

A Performance Analysis of Different Scheduling Schemes in WiMAX

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Abstract : One of the most aims of IEEE 802.16 (WiMAX) is to present high-speed wireless access to cover wide range coverage. The base station (BS) and the subscriber station (SS) are the main parts of WiMAX. WiMAX uses either Point-to-Multipoint (PMP) or mesh topologies. In the PMP mode, the SSs connect to the BS to gain access to the network. However, in the mesh mode, the SSs connect to each other to gain access to the BS. The main components of QoS management in the 802.16 standard are the admission control, buffer management, and packet scheduling. There are several researches proposed to create an efficient packet scheduling schemes. Therefore, we use QualNet 5.0.2 to study the performance of different scheduling schemes, such as WFQ, SCFQ, RR, and SP when the numbers of SSs increase. We find that when the number of SSs increases, the average jitter and average end-to-end delay is increased and the throughput is reduced.

Keywords : WiMAX, scheduling scheme, QoS, QualNet

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