



### 移动WiMAX网络下行链路TCP吞吐量公平性的跨层优化

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## Cross-Layer TCP Throughput Fairness Optimization for Downlink in Mobile WiMAX

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摘要

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摘要 该文提出了一种移动WiMAX网络中的TCP公平性跨层优化模型, 设计了基于此模型的cross-layer TCP改进协议。利用端节点链路层的速率信息和在基站BS(Base Station)处预分配ACK分组所需带宽的策略改善了下行终端的QoS (Quality of Service)指标, 保证了下行终端和上行终端的吞吐量公平性。仿真结果表明cross-layer-TCP改进协议能够在保持原有系统吞吐量的前提下改善下行终端的公平性。

关键词: 无线通信 跨层优化 移动WiMAX TCP 公平性

Abstract: A cross-layer TCP fairness optimization model in mobile WiMAX is proposed, under which a TCP protocol, cross-layer TCP, is designed. The rate information from link layer of the mobile nodes and the strategy of preallocation bandwidth for ACK packet at the base station are both used to improve the quality of service of the downlink nodes, which gives throughput fairness to the downlink nodes and the uplink nodes. Experiments show that cross-layer TCP protocol can improve the fairness of the downlink nodes under the same system throughput.

Keywords: Wireless communication Cross-layer optimization Mobile WiMAX TCP Fairness

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