

无线传感器网络的网络层服务质量的评价方法研究

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摘要：

提出了一种无线传感器网络的网络层服务质量的量化评价算法。该算法利用测试床对网络原始信息进行高效可靠的获取，通过统计对比测试床信息和汇聚节点信息，实现对丢包率、通信成功率、吞吐量和能量效率等指标的量化评价；根据丢包率和通信成功率建立二维云模型，实现对路由鲁棒性的量化评价。实验结果表明该评价算法可信有效，并且具有较好的易用性和可扩展性。

关键词：无线传感器网络；网络层；服务质量；量化评价

Research on Evaluation Method for Network Layer QoS in Wireless Sensor Networks

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Abstract:

A quantitative evaluation algorithm for network layer QoS in wireless sensor networks(WSNs) was proposed in this paper. The original information was collected reliably and efficiently by testbed, the evaluation index such as packet loss rate, success rate of communication, throughput and energy efficiency were evaluated quantitatively by comparing the information of testbed and sink node, a evaluation method of routing robustness based on two-dimensional cloud model was introduced. Experiment results show the evaluation method is credible and efficient, and proves its universality and scalability.

Keywords: wireless sensor networks; network layer; QoS; quantitative evaluation

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