论文

基于动态规划法的无线Mesh网络QoS路由算法和性能评价

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摘要
该文针对时延敏感的多媒体业务吞吐率和传输可靠性的考虑，在无线Mesh网络中，引入动态规划和跨层设计方法设计QoS路由算法。在假设的网络模型上，提出了一个新的基于MAC层信息的综合凸规划路由准则，以及基于此实现的路由算法CPRMQS，详细给出了利用动态规划法解决路由优化问题的算法流程和样例分析。最后通过仿真验证了该算法的可行性，并给出了基于DSR扩展协议的性能评价，其中包括吞吐率和延时等性能。

关键词　无线Mesh网络　QoS路由　动态规划　跨层设计

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QoS Routing Algorithm and Performance Evaluation Based on Dynamic Programming Method in Wireless Mesh Networks

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Abstract
Focusing on throughput and transmission reliability of multimedia delay-sensitive traffic, the dynamic programming and cross-layer design methods are introduced to design QoS routing algorithm in wireless mesh networks. Moreover, a novel Convex Programming Routing Metric QoS (CPRMQS) routing algorithm is proposed as well as an integrated metric (CPRM) QoS model from MAC layer information based on the assumed network model, and then the steps and example using dynamic programming method are presented to solve routing optimization problem. Finally the feasibility of the proposed algorithm is verified with protocol simulation, and the performance evaluations of proposed protocol extended based on DSR are given, including throughput and delay etc.

Key words　WMN　QoS routing　Dynamic programming　Cross-layer design

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· 宋 文
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