

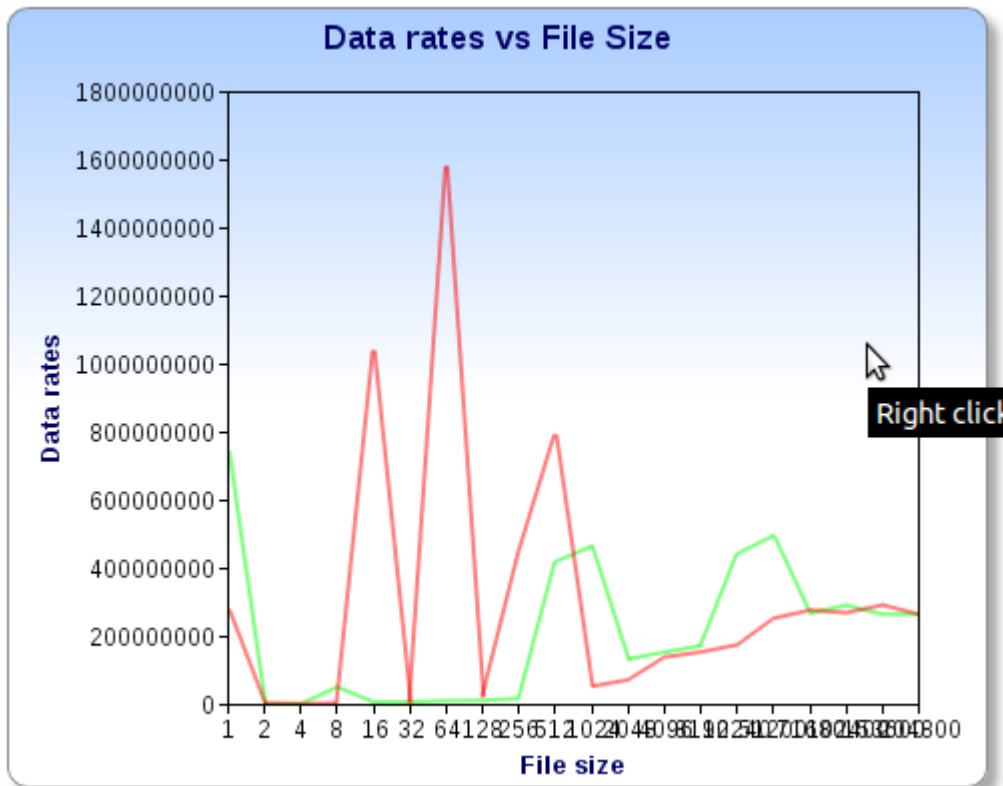
## ANALYSIS

### Section 4.1 Data rates vs File Size

Packet Size = 1000 Bytes.

ID	FILE SIZE	TX RATE(bits/sec)	RX RATE(bits/sec)
1	1kb	281637199	747274981
2	2kb	2816762	164854
3	4kb	527803	96746
4	8kb	2733362	49500793
5	16kb	1041204192	5474346
6	32kb	3904903	5378846
7	64kb	1579758085	9048212
8	128kb	21179889	10424356
9	256kb	446955946	15518126
10	512kb	795882466	417588920
11	1MB	51504349	462793940
12	2MB	70577937	131555936
13	4MB	137330323	151757184
14	8MB	152077118	170543556
15	10MB	173290124	440592209
16	50MB	251179333	494529675
17	70MB	275466630	266878492
18	100MB	267528138	289725906
19	150MB	290406150	263052347
20	200MB	263185821	263052347

I expected that there would be no relation between the file size and the rates as a constant buffer would be sent on the network irrespective of the size. However from the graph we can see that the rates seem to increase with the file size and then come to a constant value for higher file sizes.

