

Homework

General remarks

- Do the homework in groups of 2
- Return the homework **by the date indicated on the course Web page**
- Into the box outside of office 0 15

You have 2 tcpdump files

- home.dump
- home-linux.dump

Both dumps have been taken at the **sender**.

The dump data are for a file transfer (FTP) of about one Mbyte from home via an ADSL line of 128 Kbit/sec uplink capacity to a machine in the US. (look at connection 2, i.e **tcptrace -o2**)

Concentrate on the first file (home.dump) that was taken with Windows running on the sender machine.

Use the second file (home-linux.dump) that was taken with Linux running on the sender machine only for comparison to better explain certain observations

Analyze the trace and write down all notable facts including but not limited to

- Are delayed ACKs used
- What version of TCP
- Performance observed
- Slow start behavior
- RTTs observed
- Capacity of bottleneck
- Dup Acks and timeouts seen
- Evolution of the sequence number plot
- What is limiting the throughput performance of the sender

(hint: use XnView under Windows to capture the xplot graphs that you then include into your report that you produce using Word)

Take RTT samples for that connection carrying the file data and compute RTT estimates and RTO estimates as done in TCP. Plot the results as graphs and also attach the code used to obtain the graphs.

Tools to use:

- tcptrace
- xplot
- gnuplot or matlab