西南交通大学学报 2010, 45(1) 94-98 DOI: 10. 3969/.j issn. 0258-2724. 2 ISSN: 0258-2724 CN: 51-1277/U

论文

基于移动Agent的MANET多约束QoS路由算法

武汉数字工程研究所计算机网络安全中心,湖北武汉430074; 西安交通大学智能化网络与信息安全教育部重点实验室,陕西西安710049

摘要:

针对节点能量和可用带宽2个约束条件的问题,提出了一种基于移动Agent的QoS路由算法.该算法利用移动Agent采集网络中各节点的详细信息,以最大链路的生存时间作为选择路由的基础,增强了路径的稳定性;采用多路径策略,以缩短路由重构的时间;优先选择剩余能量多的节点,延长了网络的生存时间.利用网络仿真工具NS2进行的仿真实验结果证明,与AODV协议相比,该算法具有较高的包传输率和较低的端到端平均延时

关键词: 移动Agent QoS MANET(移动自组织网络)

Multi-constrained Routing Algorithm Based on M obile Agent forM obile Ad Hoc Networks

Center of Dependable and Secure Computing, Wuhan Digital Engineering Institute, Wuhan 430074, China;
Center for IntelligentNetwork and Information Security (CINIS), Xi an JiaotongUniversity, Xi an 710049, China

Abstract:

In order to solve the problem with the constraints of energy and available bandwidth, a routing algorithm based onmobile agentswas proposed. Itusesmobile agents to collect the information ofallmobile nodes. This algorithm has a strong routing stability because itselects linkswith the largest link expiration time. A multi-path strategy is adopted to reduce the time consumption of rerouting. Furthermore, the nodewithmore remaining batterywillbe first selected to extend the survival time of network. Experimentswere conducted with network simulatorNS2 to evaluate the performance of the proposed algorithm. The experimental results show that the proposed algorithm has a higher packet deliver ratio and a lower average end-to-end delay than the AODV (ad-hoc on-demand distance vector) routing.

Keywords: mobileAgent QoS (quality of service) MANET (mobile ad-hoc network)

收稿日期 2008-09-08 修回日期 网络版发布日期 2010-02-26

DOI: 10. 3969/.j issn. 0258-2724. 2

基金项目:

国家863计划资助项目(2007AA01Z464);国防科工委“十一五”预研计划资助项目(C0820061362);船舶工业国防科技“十一五”预研基金资助项目(06J3. 9. 4)

通讯作者:

作者简介:

参考文献:

本刊中的类似文章

1. 方旭明;张丹丹;朱龙杰.CDMA网络中基于QoS保证的呼叫接纳控制策略 [J]. 西南交通大学学报, 2006,41(6): 713-718

文章评论 (请注意:本站实行文责自负, 请不要发表与学术无关的内容!评论内容不代表本站观点.)

反馈人		邮箱地址	
反馈标题		验证码	7031