UM-SJTU Joint Institute

Computer Networks

(Ve489)

Mini-Project 2 Report

Name: Sun Yiwen   ID: 517370910213
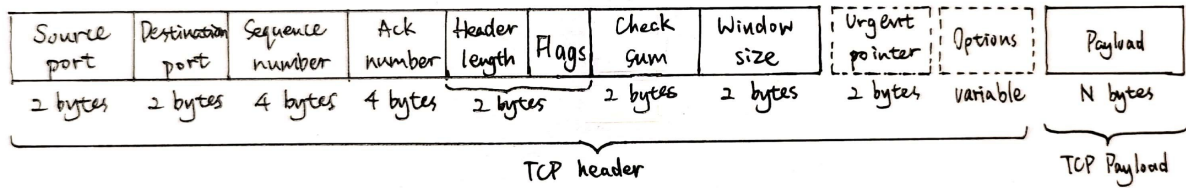Date: Aug 4 2020

1   Step 3: TCP Segment Structure

Figure 1: My drawing of a TCP segment.
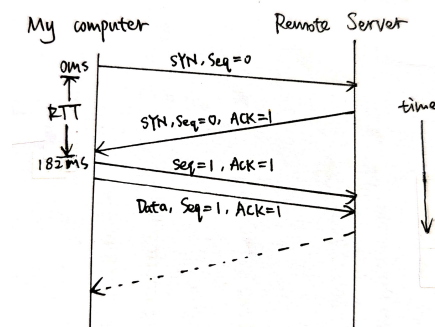
2   Step 4: TCP Connection Setup/Teardown

Figure 2: My drawing of a time sequence diagram of the three-way handshake.

2.1   Connection Options

The TCP Options are Maximum segment size, SACK permitted, Timestamps, and Window scale. They are used in both directions.
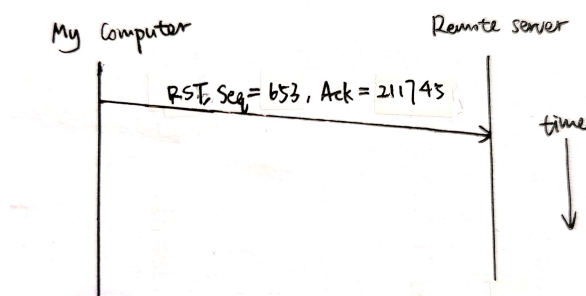
2.2   FIN/RST Teardown

Figure 3: My drawing of the teardown.

3 Step 5: TCP Data Transfer

1. The data rate in the download direction is 37 packets/second and 370Kbps.

2. A typical download packet is 1494 bytes long and 1400 bytes are the TCP payload. Therfore, about 93% of this download rate is content.

3. The data rate in the upload direction is 18 packets/second and 8500 bits/second.

4. The ACK number that the next transmitted TCP segment carries will be $X + 1400$, where 1400 is the TCP payload bytes.