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CS 118

Dis 1A

Homework 2

33. The first packet needs seconds to reach Host B.

Each packet comes in after the first every seconds

Total Delay should be where is the total number of packets minus the first.

Simplifies to

The value of S that gives least delay is when the derivative is 0 so S =

3. We need the DNS, UDP, and TCP protocols

4. a. <http://gaia.cs.umass.edu/cs453/index.html>

b. 1.1

c. persistent

d. not available

e. Mozilla/5.0 browser. The server needs the browser type to send the correct version of the requested content since not all browsers act the same way

5. a.The server found the document and replied at 12:39:45GMT

b. The document was last modified on Sat, 10 Dec 2005 18:27:46 GMT

c. 3874 bytes

d. The first five bytes are < ! d o c and the connection is persistent

8. a. To get the IP address, we take total time *RTT*1 + *RTT*2 + *RTT*3 +…+ *RTTn*

We use 2 X *RTT*0 to set up the connection

Each object uses 2 X *RTT*0 to set up TCP connection and get the object so total time for these is 16 X *RTT*0

The total time is 18 X *RTT*0 *+ RTT*1 + *RTT*2 + *RTT*3 +…+ *RTTn*

b. To get the IP address, we take total time *RTT*1 + *RTT*2 + *RTT*3 +…+ *RTTn*

We use 2 X *RTT*0 to set up the connection

We use 2 X *RTT*0 to request 5 objects first and then another 2 X *RTT*0 to request 3 more objects

The total time is 6 X *RTT*0 *+ RTT*1 + *RTT*2 + *RTT*3 +…+ *RTTn*

c. To get the IP address, we take total time *RTT*1 + *RTT*2 + *RTT*3 +…+ *RTTn*

We use 2 X *RTT*0 to set up the connection

We use *RTT*0 to receive all 8 files at once

The total time is 3 X *RTT*0 *+ RTT*1 + *RTT*2 + *RTT*3 +…+ *RTTn*

20. By looking at the DNS cache, we can determine the most popular web servers by however frequently those servers appear in the cache. The cache will contain more requests for the servers that are popular.