CSCE 313-503

4/29/2018

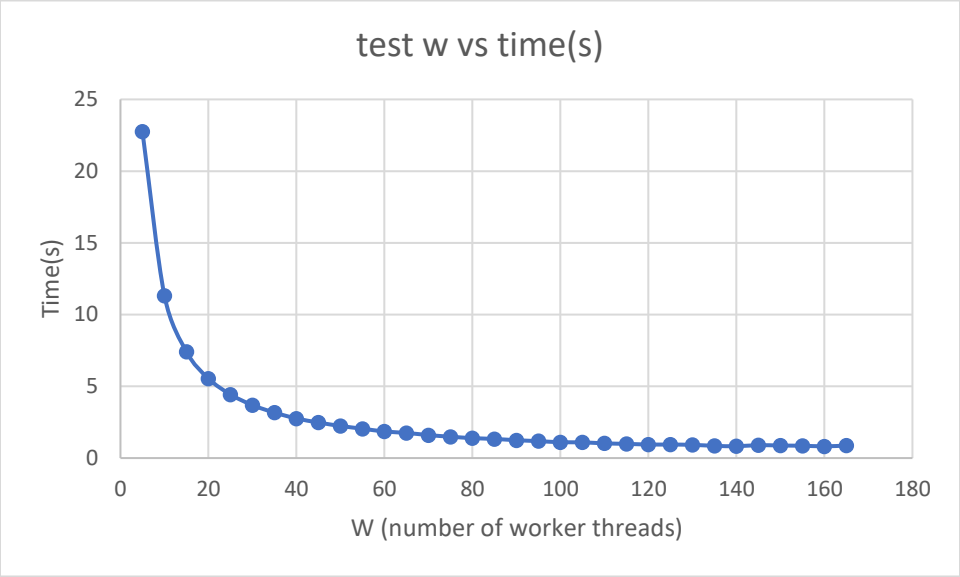
Khanh Nguyen

UIN# 525000335

Prof. Tanzir Ahmed

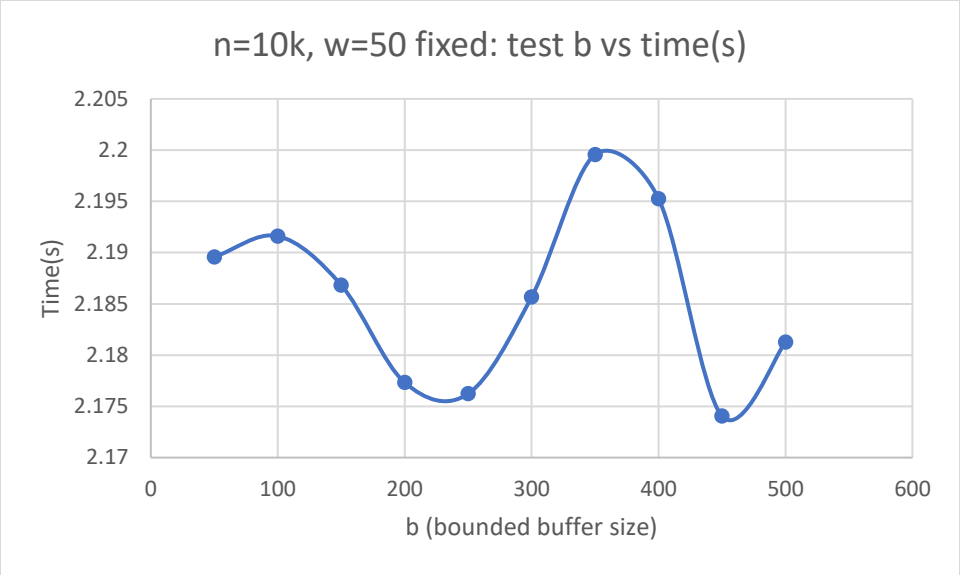
Data collected:

w	time(s)
5	22.75645
10	11.32004
15	7.414087
20	5.544416
25	4.434669
30	3.690163
35	3.170341
40	2.76145
45	2.479789
50	2.236257
55	2.047141
60	1.85279
65	1.754723
70	1.601174
75	1.489657
80	1.389523
85	1.335108
90	1.243575
95	1.181427
100	1.104438
105	1.097207
110	1.02455
115	0.991234
120	0.943746
125	0.943839
130	0.921146
135	0.854286
140	0.824986
145	0.900494
150	0.874778
155	0.859284
160	0.820979
165	0.871381



To test the program, I ran the test cases with n=10000 fixed and increase w. I was able to run up to 165 worker threads. As the number of threads increases, the performance increases. Notice the significant improvement in performance when w increases from 5 to about 60. After the threads have been increasing for more than 100, the change is not much significant. With that characteristic, we can determine the best number of worker threads for the program that meets our needs in both terms of performance and resource consumption.

I also noticed that the graph is identical to the graphs from Pipe, Message Queue and Shared Memory. It can be concluded that TCP/IP method is as effective as other methods.



I ran the second test with n=10000 and w= 50 fixed and increased the buffer size. The graph looks not very consistent due to fact that only few data points were tested. However, the results were very close to 2.19s, regardless the significant increase of buffer size. Therefore, it can be said that the size of buffer doesn't have noticeable impact on the performance.