

Abstract

Each year about 1,3 millions peoples die because of traffic accidents around the world. These statistic makes traffic accident place as the fourth cause of mortality in the world. VANET is expected to be the solution to that problem. However, topology changes caused by rapid node mobility is on of VANETs characteristic. Therefore, proper routing protocol are needed to improve VANETs performance .

Ad Hoc on Demand Multipath Distance Vector (AOMDV) is one of reactive multipath routing protocol while Multipath Dynamic Address Routing (MDART) also one of multipath routing protocol but it's the proactive one. AOMDV and MDART been tested on MANET and both has better results compared to the existing routing protocol such as AODV, DSDV and others. However AOMDV and MDART has never been tested on VANETs environment. Simulations will be performed using NS2.34 and SUMO 0.12.3 with two main scenario environment that is urban and highway scenario environment. In each scenario also tested the influence of the number and speed of the node. Each scenario was tested for 180 seconds.

AOMDV routing protocol is always performs better than MDART on every scenario. MDART performance has decreased in VANET environment because of its proactive made the network's load higher so that the value of the routing overhead and end to end delay increased that causes decreased throughput and packet delivery ratio.

Keywords: AOMDV, highway, MDART, NS-2, urban, VANETs.