National University of Computer and Emerging Sciences, Karachi
FAST School of Computing
CS3001-Computer Networks, Spring 2022

24/03/22

Title

Congestion And Flow Controlled UDP

Group Members

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Proposed Project description

UDP is a transfer layer protocol that does not provide Flow Control, Congestion Control in the transfer of data which TCP does. The Protocol transfers the data without building a connection first in a single RTT thus it is faster, and it doesn't care about the server/ receiver being overwhelmed along with not controlling the entry of data packets into the network i.e., congestion control.

What we will do is convert the UDP into a reliable data transfer protocol in a GUI based application.

Features:

a. Flow Control
b. Congestion Control
c. Bidirectional Messaging
d. Multi-User Messaging

Plan of work

The plan is to work on the Congestion Control first, using AIMD algorithm that provides Congestion Control in TCP.

After that, we will work with Flow Control using Nagle's Algorithm that prevents the number of packets sent over a network.

Finally, we will make the working of our program bidirectional with more than one user sending a message to the server.

References

- https://www.brianstorti.com/tcp-flow-control/
- https://www.baeldung.com/cs/tcp-flow-control-vs-congestion-control
- https://datatracker.ietf.org/doc/html/rfc4341