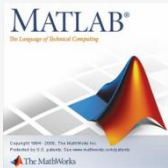




# Simulation and Evaluation of Computer Networks

## Description



Network protocols and algorithms are usually evaluated and tested in simulations before the software is deployed in large test beds or in the real network since the deployment of software on distributed networks and the performance measurements are challenging tasks. However, the quality and the outcome of the simulation affect development decisions of the protocol designer. Therefore, the behavior of the simulation should reflect the behavior of the real network in terms of bandwidth, delay, jitter, packet loss, and availability.

## Tasks

In this thesis you will develop a simulation and emulation tool which may either use measurements from real networks or distribution to model the behavior of wired and wireless networks. You will gather data from real networks to create a data base for the simulation and emulation tool. Finally, you will compare your simulation results with measurements from the real network.

## Requirements

Basic knowledge of computer networks

Programming skills in C, C++ or Java are recommended



## Keywords

Simulation, Emulation, Networks, Measurement



Depending on the type of the thesis (BA or MA) the complexity will be adjusted.