Abstract

One of the emerging applications that belongs to ambient systems is to transparently and directly interconnect vehicles on roads, making an ad-hoc network that enables a variety of applications through distributed software’s without the need of any fixed and dedicated infrastructure. The network as well as the embedded computers and sensors in the vehicle will be invisible to the driver, who will get the required services during his journey. New type of ad-hoc network is the Vehicular Ad-hoc Network (VANET), in which vehicles constitute the mobile nodes in the network. Due to the prohibitive cost of deploying and implementing such as system in a real world, most research work in VANET relies on simulations for evaluation purpose. The key concept for VANET simulations is a real world vehicular mobility model which will ensures conclusions drawn from simulation experiments will carry through to real world deployments. In this paper we present a tool SUMO, MOVE that allows users to easily generate
real world mobility models for VANET simulations. MOVE tool is built on top of SUMO which is open source micro-traffic simulator. Output of MOVE is a real world mobility model and can be used by NS-2 and qualnet simulator. In this paper we evaluate and compare ad-hoc routing performance for vehicular nodes using MOVE, which is using random waypoint model. The simulation results are obtained when nodes are moving according to a real world mobility model which is significantly different from that of the generally used random waypoint model.

Reference

- PTV simulation VISSIM. http://www.english.ptv.de/.
- SUMO http://sumo.sourceforge.net/
- BonnMotion, a mobility scenario generation and analysis tool, http://web.informatik.uni-bonn.de/IV/BonnMotion.

Index Terms

Computer Science Wireless

Key words

Real World Mobility Model Simulations

NS-2