CSC 458 Course Project

RTT Estimation in Real World

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Datasets Used: univ1\_pt16

Source code analysis tools: Python3, dpkt.pcap, matplotlib.pyplot, wireshark

Dataset Statistics:

* Per-packet statistics:

|  |  |  |  |
| --- | --- | --- | --- |
| Type of packet | Number of Packets | Percentage | Total bytes |
| Ethernet | 962228 | 99.49180214301298 | 834470501 |
| IP | 945822 | 97.7954656136683 | 833419683 |
| ICMP | 5768 | 0.5963957760124408 | 371824 |
| UDP | 93130 | 9.629392964639148 | 65039087 |
| TCP | 842185 | 87.07967694539484 | 766341436 |

total number of bytes of all packets: 835250494

total number of packets: 967143

* The size of packets through CDF graphs analysis:

The difference from observation between from TCP and UDP:

* Per-flow statistics:

As the requirements of the project to only reconstruct TCP and UDP from the given trace data set, each flow is defined to have the unique set of source IP, source port, destination IP, destination port, and protocol type. Moreover, the inner arrival time should not excess 90 mins.

\*Note: In the given datasets univ\_pt16, none of the inner arrival time within flow excess 90 mins.

Flow type:

|  |  |
| --- | --- |
| Type of packet | Number of Packets |
| UDP | 93130 |
| TCP | 842185 |

Flow Duration with CDF analysis :

Flow size:

RTT Estimation: