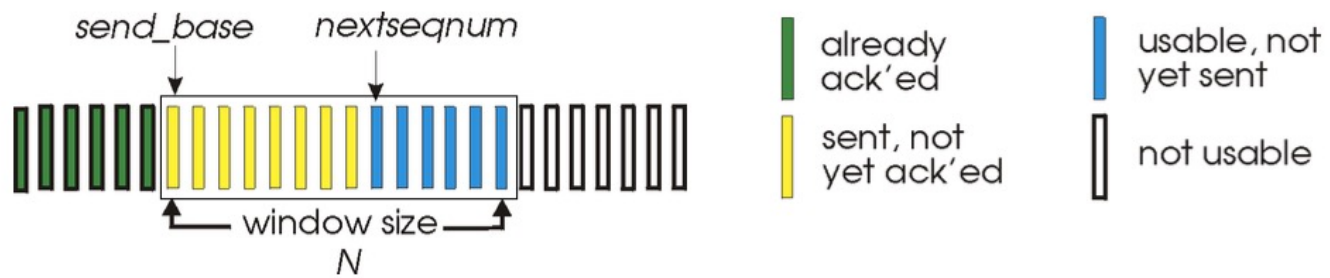


ICN HW2 Go-Back-N

Sliding window



sender window (N=4)

0 1 2 3 4 5 6 7 8
0 1 2 3 4 5 6 7 8
0 1 2 3 4 5 6 7 8
0 1 2 3 4 5 6 7 8

0 1 2 3 4 5 6 7 8
0 1 2 3 4 5 6 7 8

0 1 2 3 4 5 6 7 8
0 1 2 3 4 5 6 7 8
0 1 2 3 4 5 6 7 8
0 1 2 3 4 5 6 7 8

sender

send pkt0
send pkt1
send pkt2
send pkt3
(wait)

