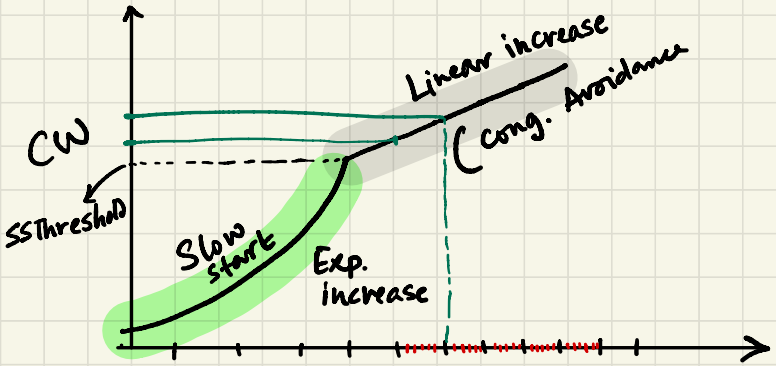
OCT 6, 2020 : TCP continued

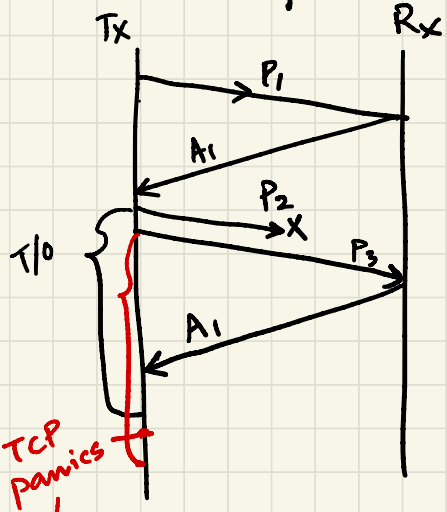
Cong. Avoidance.

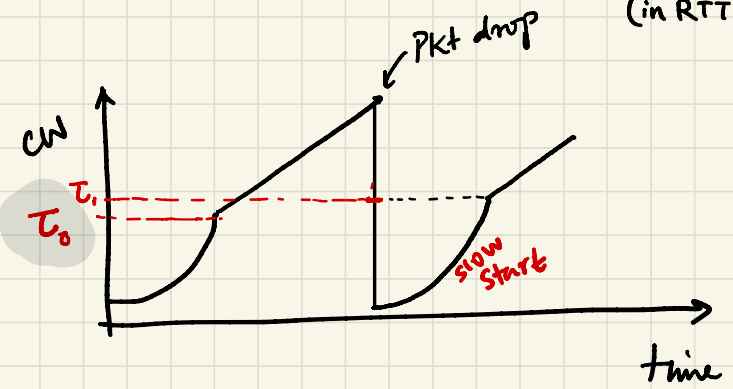
13	14	15	16	17	18	19	20	21	22

- CW = 10 , SSThreshold = 8
- TCP is now in Cong. Avoid (CA) phase.
- Now, say A_{13} comes to Tx.
- Tx moves CW to : [14 ..... 23]
- CW = 10½0.
- Tx sends P_{23}.



Packet Drop



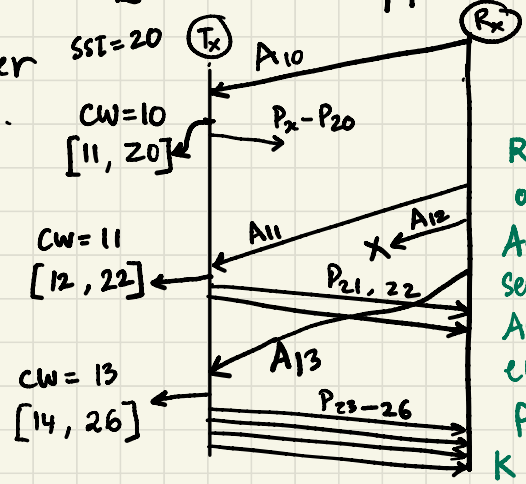


DupACK ⇒ Out of order reception.

