AODVLSR: AODV LIMITED SOURCE ROUTING PROTOCOL FOR VANETS IN CITY SCENARIOS

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ABSTRACT

Vehicular Ad hoc Network (VANET) is a new communication paradigm in the field of intelligent transport system that enables the communication between vehicles on the road network which falls in two categories: 1) Vehicle to Vehicle (V2V) and 2) Vehicle to Infrastructure (V2I). Various approaches of data dissemination in vehicular Network are used to inform vehicles about dynamic road traffic condition for achieving safe and efficient transportation system. Types of VANET applications and inherent characteristics such as unpredictable node density, high speed and constrained mobility of vehicles make data dissemination quite challenging and general purpose ad hoc network routing protocols cannot work efficiently with it. In this paper, we propose a routing protocol AODVLSR (AODV Limited Source Routing) that ensures giving timely and accurate information to drivers in V2V communication compare to AODV protocols in city scenarios of vehicular ad hoc networks. Proposed AODVLSR is defined as limited source routing up to two hops for network nodes. The performance of the proposed AODVLSR protocol is compared with basic AODV protocol in terms of Packet Delivery Ratio, Avg. End-to-End Delay, Dropped TCP Packets and Normalized Routing Load. Simulation results show that AODVLSR performs better than AODV protocol in given city scenarios of VANETs.

KEYWORDS: AODV, City Scenarios, Routing Protocols, Vehicular Ad hoc Network (VANET)