Simulation de Réseaux

Component
École Nationale Supérieure d'Électrotechnique d'Électronique d'Informatique d'Hydraulique et des Télécommunications

In brief

> **Code:** N8EN17C

Presentation

Objectives

This teaching provides elements for choosing the right simulation tool for the performance problem studied. It also raises the questions of validation of simulation results.

Description

First, simple discrete event simulations of queuing networks allowing on the one hand to present and use simulation tools and on the other hand to make students aware of the calculation of confidence intervals and validation of the simulation results. Then, performance studies are carried out with discrete event simulations of network protocols and resource allocation algorithms (random access methods, routing in ad-hoc mobile networks and impact on transport performance, allocation frequencies in mobile networks, rate adaptation in a wireless network) and Monte-Carlo simulations of the load control mechanism of a discretized Aloha type random access). The tools used: Network Simulator (ns-2 and ns-3), Matlab / Simulink.