SSThreshold = CW/2

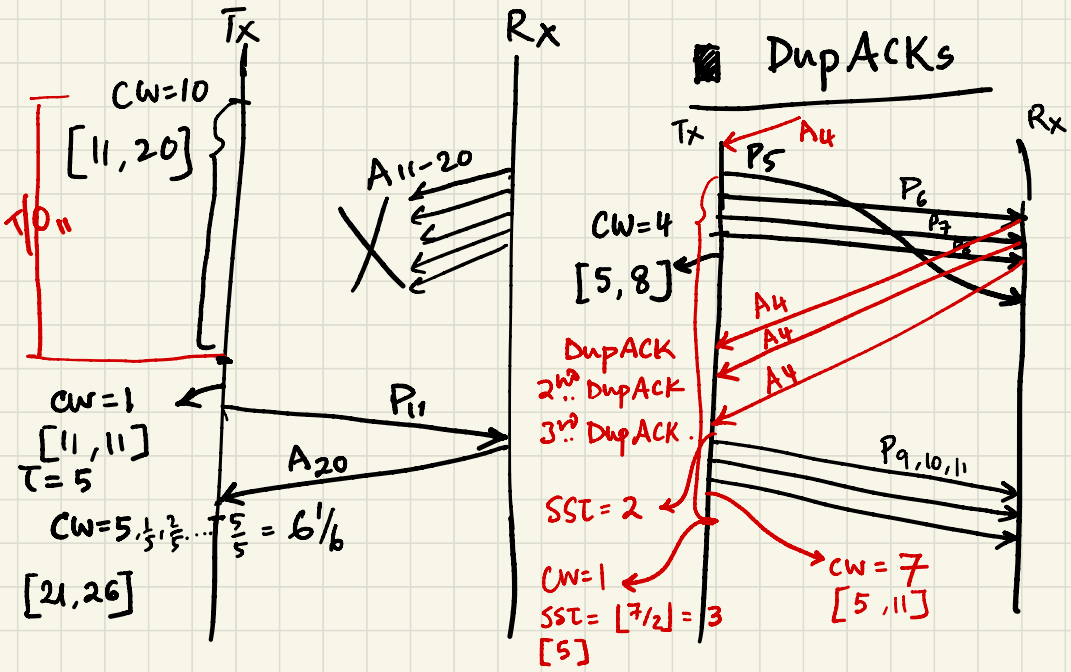
CW = 1

ACKs dropped.



Rx can optimize ACKs by sending ACKs for every k packets.

k often=2.



DupACK ⇒ Out of order (ooo) pkt received by Rx

Rx says let's wait & watch → no need to panic yet.

⇓

"Triggers "fast recovery phase"

