

CS 536 – Lab 4

Problem 1

Results –

Performance with small files (23 KB)

Wind ow Size →	1		20		40		63	
Block Size ↓	Through put (Mbps)	RTT (milliseco nds)	Through put (Mbps)	RTT (milliseco nds)	Through put (Mbps)	RTT (milliseco nds)	Through put (Mbps)	RTT (milliseco nds)
512	11.38	16	60.62	3	60.62	3	60.62	3
1024	22.37	8	60.62	3	90.94	2	90.94	2
1471	25.98	7	60.62	3	90.94	2	90.94	2

Performance with large files (89 MB)

Wind ow Size →	1		20		40		63	
Block Size ↓	Through put (Mbps)	RTT (milliseco nds)	Through put (Mbps)	RTT (milliseco nds)	Through put (Mbps)	RTT (milliseco nds)	Through put (Mbps)	RTT (milliseco nds)
512	18.35	40312	193.44	3825	245	3020	302	2450
1024	32.59	22702	238.60	3101	323	2284	355.04	2084
1471	41.58	17792	245	3020	316.07	2041	340.97	2170

As it can be seen from the table, for large files, the completion time is in the range of 2000-3000 milliseconds that is 2-3 seconds, this verifies the correctness of the program. For the performance of block size = 1024, the performance with different window sizes is highlighted.

In comparison with lab 3, problem 2, the throughput for both large and small files decreases and the round trip time increases. For a typical large file, the throughput for myftps/myftpc was around 800 Mbps, and the round trip time was ~ 200 ms. For this algorithm, reliability is added, so, the round trip time increases to ~ 2000 ms (or 2 seconds) and the throughput decreases to ~ 300 Mbps.

The following table depicts the throughput of **lab3 problem 2**

Category	Block Size	File Size	Time Taken (milliseconds)	Throughput (Megabits/seconds)
Small Files (tens of KB)	512 bytes	17.4 KB	3 msec	46 Mbps
	1024 bytes	17.4 KB	2 msec	69 Mbps
	2048 bytes	17.4 KB	2 msec	69 Mbps
	4096 bytes	17.4 KB	2 msec	69 Mbps
Large Files (tens of MB)	512 bytes	30.116 MB	279 msec	884.24 Mbps
	1024 bytes	30.116 MB	297 msec	830.65 Mbps
	2048 bytes	30.116 MB	278 msec	887.42 Mbps
	4096 bytes	30.116 MB	277 msec	892.32 Mbps