ECE466 – Computer Networks 2
Lab 2a
2015-02-09
Griffin Garland 998283673
Samprit Raihan 998138830

Exercise 1.2

I frame average size = 183776
P frame average size = 111412
B frame average size = 36093

Exercise 2.3

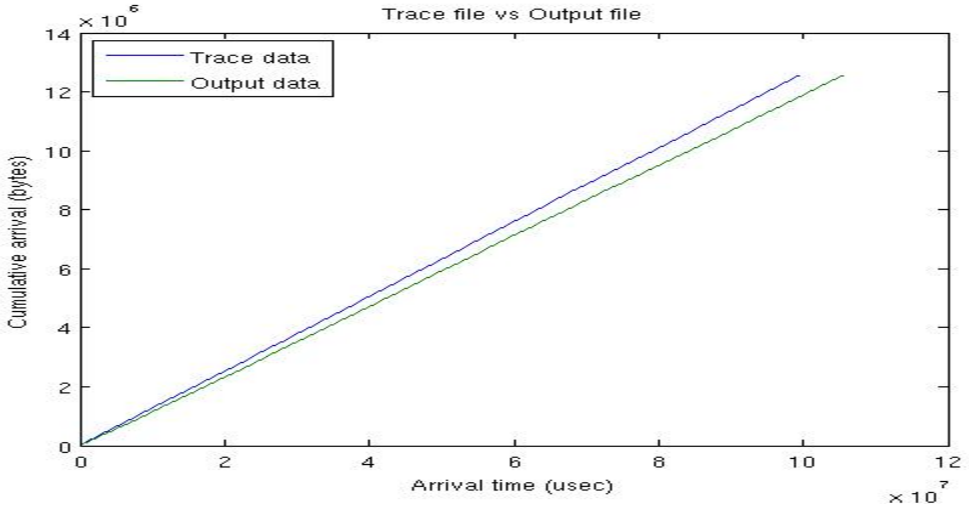

Figure 1: Cumulative arrivals of file data and trace file

The accuracy of the traffic generator can be improved by reading the trace file in one thread and transmitting the created packets in another thread. After these modifications in code, this change has been reflected on Figure 2.