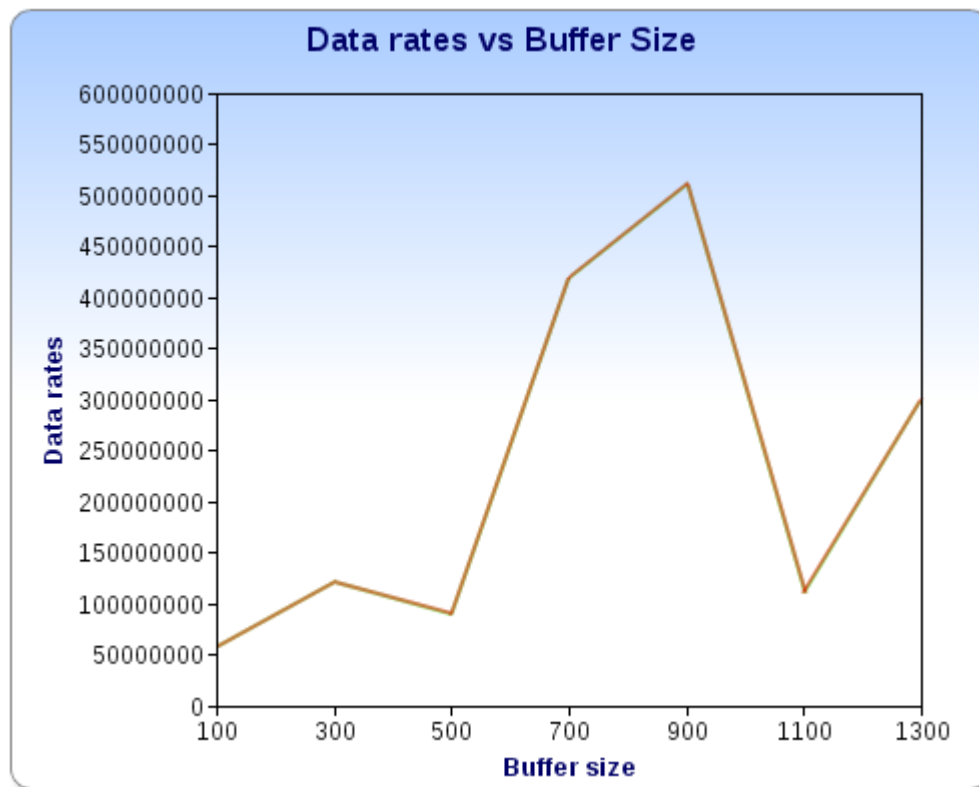


## Section 4.2 Data rates vs Packet Size

File size = 200MB

ID	BUFFER SIZE(Bytes)	TX RATE(bits/sec)	RX RATE(bits/sec)
1	100	58057487	58036998
2	300	121366685	121305934
3	500	90443602	89787214
4	700	419861793	419400202
5	900	511219341	510720711
6	1100	112243324	110862860
7	1300	301072856	300862457

I expected the with the increase in the buffer size the bit rate would be more because as with the increase in the buffer size more data sent per iteration. The results seem to increase but I got a few exceptions as we can see that rates of 500 BUFFER is less than the 300 BUFFER. One reason might be fluctuations because many people are testing on the server.

