ABSTRACT

Nowadays a very rapid technological developments have resulted a lot of things can happen in the world of telecommunications, as well as in the network to a moving vehicle. A lot of vehicles move which passed thatch throughout the way. Technology has evolved so that the entire network is based on ip, therefore a network that can do communication between vehicles in the streets is produced. The network was able to avoid and reduce the number of accidents that often happpen. The performance of a network is strongly influenced by the shape of the topology of the network. In Vehicular Ad hoc Networks (VANET), topology is a mobility model of vehicles that make up VANET. The vehicle requires a certain transmission distance to communicate with each other.

On this final assignment will be discussed regarding the influence of transmission range with the difference of the speed and density of node against the Quality of Service (QoS) performance on VANET in Pasteur toll road scenarios with the length of toll equal to 4km. The routing protocol used in this study is OLSR.

Design of a simulation system is divided into two subsystems namely mobility subsystem and network subsystems. The mobility subsystem is designed using ONESimulator software. While the network subsystem designed using the software Network Simulator 2 (NS2). The density and speed of the node is formed in such a way so as to describe a mobility model. In the end, VANET will be observed how the quality of the resulting network. Performance evaluated is average end to end delay, throughput, and packet delivery ratio.

It can be concluded that the influence of tranmission range on the network by using OLSR routing protocol VANET give different performance. The transmission range is used to affect the performance of the network. Simulation results indicate that the better and stable performance of OLSR routing protocol VANET on average end to end delay, throughput, and the PDR is for transmission distance above 700 meter.

Keywords: Nodes Density, Node Velocity, NS-2, OLSR, ONESimulator, transmission range, Quality of Service, VANET