

ABSTRACT

The Vehicular Ad-hoc Network (VANET) is a wireless communication network system and is a derivative of MANET (Mobile Ad-hoc Network). The basic function of VANET is to support communication between vehicles so that it can be used as an intelligent traffic information system. The purpose of this final project is to Analyze the VANET network to support an intelligent transportation system. Observe and review the performance of routing protocols on VANET. The benefit of this research is knowing the performance of the reactive protocol represented by AOMDV and the hybrid protocol represented by MP-OLSR, and knowing the advantages and disadvantages of the two protocols on VANET.

The problem raised is how the performance of AOMDV and MP-OLSR routing protocols on the VANET network with the scenario of changes in the number of nodes and changes in node speed. This simulation is carried out using NS-2 equipped with ONE-SIM for taking simulation paths. The performance of the two protocols will be seen based on two metrics, namely delay, and throughput

The results of this study indicate that the MP-OLSR routing protocol is better for VANET because it has a lower delay. The three test scenarios show that the MP-OLSR routing protocol (3.08333 ms) has a lower end-to-end delay value compared to the AOMDV routing protocol (63.1133 ms). However, AOMDV has a higher throughput value (52.6273 kbps) compared to MP-OLSR (77.34 kbps).

Keywords: Vehicular ad-hoc network, hybrid, reactive, MP-OLSR, AOMDV, network simulator