Lab 11.2.4 Protocol Inspector, TCP, and HTTP

Objective

The objective of this lab is to use Protocol Inspector, or equivalent software, to view dynamic Transmission Control Protocol (TCP) operations. The operation that will be specifically looked at is HTTP during web page access.

Background / Preparation

Protocol analysis software has a feature called **capture**. This feature allows all frames through an interface to be captured for analysis. With this feature, it is possible to see how the TCP moves segments filled with user data across the network. TCP may seem to be a bit abstract, but the protocol analyzer shows just how important TCP is to network processes such as e-mail and web browsing.

At least one of the hosts must have the Protocol Inspector software installed. If the lab is done in pairs, having the software installed on both machines means that each person can run the lab steps. However, each host may display slightly different results.

Step 1 Start Protocol Inspector and your browser

Step 2 Go to detail view

Step 3 Start a capture

Step 4 Request a Web Page

Step 5 Watch the monitor view while the web page is requested and delivered

Step 6 Stop the capture

Step 7 Study the TCP frames, HTTP frames, and statistics using various views, especially the detail view

Step 8 Using the detail view, explain what evidence it provides about the following:

- TCP handshakes
- TCP acknowledgments
- TCP segmentation and segment size
- TCP sequence numbers
- TCP sliding windows
- HTTP protocol

Reflection

How did this lab help to visualize the TCP protocol in action?

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