Enhancing VANETs’ Routing Operation with the Route Lifetime Policy

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Abstract

Routing is continuous challenging issue in Vehicular Ad Hoc Networks (VANETs) given the intrinsic characteristics of these networks, especially limited resources and high mobility. Indeed, for any routing protocol to achieve acceptable network throughput performance it should adapt its operation to VANET high frequency topology change dynamics. In this paper an enhancement of such routing protocols is proposed using the Route Life Time (RLT) policy which purpose is to maintain the established route as long as possible in VANET likely dynamic environments. Indeed, the well-known VANET routing protocols AODV and DSR are enhanced to their respective versions baptized AODV-RLT and DSR-RLT. A realistic VANET model is defined for the purpose of simulation experiments and both single and a comparative evaluation of the proposals is performed. These experiments show that both of the AODV-RLT and DSR-RLT exhibit good performance as far as the network throughput was considered. The comparative study lightens that the DSR-RLT protocol overcomes the AODV-RLT to achieve a higher network throughput.
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References


Index Terms

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Keywords

Route Life Time (RLT), AODV-RLT, DSR-RLT.