rcv ack0, send pkt4
rcv ack1, send pkt5

ignore duplicate ACK



pkt 2 timeout

send pkt2
send pkt3
send pkt4
send pkt5

receiver

receive pkt0, send ack0
receive pkt1, send ack1

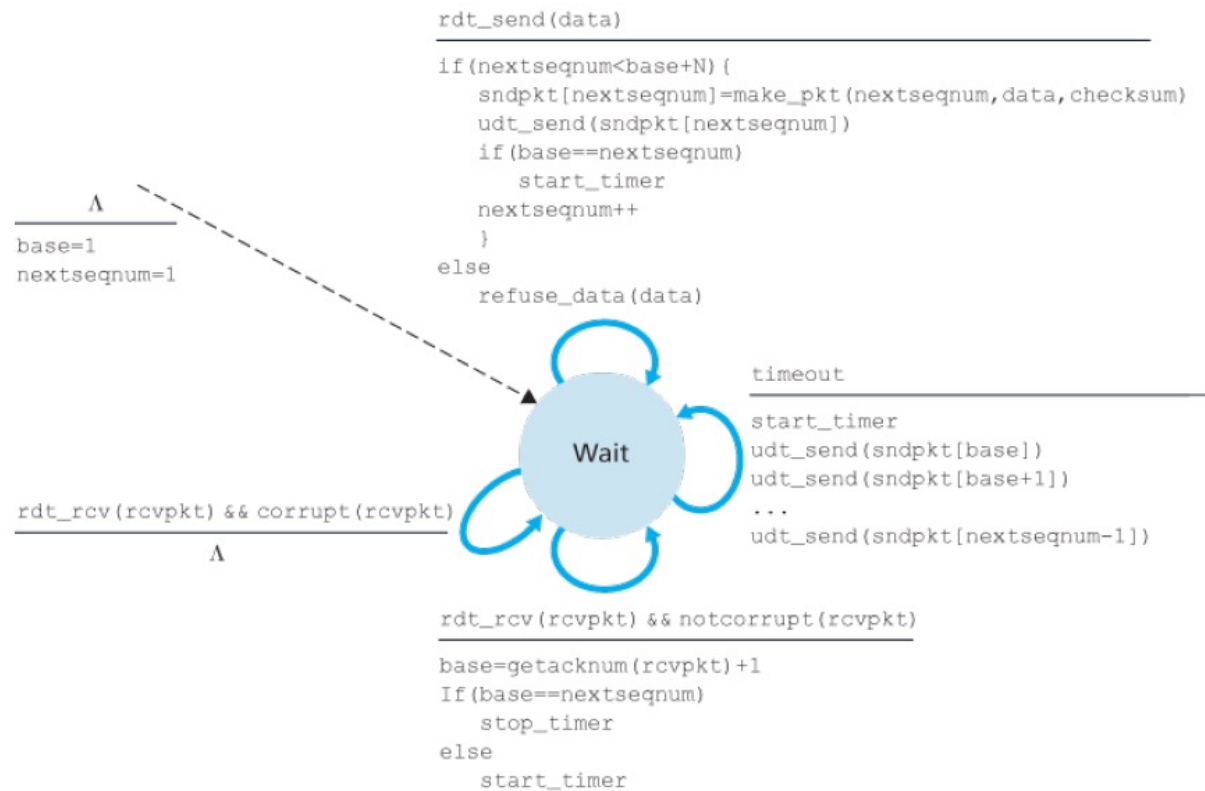
receive pkt3, discard,
(re)send ack1

receive pkt4, discard,
(re)send ack1
receive pkt5, discard,
(re)send ack1

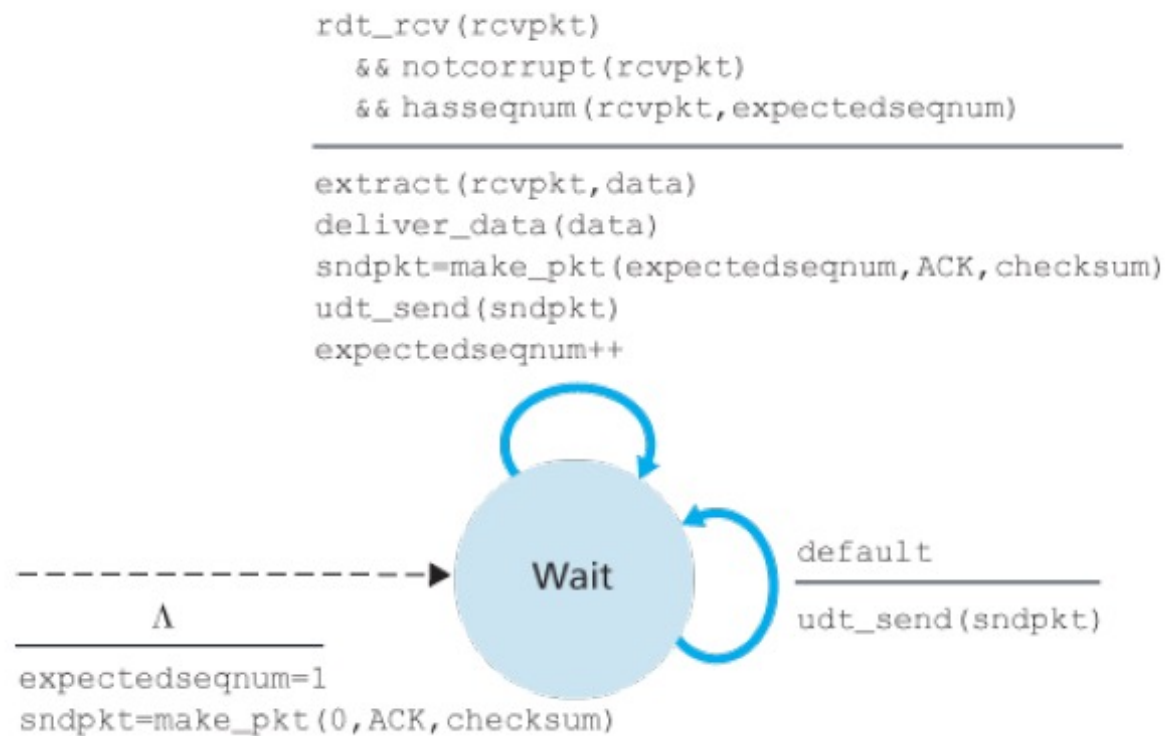
rcv pkt2, deliver, send ack2
rcv pkt3, deliver, send ack3
rcv pkt4, deliver, send ack4
rcv pkt5, deliver, send ack5

