**Question 1**

Average packet size was computed by averaging (using the Excel average function) the packet size of all captured packet size (frame.len in *tshark*). It was found that the average packet size was 4944.49 bytes. We were able to use Excel by outputting the *tshark* capture as a .csv file.

**Question 2**

Average throughput of received traffic was computed by:

Throughput = Average Packet Size / Round Trip Time of Packet

38035 bits/sec = (4944.49 bytes \* 8 bits/byte) / (1.04 seconds)

Where:

* Average packet size was already computed from Question 1
* Round trip time of packet was computed by subtracting the overall *tshark* capture start time from the *tshark* end time (end time – start time = 4:38:12 – 4:37:08 = 1.04 seconds)
* Bytes per second was converted to bits per second as Google recommended throughput as a bits/sec measurement

**Question 3**

After extracting traffic analysis data using UDP fields, no UDP traffic was found. The top three sender port numbers by volume were:

**Sender Traffic**: Port 80, Port 33644, and Port 443 (see tables below).

**Receiver Traffic**: Port 33644, Port 80, Port 50260 (see tables below).

**Tables:**

Q1, Q2

|  |  |
| --- | --- |
| **Question 1 - Average Packet Size** | 4944.49 bytes |
| **Question 2 - Average Throughput:** | 38035 bits/sec |

Q3

|  |  |  |
| --- | --- | --- |
| **Source Traffic Table** | | |
| Port Number | Traffic Count | Traffic Percentage |
| 80 | 31589 | 52.50% |
| 33644 | 26062 | 43.31% |
| 443 | 1048 | 1.74% |
| 50260 | 418 | 0.69% |
| 42692 | 412 | 0.68% |
| 22 | 405 | 0.67% |
| 56418 | 218 | 0.36% |
| 35556 | 3 | 0.00% |
| 35560 | 3 | 0.00% |
| 35562 | 3 | 0.00% |
| 35530 | 2 | 0.00% |
| 35532 | 2 | 0.00% |
| 35534 | 2 | 0.00% |
| 57958 | 2 | 0.00% |
| 35528 | 1 | 0.00% |

|  |  |  |
| --- | --- | --- |
| **Destination** | | |
| Port Number | Traffic Count | Traffic Percentage |
| 33644 | 31571 | 52.46% |
| 80 | 26078 | 43.33% |
| 50260 | 831 | 1.38% |
| 443 | 636 | 1.06% |
| 22 | 414 | 0.69% |
| 42692 | 403 | 0.67% |
| 56418 | 217 | 0.36% |
| 53 | 6 | 0.01% |
| 35530 | 3 | 0.00% |
| 35532 | 3 | 0.00% |
| 35556 | 3 | 0.00% |
| 35560 | 3 | 0.00% |
| 35562 | 3 | 0.00% |
| 35534 | 2 | 0.00% |
| 57958 | 2 | 0.00% |
| 123 | 1 | 0.00% |
| 33221 | 1 | 0.00% |
| 35528 | 1 | 0.00% |
| 38727 | 1 | 0.00% |
| 43611 | 1 | 0.00% |
| 49651 | 1 | 0.00% |
| 53343 | 1 | 0.00% |
| 57241 | 1 | 0.00% |
| 60225 | 1 | 0.00% |