

# Protocol E: One-Bit Sliding Window Protocol (OBSWP)

(bidirectional data exchange, similar to PAR)  
(sender and receiver are identical)

seqnum ← 0  
expectedseqnum ← 0  
get initial AL data from socket  
Construct TL segment (including header, seqnum, acknum, checksum) ↖ (expectedseqnum)  
Give segment to NL to transmit  
Start retransmission timer

Repeat forever

wait for event ⎧

- ① valid segment
- ② invalid segment
- ③ timer expiration

If valid ~~segment~~ segment

Then Get segment from NL

If receivedseqnum = expectedseqnum

Then

- Remove TL header from segment
- Deliver data to AL socket
- Update expectedseqnum (i.e.,  $\text{expectedseqnum} = 1 - \text{expectedseqnum}$ )

If receivedacknum = seqnum

Then

- Get next new data from AL socket
- Cancel timer
- Update seqnum (i.e.,  $\text{seqnum} = 1 - \text{seqnum}$ )

Construct TL segment (including header, seqnum, acknum, checksum)

Give segment to NL to transmit

Start retransmission timer

# FSM for OBSWP

CSR



seqnum



expectedseqnum

