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计算机科学

车载通信网的路由策略研究与仿真

马志欣 [1], 赵鼎新 [2], 谢显中 [2], 王昭然 [2]

1. 昌吉学院 计算机工程系, 新疆 昌吉 831100|2. 重庆邮电大学 个人通信研究所, 重庆 400065

摘要:

针对传统路由技术已不能适用于动态分布式网络（如车载通信网络）的现状, 提出一种基于DSR分层机制的移动代理路由策略（NCM-DSR）, 并将所提出的NCM DSR协议分别与加入移动代理的DSR协议（MA-DSR）和DSR协议进行比较. 仿真实验结果表明, NCM-DSR协议降低了端到端的传输时延, 进一步减少了路由请求次数, 包的提交率也有一定程度的提高, 更适于车载通信网的实时通信.

关键词： 车载通信网； 车载自组织网络 DSR协议； 移动代理； 群首

Routing Strategy and Simulation for Vehicle Communication Network

MA Zhi xin [1], ZHAO Ding xin [2], XIE Xian zhong [2], WANG Zhao ran [2]

1. Department of Computer Engineering, |Changji Institute, Changji 831100, Xinjiang Uygur Autonomous Region, China; 2. Institute of Personal Communication, Chongqing University of Posts and Telecommunications, Chongqing 400065, China

Abstract:

In view of purely adding mobile agent into demand routing protocol just taking up more bandwidth, increasing the cost of the system, and making the packet delivery ratio declined, the authors proposed a routing strategy with mobile agent based on hierarchical DSR (NCM DSR), and took computer simulation with the designed algorithm. The proposed NCM DSR protocol was compared with the multi agent based adaptive DSR protocol (MA DSR) and DSR protocol respectively. Simulation results show that NCM DSR protocol could reduce end to end transmission delay significantly, further cut down the number of routing requests, improving the submission rate to a certain extent. So this improved protocol is more suitable for real time communication vehicular communication networks.

Keywords: vehicle communications network vehicular ad hoc networks dynamic source routing protocol mobile agents cluster head

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通讯作者: 马志欣

作者简介:

作者Email: Xinzhi66@163.com

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