
Mobile Communications

FEUP

Network Simulation - LTE

Objectives of the Project

- ♦ To study the performance of LTE network scenarios using the ns-3 network simulator
- ♦ Carry out simple but rigorous studies

How to Define a LTE Communications Scenario

- ◆ Study the LTE cellular network
- ◆ Study the ns-model-library documentation
 - » Chapter: LTE Module
 - Section: User Documentation
- ◆ Reuse available examples of LTE simulation scripts
 - » `src/lte/examples/lena-simple.cc`
 - » `src/lte/examples/lena-simple-epc.cc`

What to Study

- ♦ Define a few research questions (2-4 questions)
 - » You may inspire yourself on the WiFi studies carried out in previous lab
 - » Keep it very simple and focus on essential aspects

- ♦ For each research question
 - » Try to estimate theoretically the value you should obtain for a very simple and deterministic situation
 - » Carry out a set of simulations in order to obtain quantitative results which are relevant for answering the research question
 - » Provide your results using confidence intervals

- ♦ You are free to select your questions (related to LTE)

What to Deliver

- ♦ A report consisting in one page (A4, 11pt) per research question
- ♦ The simulation scripts