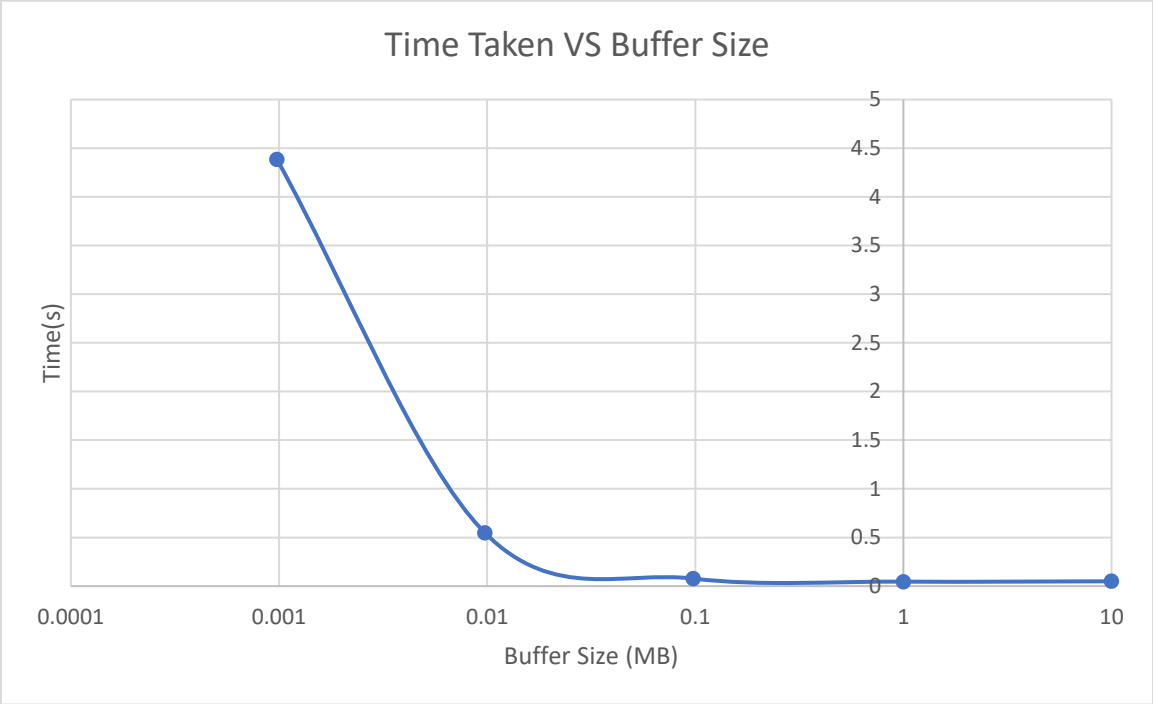
Transferring 100MB dat file

Buffer Size	Buffer (MB)	Time (s)
1KB	0.000976563	4.386956
10KB	0.009765625	0.54719
100KB	0.09765625	0.077827
1MB	1	0.046198
10MB	10	0.049587



	Time(s)
1k data transfer	5.572978
Entire file	0.06126

When we transferring a 100MB dat file and compare with the different buffer size, increasing the buffer capacity will decrease the time it takes to finished transfer a file. Since whenever we request to transfer certain buffer size of the file, it needs to first separate to blocks and grabs the data. If the buffer size is small enough, it would have a huge delay time to grab that small piece of data from multiple blocks. Increasing the size of the buffer would make fewer blocks and reduce the latency of transferring a file.

Design:

In this project, we need to implement a client-server communication system that sends the request from the client-side and processes it in the server, and returns it back to the client again once it is complete. The FIFORequestChannel serves as a tunnel that connects the server and client which handle both sending and receiving the request from both sides.