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CPSC 441

Assignment 3 Report

All the data gathered this report has been gathered by using Tshark on a Linux virtual machine on Google cloud.

While Tshark was running in the background, three different files were downloaded sequentially. After all files have finished downloading the output of Tshark was redirected to a txt file.

The following data was obtained by processing the txt file using a python script:

1- Average packet size: 4896.67 bytes

The average packet size was determined to be 4896.67 bytes. This was calculated by summing up the size of all the packets (size of packet obtained by frame.len) that were sent or received during the Tshark run and dividing the sum by the number of packets(last frame.number)

2- Throughput: 4352874.035 Bytes/second or 34822992.28 Bits/second

The throughput was calculated by summing up the size of all the packets during the Tshark and then dividing that sum by how long the Tshark run lasted in seconds(subtracting time of last packet captured from first packet captured, time obtained by frame.time) . This turned out to be 4352874.035 Bytes/second which is equivalent to 34822992.28 Bits/second.

3- Top 3 sender and receiver TCP and UDP ports by volume. To obtain this information the python file tallied up the data sent on sent or received on each port while keeping track of which protocol was used by checking the number returned by ip.proto. The percentage contribution was calculated by dividing data sent on sent or received on each port by the total number of bytes and rounded to 2 significant figures

Top 3 TCP ports by sender		
Port number	Volume of Bytes	Percentage of total
80	278256758	93%
443	17489369	5.88%
51642	1724929	0.58%

Top 3 TCP ports by Receiver		
Port number	Volume of Bytes	Percentage of total
51642	278247598	93.48%
49488	12153508	4.08%
55328	1724929	1.79%

Top 3 UDP ports by sender		
Port number	Volume of Bytes	Percentage of total
53	860	0%
47731	192	0%
41520	174	0%

Top 3 UDP ports by Receiver		
Port number	Volume of Bytes	Percentage of total
53	520	0%
41520	303	0%
59739	286	0%