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基于邻居集合的WiMAX网络带宽资源调度算法

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Abstract
In this paper, a concept of neighborhood for bandwidth allocation and a new bandwidth scheduling scheme are introduced based on two classical scheduling algorithms: round-robin and random choice. The proposed scheme first optimizes the bandwidth scheduling for a subset of Subscriber Station (SS), and then provides the optimal performance based on bandwidth scheduling for the whole WiMAX (world interoperability for microwave access) network, especially in the Mesh mode with step-wise approach. Extensive simulation results using NS2 show that the proposed scheme incurs a short delay and increases system throughput while using the network resource efficiently.

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摘要
在轮询带宽调度和随机带宽调度两种经典算法的基础上,提出了一种基于邻居集合的带宽资源调度算法来分析和优化WiMAX(world interoperability for microwave access)网络的带宽分配和调度过程.该算法通过使用邻居集合和优先列表,对网络中的用户站,尤其是对使用Mesh模式连接的用户站之间的带宽调度进行了优化,使无线网络的带宽资源能够在网络局部得到优化调度,以达到优化整个无线网络的带宽调度效率.NS2模拟结果表明,该算法具有更低的延迟和更高的吞吐量,能够更好地利用网络资源.

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