Exercise Question on August 29th (Part I)

Question

In the figure below, frames (packets) are generated at node A and sent to node C through node B. Determine the sliding window size so that the buffer at node B will not overflow, based on the following conditions:

- The data rate between A and B is $100 \text{ Mbps (} M = 10^6 \text{)}$
- The data rate between B and C is $200 \text{ Mbps}$
- The propagation delay is $20\mu s$ and $5\mu s$ for link A-B and B-C, respectively.
- The links are both full-duplex links.
- All data frames are 400 bits long; ACK messages are separate frames of negligible length (frame transmission delay = 0).
- For link A-B, sliding window flow control is used.
- For link B-C, stop-and-wait flow control is used.
- Assume no error.