⇓

SSThreshold = CW/2

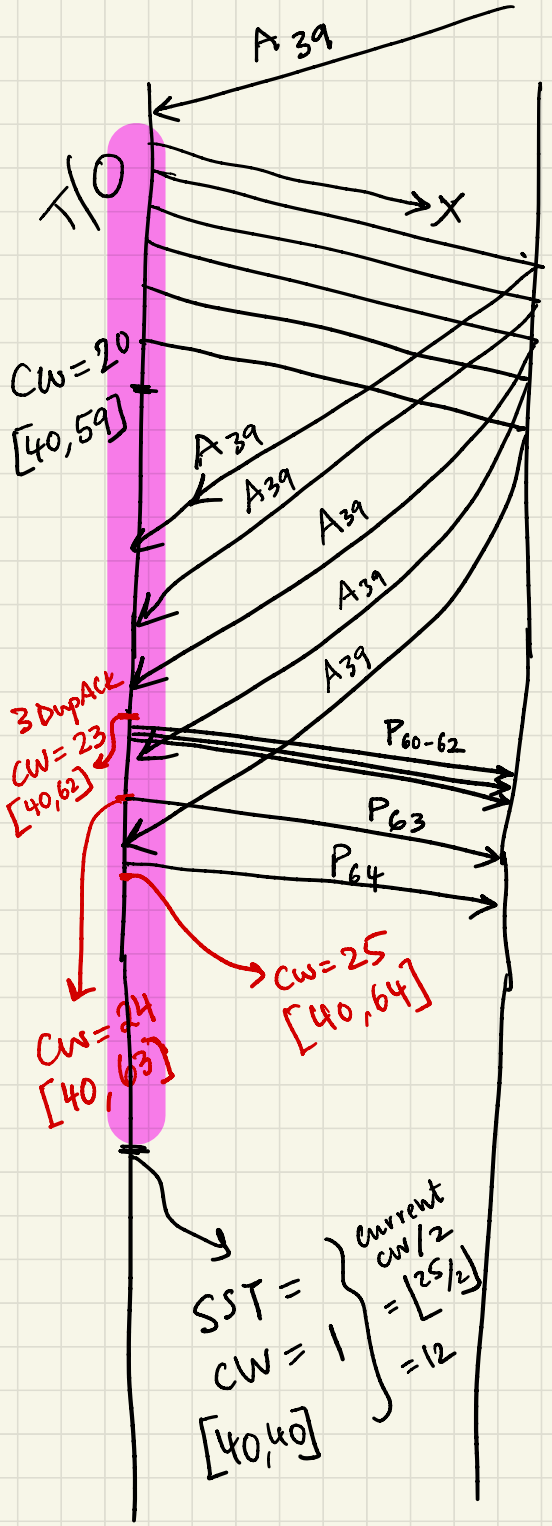
CW = CW+3

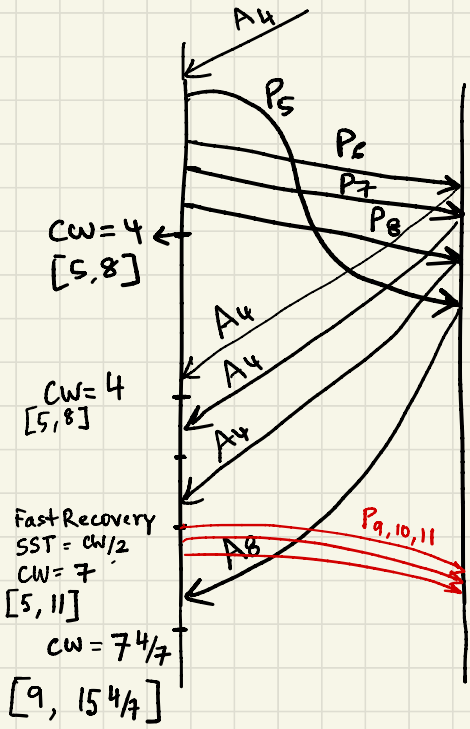
⇓

CW = 4+3 = 7

[5 6 7 8 9 10 11]

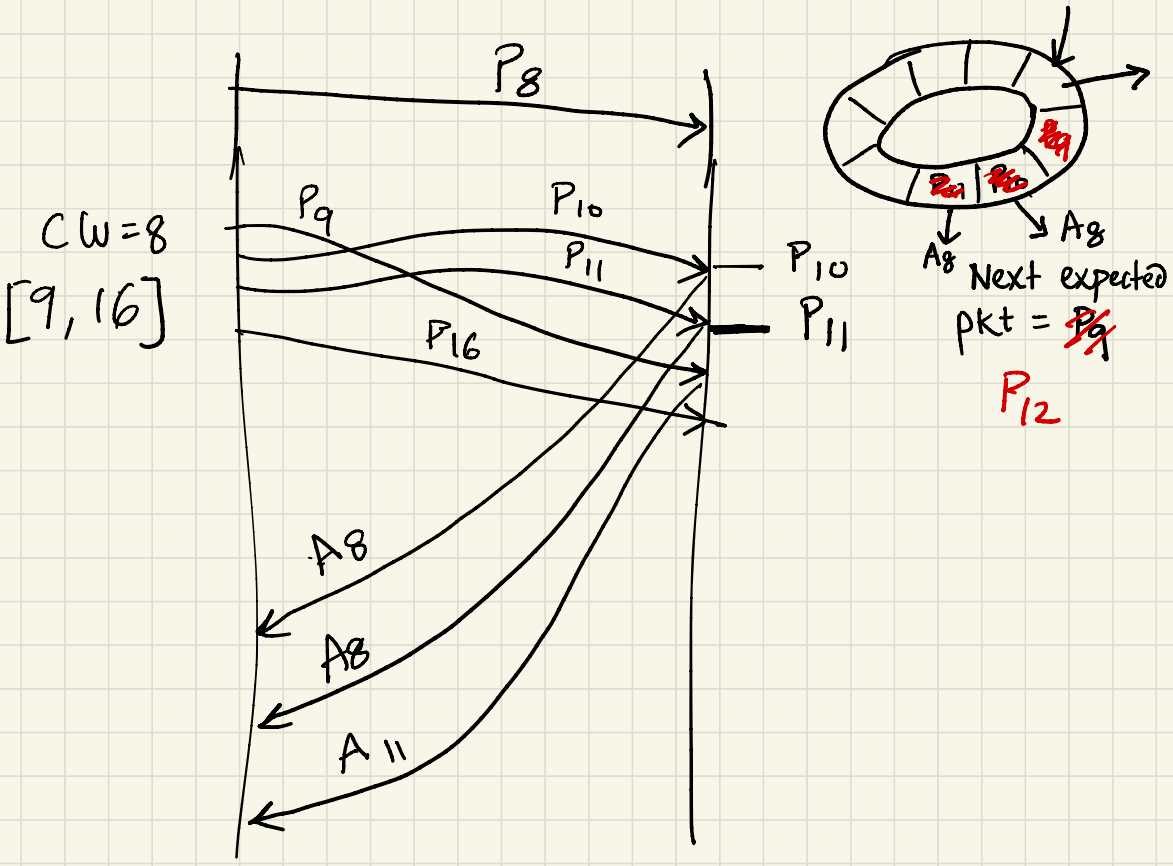
new pkts transmitted.





Fast Recovery (3 dupACK)

- Set SST = CW/2
- Reward CW = CW + 3
- Keep inc↑ CW for every new dupACK
- Once new ACK, treat as normal and inc↑ CW depending on slow start or CA.


CW=8
[9, 16]
P8
P9
P10
P11
P16
P10
P11
A8
A8
A11
A8
A8
Next expected
pkt = P9
P12