Department of Computer Engineering

Faculty of Engineering, University of Peradeniya

CO 323 Computer Communication Networks

Laboratory session 2

Semester 5, 2017

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Do the following exercises using your knowledge about network protocols, Iperf and Wireshark tools. Submit your answers on or before **11.55pm, 1st April, 2017**.

Please note that the deadline **will not be** extended.

You can attach screenshots where necessary.

Choosing the client and the server

Each computer will be both the client and the server. You have to find a partner of your choice to be your server/client. Two people cannot have the same pair of client and server. Note that choosing your own machine to be your client AND the server will result in 0 marks for the complete assignment.

Exercises

Before answering the following questions, indicate the names of client and server computers.

A. Use iperf and generate tcp and udp traffic. Show the client's and the server's outputs at both occasions separately.
B. Capture the TCP three way handshake using wireshark
C. Calculate the TCP connection establishment delay by using wireshark.
D. In this communication, the initial sequence numbers are shown as zero in each direction.Clarify the reason behind that.
E. What TCP options are carried on the SYN packet on your trace?
F. Identify the TCP connection teardown message sequence in the trace.
G. Draw the traffic pattern for both TCP and UDP.
H. Compare the UDP vs TCP throughput and comment on it.
I. Change the MTU size and redraw the TCP graph for MTU=500,1000,1500
J. Identify the reason behind the shown traffic patterns (whether it comes to a saturation, if not why)?

Deadline: **11.55pm, 1st April, 2017.**

Plagiarism will not be tolerated.