An Effective Routing Algorithm for V2V Communications in Urban Environment

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Abstract

In VANET, the routing is a difficult problem due to unpredictable nodes as vehicles movement and frequent network topology change. Therefore, the most important issue is to predict correctly the future movements of vehicles when selecting intermediate nodes. This paper proposes a Geography Movement Prediction Routing protocol (GMPR) for V2V communication in urban environment that combines vehicle's geography information and movement prediction. Theory analysis and experiments show that the proposed algorithm outperformed the conventional algorithms on the comparisons of packets delivery rate, average end-to-end delay and average number of hops.

Keyword: VANET, V2V, 802.11p, GMPR