



RESEARCH ARTICLE

Ensuring QOS in WiMAX Networks

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Abstract— Quality of service (QoS) is a key metric for bandwidth demanding applications in WiMAX (IEEE 802.16 standard) networks. It is achieved through Bandwidth Reservation for each application. Existing solution use Priority based Scheduling Algorithm to ensure the QoS guaranteed services. Although it allows the Subscriber Station (SS) to adjust the reserved bandwidth via bandwidth requests in each frame, it cannot avoid the risk of failing to satisfy the QoS requirements. So earlier bandwidth recycling was developed to recycle the unused bandwidth, once it occurs. Besides the naive priority based scheduling algorithm, it uses three additional algorithms to improve the recycling effectiveness and thereby ensuring QoS. These various scheduling algorithms have brought some issues in terms of implementation complexity. So we propose to use a simple algorithm that could be implemented for uplink and downlink scheduling at the Base Station (BS) as well as for the uplink scheduling at the SS. The algorithm is based on a strict priority scheduling in which the highest service class will be served first. The simulation results show that our proposed algorithm improves the overall network throughput.

Full Text: <http://www.ijcsmc.com/docs/papers/July2013/V2I7201350.pdf>