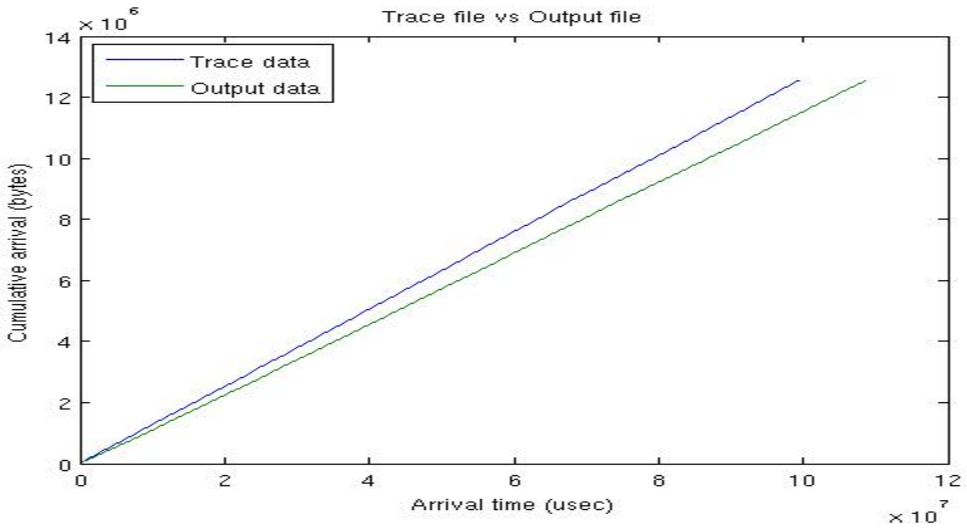

Figure 2: Improved cumulative arrivals of file data and trace file

Exercise 2.4

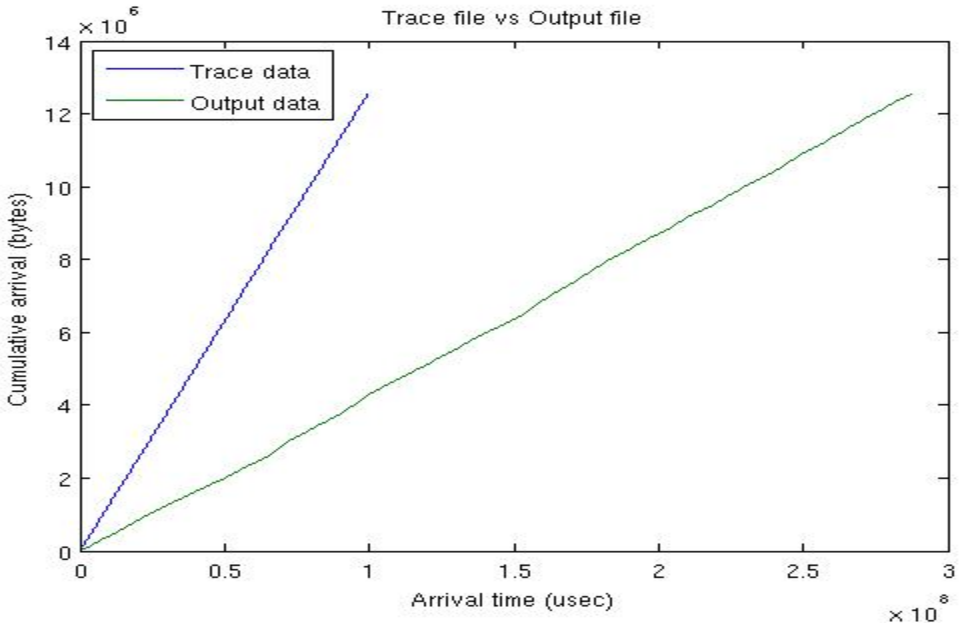

Figure 3: Cumulative arrivals of file data and trace file with packet loss

In Figure 3, the traffic generator is on one machine, and the packets are transmitted to a traffic sink on a different machine. The discrepancy between the trace file and output file cumulative arrivals data shows that some UDP packets have been lost.

Exercise 3.2

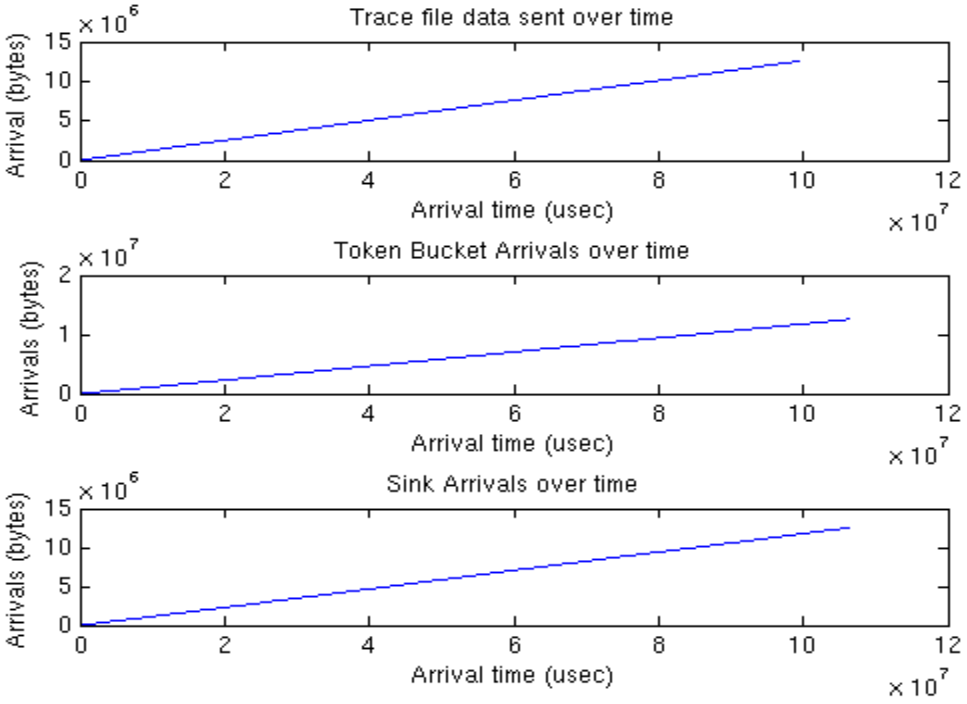

Figure 4: Cumulative arrival functions for token bucket and sink relative to trace file

Exercise 3.3

Movietrace:

