

ABSTRACT

Vehicular Ad-Hoc Network (VANET) is a development of the Mobile Ad-Hoc Network (MANET) which allows communication Inter Vehicle Communication (IVC) and or Roadside-to-Vehicle (RVC). The basic characteristic of VANET is high mobility node causing the rapid changes in the network topology. This is due to VANET network topology changes frequently, find and maintain routes is the most important thing in the VANET. Therefore, need to be selected routing protocols are considered suitable and efficient delivery of data packets that can run optimally.

In this final project analyzing some routing protocols based on the position that its performance is best applied on the network VANET which is Greedy Perimeter Stateless Routing (GPSR) and Location Aided Routing (LAR), which simulated a network of VANET in a state of the urban environment that is at the Intersection of Buah Batu and Soekarno Hatta Bandung with the scenario change the number of nodes and change node speed. This simulation using Network Simulator version 2:33 (NS-2.33), which is mobility generator Simulation of Urban Mobility (SUMO), and as a script generator is using MOVE.

From the simulation results showed that in urban environments, routing protocols GPSR better than LAR. Routing protocols GPSR has better performance value on parameters packet delivery ratio, routing overhead, normalized routing load, end to end delay, and average throughput with average value 89.30;91.81%, 3.31;2.37, 3.42;2.33, 4.92;6.47ms, and 472.04;485.22kbps whereas on LAR has the average value 76.93;76.62%, 1.48;1.17, 2.21;1.37, 128.3;118.75ms, and 408,28;408,27 kbps. It shows that routing protocol GPSR more efficient used on urban environmental conditions.

Keywords : VANET, NS-2, SUMO , GPSR, LAR