519 - Network Security - Term Project Phase 1

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1 Methodology

A script was written for execute commands in proper docker from outside the dockers.

1. Start python processor script by passing delay argument, continue
2. Wait one second
3. Start pinging from sec to insec for 100 packets, forward stdout to local file, wait for exit
4. Kill all processes whose name includes "python3", wait for exit

The above iteration has done for delay time equals to 2^n where $n \leq 9, n \in \mathbb{Z}^+$ milliseconds.

Output files were parsed to get mean, standard deviation, minimum and maximum values of RTT. Finally the values were plotted.

2 Results

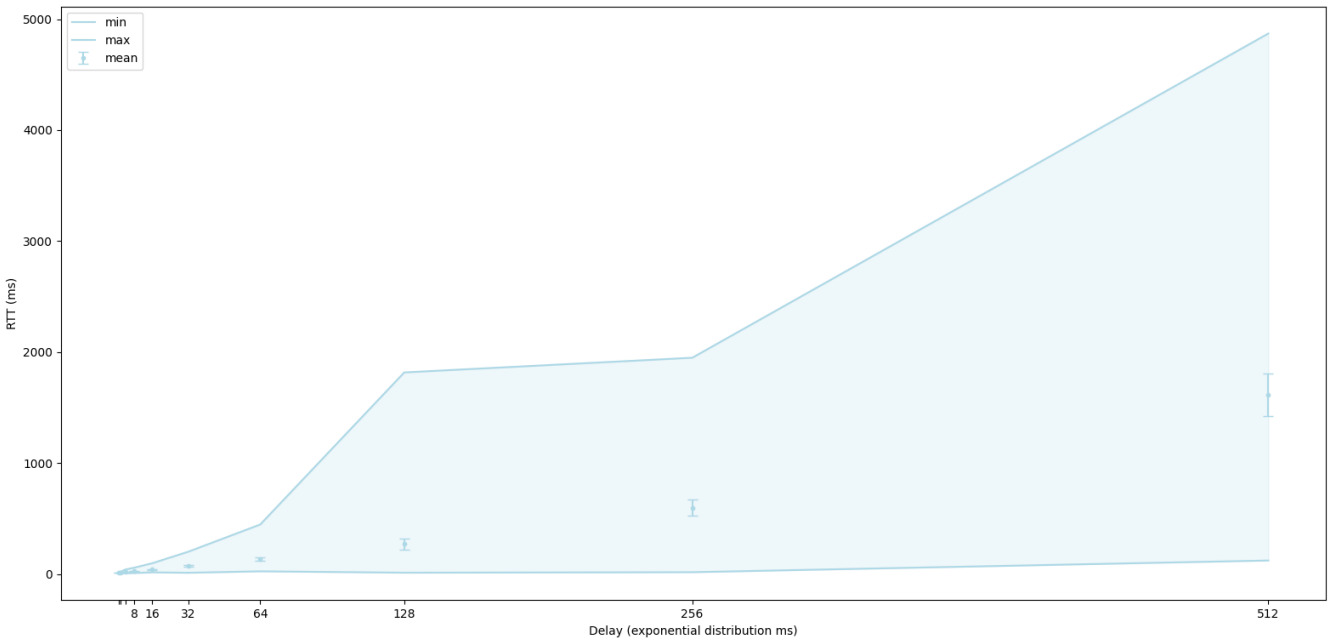

Figure 1: RTT(ms) versus Delay(ms)

It can be seen that average RTT increases linearly. The theoratical equation for delayed RTT is $RTT_d = RTT + 2d$ where d is delay in milliseconds. Also standard deviation increases with delay due to increase in standard deviation of the exponential distribution. Although minimum values always stay minimum, maximum values increases with higher slope compare to means.