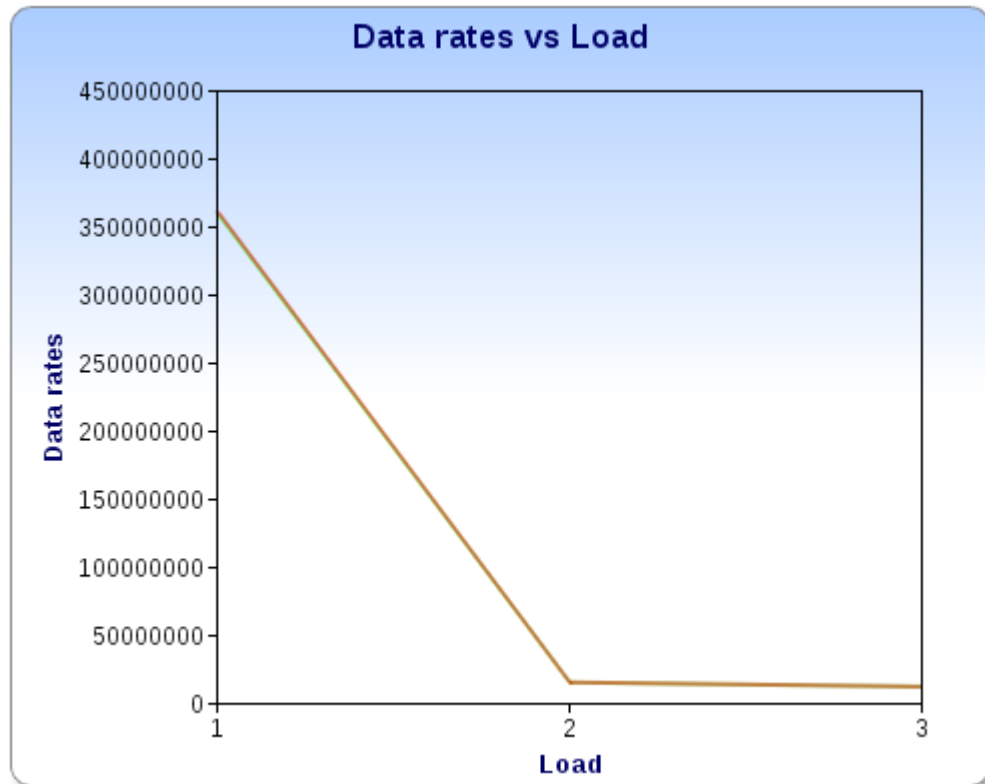


### **Section 4.3 Data rates vs Load variations**

euston.cse.buffalo.edu was used as the downloading entity.

ID	DOWNLOADED FROM	TX RATE(bits/sec)	RX RATE(bits/sec)
1	embankment.cse.buffalo.edu	361037700	359724409
2	embankment.cse.buffalo.edu	7543617	7503512
	highgate.cse.buffalo.edu	7513268	7489273
3	embankment.cse.buffalo.edu	3983955	3961325
	highgate.cse.buffalo.edu	3968446	3963186
	underground.cse.buffalo.edu	3968006	3961328

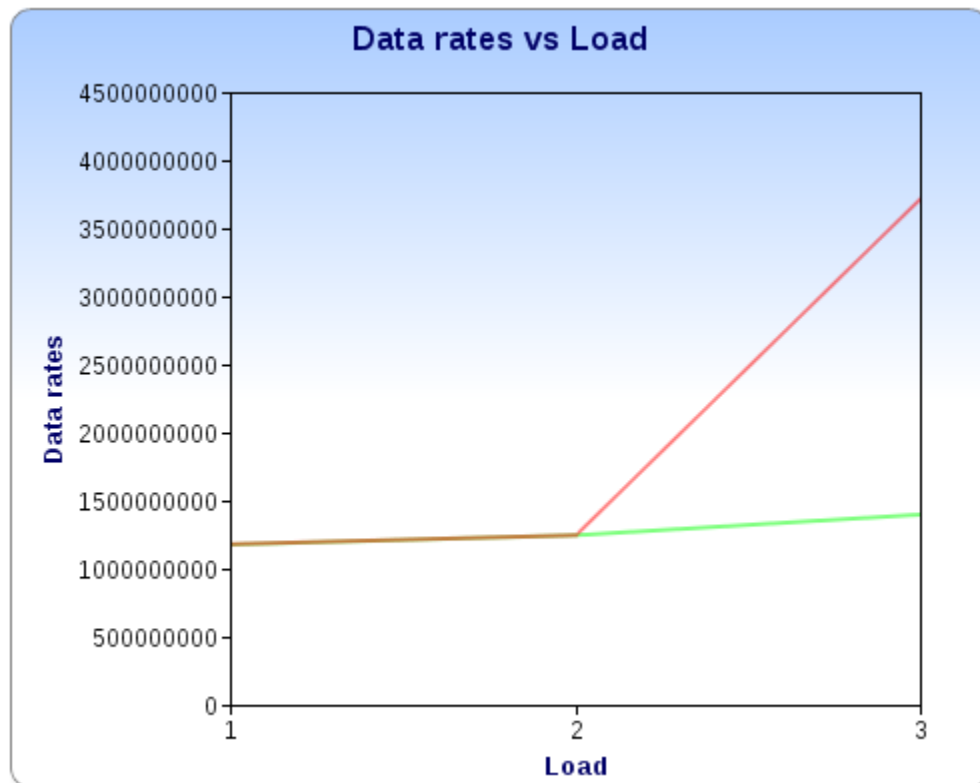
I expected the data rates to go down as the bandwidth will be shared by multiple connections and from the above results we see that the bit rate decreases with the increase in the load.



#### **Section 4.4 iPerf**

Now we take euston as the server and then try increasing number of clients.

ID	CONFIGURED ON	TX RATE	RX RATE
1	embankment.cse.buffalo.edu	1179779072	1177944064
2	embankment.cse.buffalo.edu underground.cse.buffalo.edu	888406016 357171200	357171200 888406016
3	embankment.cse.buffalo.edu underground.cse.buffalo.edu highgate.cse.buffalo.edu	846725120 2579496696 292683776	846725120 2579496696 292683776



They do not conform with each other may be because of the load variations in the network.