${\bf SYSC~4602~Assignment~1}$

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Part 1: Capturing a Trace

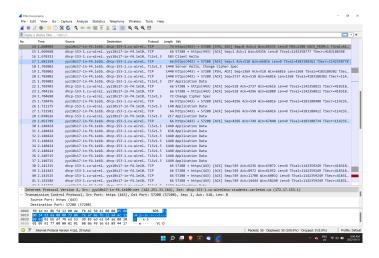


Figure 1: Captured trace of wget https://www.google.com

Part 2: Inspecting the Trace

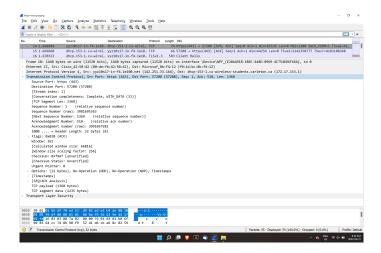


Figure 2: Packet structure of https Server Hello Packet

Part 3: Packet Structure

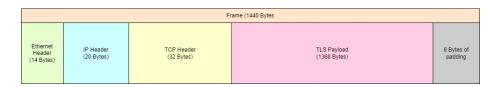


Figure 3: Packet Structure Diagram

Part 4: Protocol Overhead

total bytes = 23079total payload = 23014

Ratio of payload to bytes = 23079 / 23014 = 99.7% Amount of overhead = 100% - 99.7% = 0.3%

Therefore 0.3% of the overall download is overhead.

Part 5: Demultiplexing Keys

0.1

The Type field is the demultiplexing key for the ethernet header.

The type field indicates IPv4 which corresponds to the IP header.

0.2

The protocol field is the demultiplexing key for the IP header.

The protocol field indicates TCP (6) which corresponds to the TCP header.