

Abstract

Vehicular Ad Hoc Network (VANET) is a wireless network that uses a routing system based on ad hoc network. In our daily life can not be separated from the traffic area in the urban region either while in school, college, work, vacation, or other interests. Optimized Link State Routing (OLSR) is a type of proactive routing protocol designed for wireless networks mobile ad-hoc models and the optimization of long link state routing. While the Zone Routing Protocol (ZRP) a routing protocol ZRP is a hybrid which has two methods of finding the route to reach to the destination node.

This final project analyzes the routing protocol performance comparison Optimized Link State Routing (OLSR) and Zone Routing Protocol (ZRP) in two different simulation environments, namely *highway* (highway) and *urban* (urban) with the scenario of changes in the number of nodes and node speed changes. In this paper carried out simulations using NS-2:34 and traffic simulator SUMO 0.12.3. Performance that measured in this final project is *Packet Delivery Ratio* (PDR), *Routing Overhead* (RO), *Average End-to-End Delay*, and *Average Throughput*.

On the result of the two routing protocols obtained OLSR is better than the ZRP on the parameters tested. OLSR has better performance in every *Routing Overhead*, *Packet Delivery Ratio*, *Average Throughput*, and *Average End-to-End Delay*.

Keywords: VANET, ZRP, OLSR, urban, highway, NS-2.34, SUMO