Project for Final-year internship (Bachelor or Master Students)

Title: Implementation of new congestion control protocol in vehicular ad hoc network

Laboratory: ICD/ERA Autonomic Networking Environment, University of Technology of Troyes, France

Project:

With future developments of vehicular ad hoc networks (VANETs), vehicles will be able to communicate with each other (through the communication system V2V Vehicle-to-Vehicle) and with the road infrastructure (through V2I Vehicle-to-Infrastructure). The aim of V2V and V2I communications is to increase safety and prevent accidents. Several challenges remain to be addressed to successfully deploy this technology; typically guaranteeing QoS and controlling congestion stand among the most challenging problems in the design of these systems.

The objective of this project is to implement a new congestion control scheme in VANETs. The steps of the project are: 1) analyzing the existing congestion control protocols, 2) developing a mechanism for congestion control in vehicular networks, 3) implementing the proposed mechanism (using ns-2 simulator) and comparing its performance with existing protocols.

Pre-required knowledge: knowledgement about networks, C++ programming

Supervisor: KHOUKHI Lyes

Contact: lyes.khoukhi@utt.fr