

Lab report

All measurements have been recorded on a single computer network. (It wasn't clear if we were supposed to set up nodes on 2 different computers or not.)

Table 1 & 2 have fixed data unit size (500 Bytes) and shows the correlations for Data Rate and Transfer time for Error probability.

As can be seen the relations are linear. It can be assumed that bandwidth, link length and queuing time is constant. Then data transferred during a unit time is always the same (and equal the throughput for error-free transfer). For error transfer the throughput should be $(1-p)$ * Error free throughput.

Throughput ($e=0$) = data size / transmission time

So transfer time is also linear.

Data rate increase with increased packet size for error free transfer, however long packets are sensitive to errors. But in these tests they are still more effective than the short packets because Stop-and-wait is very inefficient.

No error → Better with long packets

High Error prob → Better with smaller packets so retransmission doesn't take as long. But for Stop-and-wait the waiting for acknowledgement is still a bigger issue.

Some irregularities can be found but they are probably because the CPU sometimes is busy doing other things.

Table 1

Data Unit size: 500

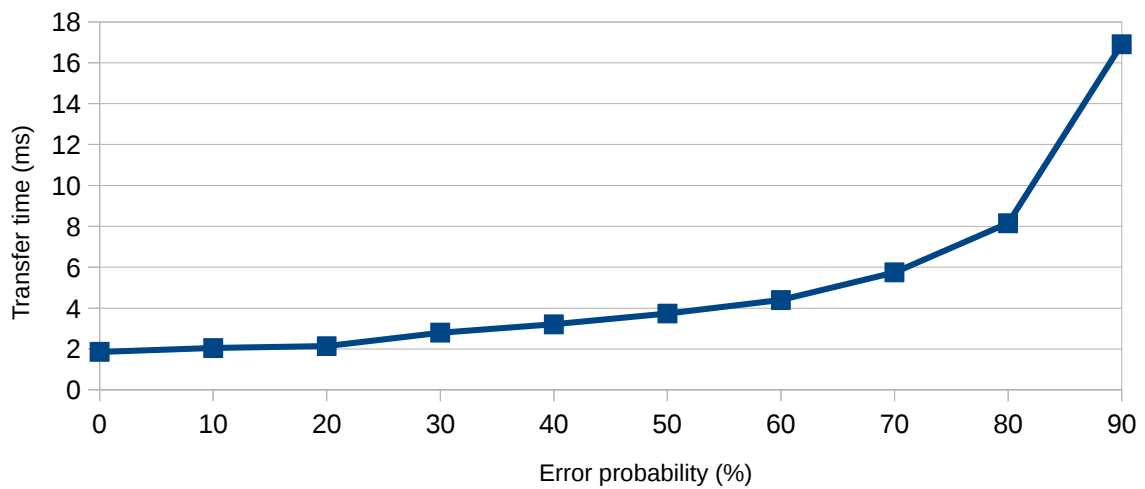


Table 2

Data Unit size: 500

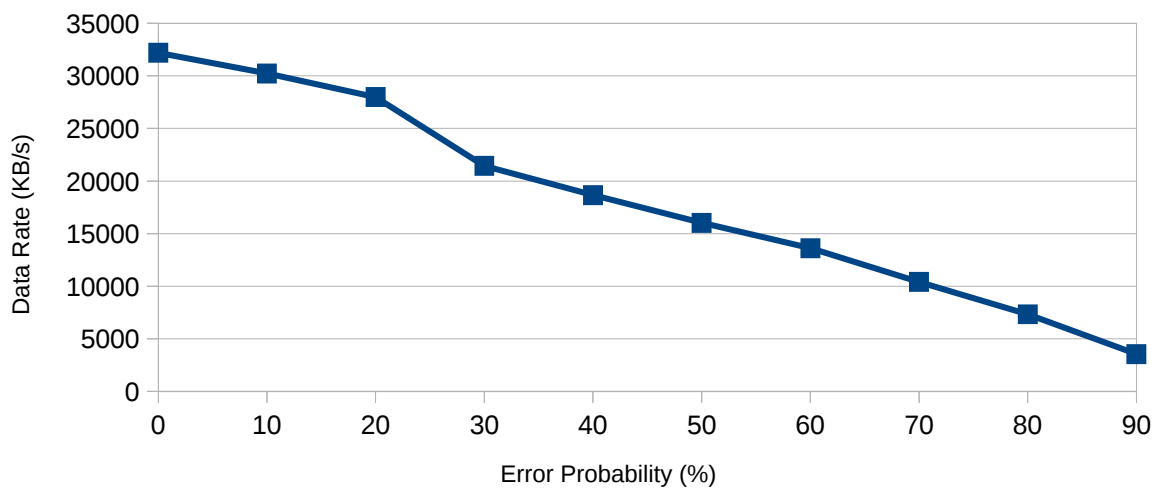


Table 3

Error probability: 0%

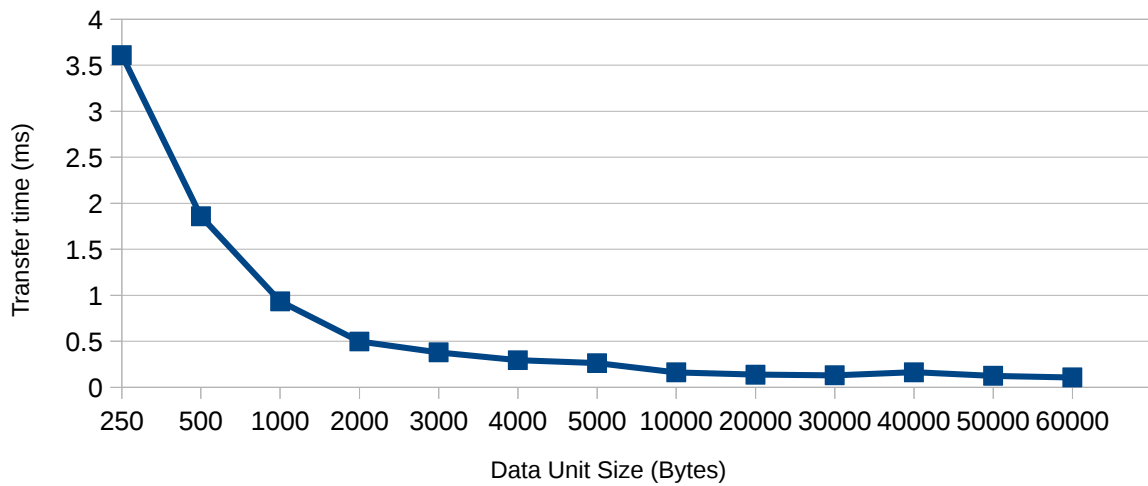


Table 4

Error probability: 0%