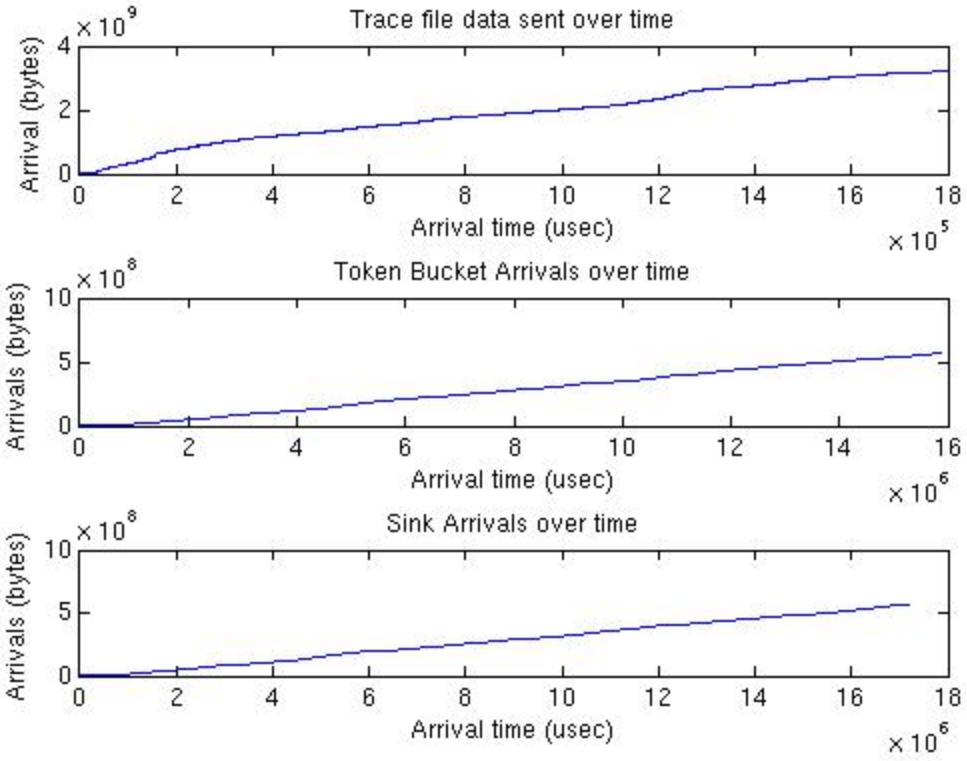

Figure 5: Cumulative arrival functions for token bucket and sink relative to trace file

Ethernet:

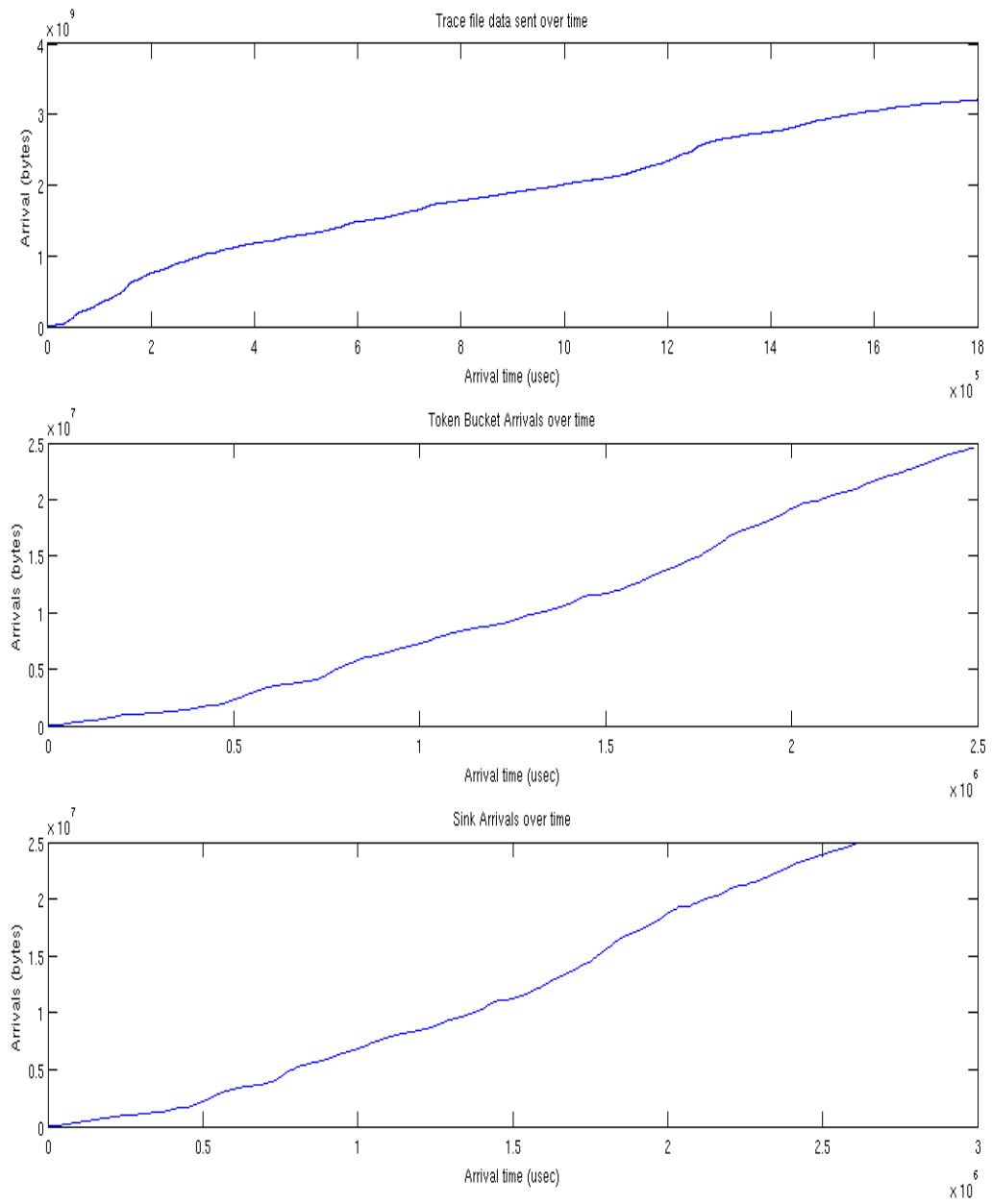

Figure 6: Cumulative arrival functions for token bucket and sink relative to trace file

Note:

The token bucket source code truncated all incoming packet sizes to 1024, making it difficult for us to ultimately sync up between the traffic generator and sink. Since we were asked to keep the token bucket code untouched, this was out of our hands.