





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Volume 8, Issue 2, November 2017, Pages 511-521**Performance enhancement of NEMO based VANET using localization router (LR) to reduce handoff delays** (Article)Rahman, S.M.E.  Anwar, F.  Hashim, A.H.A.  

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Abstract

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Vehicular Ad hoc networks (VANETs) combined with vehicle-to-vehicle and vehicle-to-infrastructure communications can be considered as the most suitable technology to enable ITS (Intelligent Transport System) application bestowed upon travellers with mobility, safety and productivity with human comfort. As a delay sensitive ITS application, handoff delays and packet losses are critical parameters for maintaining seamless connectivity in VANET solution. During handoff, when mobile node (vehicle) is acquiring new CoA (care of address), packets directed towards that node are lost; because its old identity is no more valid. So in high speed dynamic vehicular environment the number of frequent handoffs would produce delay beyond the normal limit. Therefore, it is very important to resolve the issues of handoff delay and packet losses in VANET environment. As a solution, a domain based RHD-NV (Reducing Handoff Delay in NEMO based VANET) scheme is proposed in this paper. Number of vehicles moving towards the road constructs a domain where network mobility NEMO-B5 protocol is applied. A vehicle is selected as MR (master router) and connected to the RSU (road side unit) to the internet and other vehicles in the domain work as LRs (localization router) and communicate through MR. Simulation tests performed in NS3 (network simulator) and MATLAB SIMULINK demonstrate that using LRs (localization router) in the domain, the number of handoffs and handoff delay are significantly reduced. © 2017 Institute of Advanced Engineering and Science. All rights reserved.

Author keywords

[Intelligent transport system](#) [NEMO](#) [V2I](#) [V2V](#) [VANEMO](#) [VANET](#)

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- 1 Mohammed, N., El-Moafy, S.M., Abdel-Mageid Marie, M.I. Mobility management scheme based on smart buffering for vehicular networks (2017) *International Journal of Computer Networks and Applications*, 4 (2), pp. 35-46. Cited 2 times.

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