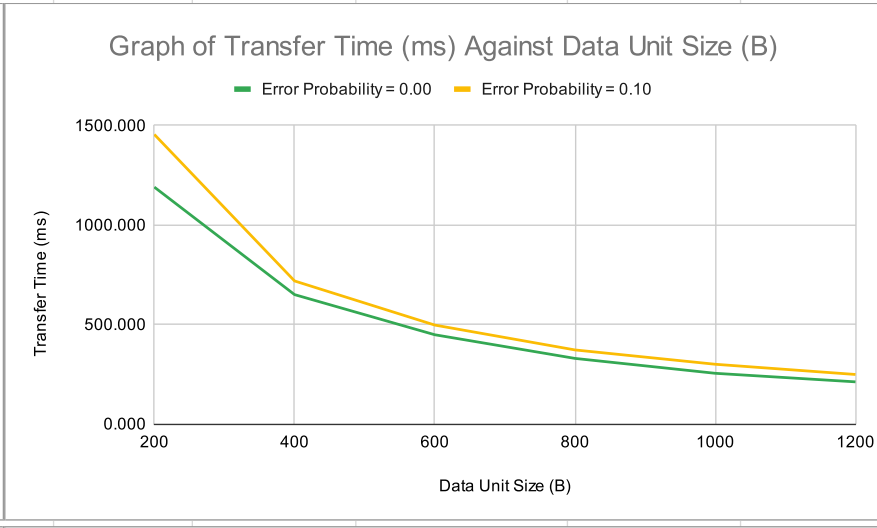
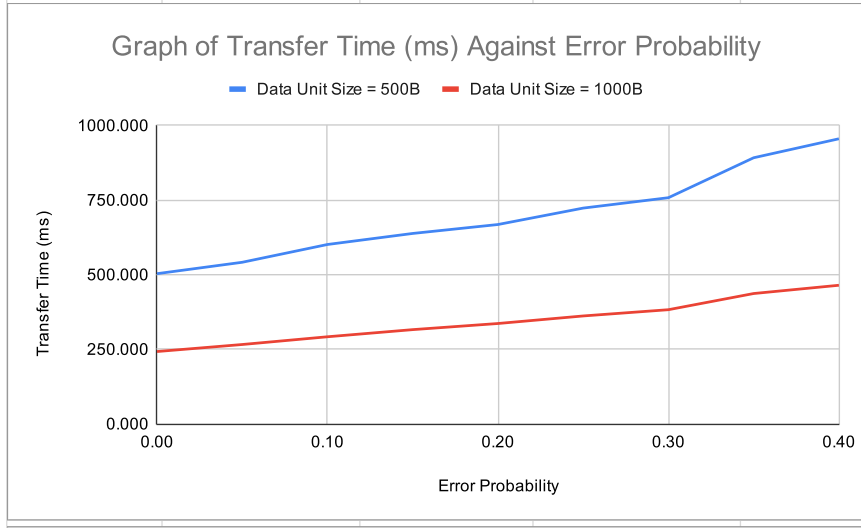
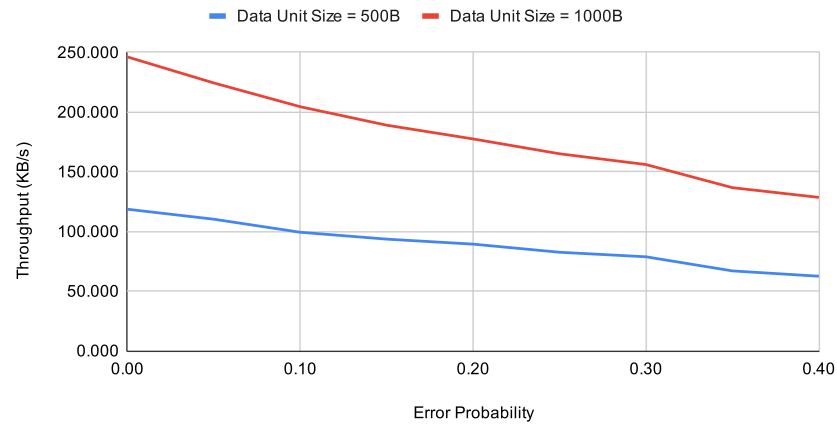


	Data Unit Size = 500B		Data Unit Size = 1000B	
Error Probability	Transfer Time (ms)	Throughput (KB/s)	Transfer Time (ms)	Throughput (KB/s)
0.00	503.741	118.698	242.737	246.328
0.05	541.942	110.331	266.333	224.505
0.10	601.565	99.396	292.259	204.589
0.15	638.550	93.639	316.181	189.110
0.20	668.494	89.444	336.697	177.587
0.25	723.545	82.639	362.022	165.164
0.30	758.360	78.845	382.988	156.122
0.35	892.250	67.014	437.193	136.766
0.40	955.858	62.554	464.901	128.614

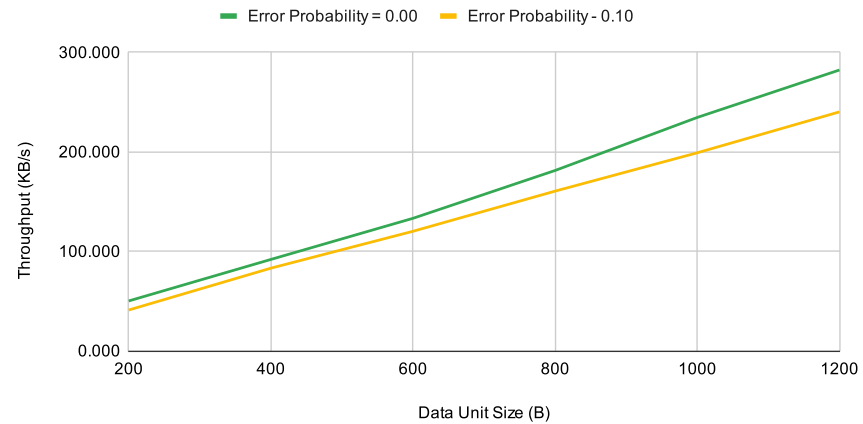
Error Probability = 0.00			Error Probability = 0.10	
Data Unit Size (B)	Transfer Time (ms)	Throughput (KB/s)	Transfer Time (ms)	Throughput (KB/s)
200	1190.790	50.213	1455.533	41.080
400	650.309	91.946	718.983	83.163
600	448.526	133.310	497.175	120.266
800	329.575	181.425	372.193	160.651
1000	254.718	234.742	300.178	199.192
1200	211.704	282.437	248.807	240.319



Graph of Throughput (KB/s) Against Error Probability



Graph of Throughput (KB/s) Against Data Unit Size (B)



Conclusions:

As the error probability increases, the transfer time increases while the throughput decreases. A higher error probability results in an increased number of corrupted packets, requiring more retransmissions using the ARQ stop-and-wait protocol, which increases the total transfer time and decreases the net throughput.

As the data unit size increases, the transfer time decreases while the throughput increases. With an increased data unit size, more data can be transferred in every window with the ARQ stop-and-wait protocol, requiring less transfer windows which decreases the total transfer time and increases the throughput.

Assumptions:

The link utilisation of the network between the client and server remains constant throughout all tests. There are no errors in transmission and the client and server sends and receives the same number of bytes in each window. Errors in transmission are only simulated on the server which prompts it to send a negative acknowledgement to the client for retransmission of packets.