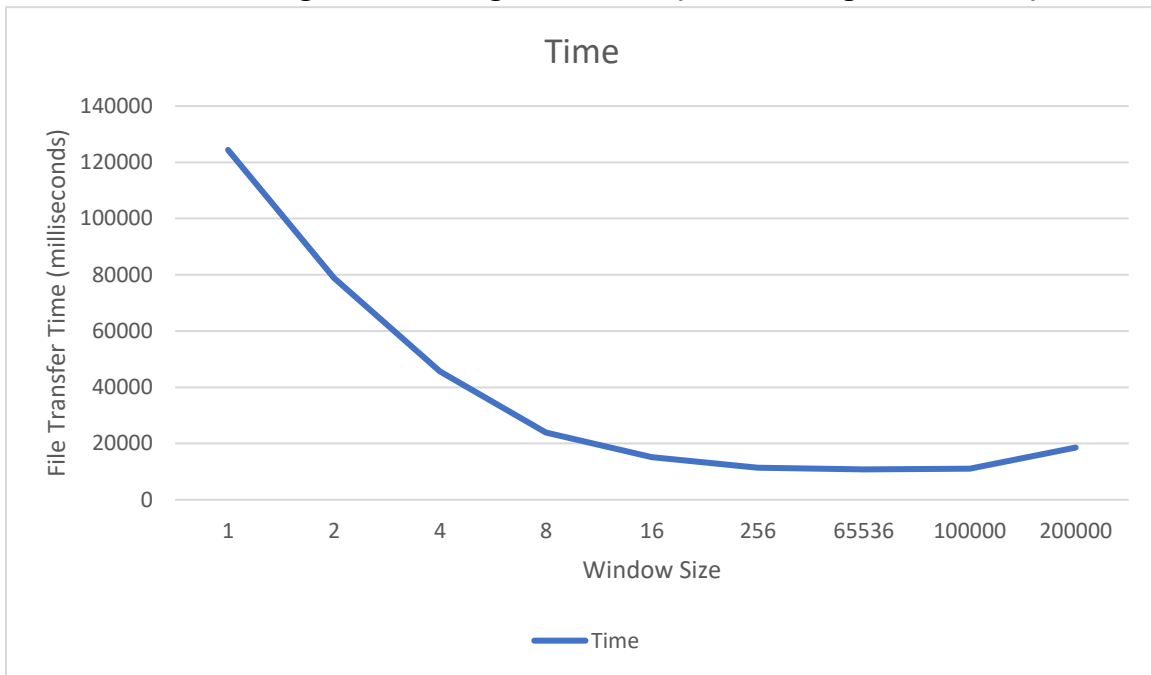


CPSC441 Assignment 5 Design Document (Brett Gattinger, 30009390)



*Measurements were recorded with client being local and server being remote (timeout value was set for 1000 milliseconds)

Moving from the smallest window size (1) to the 3rd largest window size (65536) we have an exponential increase in window size with each next window size being the square of the previous. This corresponds to an approximately linear decrease in transmission time. This is because as we increase window size through this range, we increase sender utilization by sending more segments within the round-trip time (RTT) and so increase throughput. However, as our window size approaches $\lceil R(RTT) \rceil / L$ (which in this case seems to be ~ 100000 packets) with R being the maximum possible transmission rate of the link, RTT being the round-trip time, and L being the packet size (1000 bytes) in this case we begin to oversaturate each round of sending with packets and approach the limit of sender utilization.