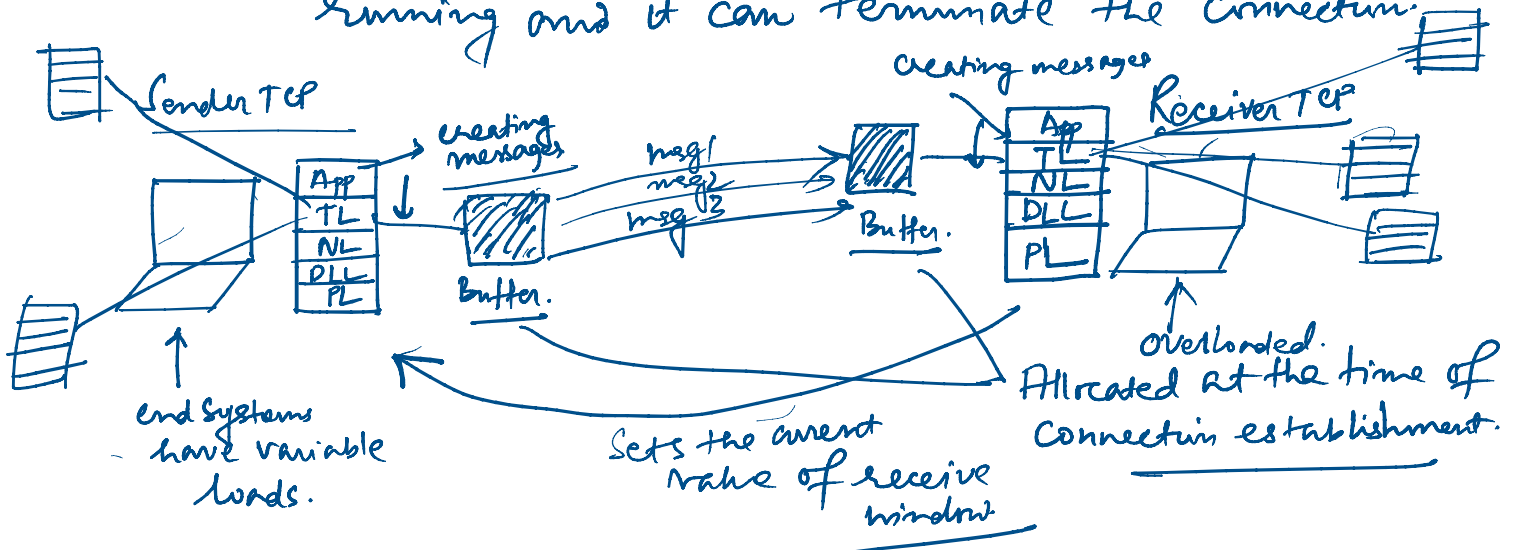
one or more segments) to the ...

(ii) If ACK does not arrive within the timeout interval, then the segment with smallest sequence number is retransmitted and the timeout interval is doubled.

(iii) If ACK arrives within this timeout interval, sender TCP computes Sample RTT and updates Estimated RTT and sets a new timeout value based on the Estimated RTT.

RST flag: is set if the port no. does not match with any of the ongoing sockets in the target host.

→ it tells the sender TCP that the target process is not running and it can terminate the connection.



Flow control: match the rate at which data is generated with the rate at which data is processed or consumed.

Receive window (rwnd): tells the sender TCP how much space is left in the receiver's buffer.