X/loss

FSM of GBN sender



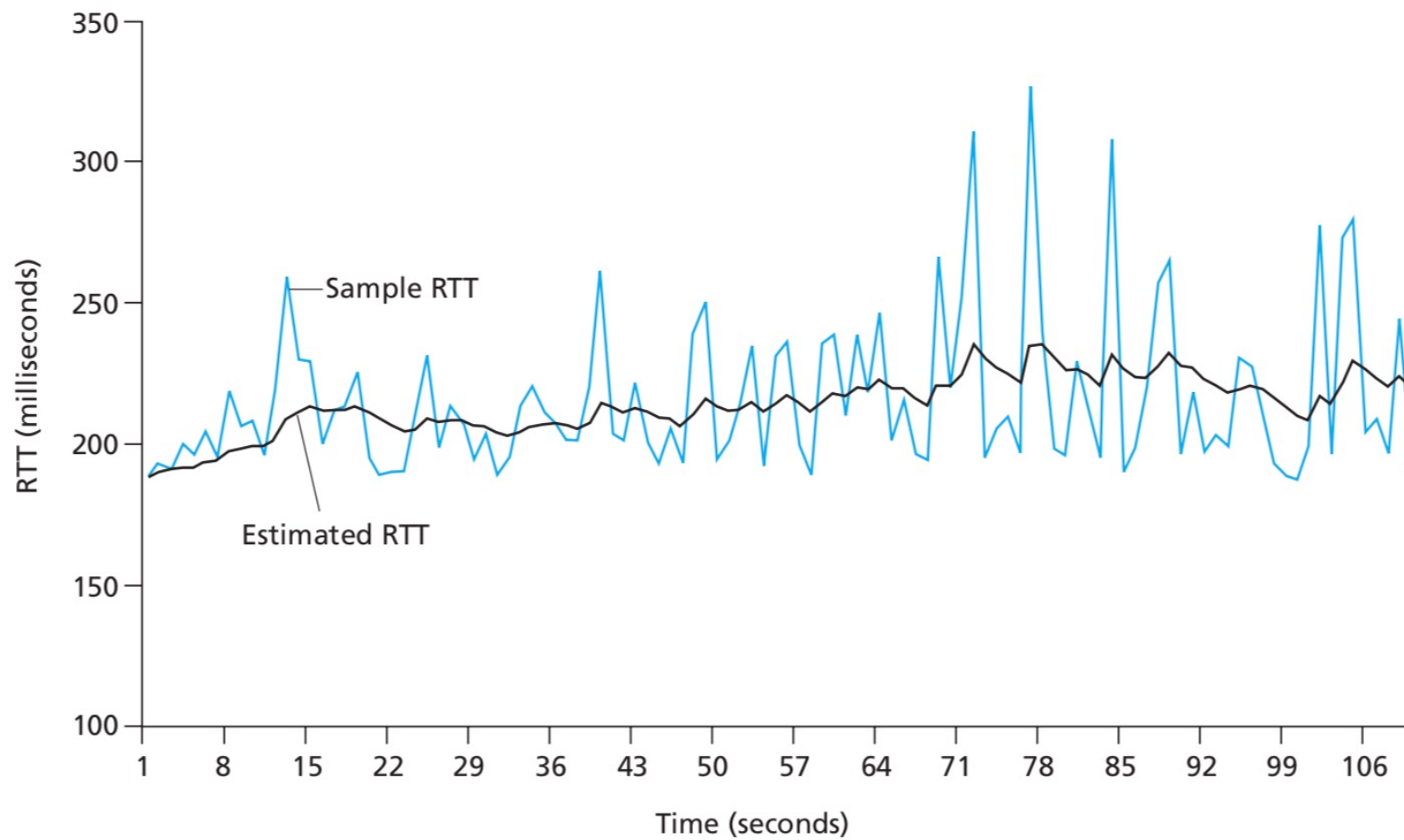
FSM of GBN receiver



Timer

- Only **one** timer
- Timeout value is important!
- Exponential Weighted Moving Average (EWMA)

$$\text{EstimatedRTT} = (1 - \alpha) \cdot \text{EstimatedRTT} + \alpha \cdot \text{SampleRTT}$$



Coding

- Compile
 - `gcc hw2.c -o hw2 -std=gnu11`
- Run
 - `./hw2 10 0 0 10 2`
- Store output
 - `./hw2 10 0 0 10 2 > outputfile`
- Grep output
 - `./hw2 10 0 0 10 2 | grep "something you want to know"`
 - `cat outputfile | grep "something you want to know"`