CSE 718 – Performance Evaluation of Computer Networks Course

Marmara University, Istanbul, Turkey
November 23, 2014

Homework 2

In this homework, you will work on a specific type of network, Long Fat Networks (LFN), also known as Elephant Networks. There are a number of techniques implemented in the Transport Layer Protocol, namely in TCP, which are intended to improve congestion control characteristics. These techniques are generally categorized as retransmission timer management and window management. The size of TCP's send window can have a critical effect on whether TCP can be used efficiently without causing congestion. However, conventional techniques underutilize the network resources and introduce limitations on TCP connection since they do not consider the bandwidth-delay product between the communicating parties. LFN is such kind of special network.

In this homework, you will make a research on the following topics and you will prepare a report on your research and findings.

- Retransmission Timer Management.
- Window Management.
- How the window size is determined by the receiver?
- Considering the LFN, how window management is done by the sender and receiver? Please point out and give details on;
    - What is modified?
    - Why?
    - What are the effects?

This is an individual homework for students. Group study, collaboration, and cooperation are not allowed.

Due date is December 01, 2014.

Please ask any unclear matter to the lecturer.

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