California State University, Monterey Bay

Week 3 - Homework 4

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CST331

Introduction to Computer Networks

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Problem

This problem is taken from 'Computer Networking: A Top-Down Approach', 6/E by Kurose and Ross.

Suppose within your Web browser you click on a link to obtain a Web page. The IP address for the associated URL is not cached in your local host, so a DNS lookup is necessary to obtain the IP address. Suppose that n DNS servers are visited before your host receives the IP address from DNS; the successive visits incur an RTT of RTT1, . . ., RTTn. Further suppose that the Web page associated with the link contains exactly one object, consisting of a small amount of HTML text. Let RTT0 denote the RTT between the local host and the server containing the object. Assuming zero transmission time of the object, how much time elapses from when the client clicks on the link until the client receives the object?.

The amount of time to get the IP address would be the sum of the Round Trip Times (RTT), which would be …RTT_1 + ….RTT_n

After the IP address is located, RTT0is calculated as 2RTT (as there is only 1 object)

Therefore the total time all together would be:

2RTT + RTT_1 + ….RTT_n