

Homework1 [1p]:

Write a program that measure the time to transfer various amount of data (500MB, 1GB (1.5 milion of WhatsApp messages, 4000 photos, 10.000 emails or reuse a large buffer)) under various conditions (Make sure you are sending bytes. Do not use higher-level functions that assume you are writing strings.)

Requirements for implementation:

- A) Supported protocols as parameters (for both client/server): UDP, TCP
- B) Message size: 1 to 65535 bytes
- C) Two mechanisms should be implemented: streaming and stop-and-wait (acknowledge is performed before the sending of the next message)

Requirements for output:

- A) After each server session, the server will print: used protocol, number of messages read, number of bytes reads
- B) At the end of execution, the client will print: transmission time, number of sent messages, number of bytes sent.

Language: you can use any language for implementation. The program must run on a Linux system.

Evaluation:

- Client/Server Code
- A pdf/word/plain text document with details regarding options for client/server and with statistics regarding performed tests.

Hint: Your system architecture can have a two-tier architecture or a multi-tier one. (e.g. a middle tier can perform queuing/scheduling of clients request, connection management, traffic monitoring, connection to a back-end database et.al.)