ABSTRACT

***Abstract*—** Data communication especially mobility communication is growth rapidly. One of them is Vehicular Ad Hoc Network (VANET). It gives capability to communicate among vehicle nodes. These communication models have many challenges, such as node density, high mobility nodes that causing network fragmented so that the message could not be send to the destination. To fix the problems, some routing protocols in VANET were developed to aim the message could be guaranteed end to end communication could be delivered. This routing protocol is called VDTN, but with high delay and frequent partitioning as a result.

By this condition, this research is focusing to evaluate a combination VDTN routing in clustering velocity and to maintain the enhancement delay. Analyzing the simulation is run on ONE Simulator in the real map mobility model with numbers node density to present the communication. To verify the research results for delay control are compared other VDTN routing (Spray and Wait and also Maxprop). As a result the improvement of average delay is 46,5% better compared to Spray and Wait and 14,8% better compared to Maxprop in proposed routing and while in clustered propose routing it is better 49,7% compared Spray and Wait and 19,9% compared to Maxprop. Meanwhile, compare to proposed routing performance, in the clustered propose routing has average delay 6% better. While for probability delivery performance will increase and getting better in bigger number of vehicles (nodes) and bigger buffer sizes. Compare to Maxprop and proposed routing, the clustered proposed routing doesn't give the significant improvement. It is only improve 1,3% compare to Maxprop routing and 1% compare to proposed routing for overhead ratio.

Keywords: VANET, VDTN, Spray and Wait, Maxprop, Average Delay.