

عنوان مقاله:

Bandwidth Allocation in WiMAX networks using Reinforcement Learning

محل انتشار:

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خلاصه مقاله:

An important problem for the WiMAX networks is how to provide a guaranteed quality of service for applications. A key aspect of this problem is how BSs should share bandwidth capacity between different classes of traffic. This decision needs to be made for each incoming packet, and is known as the packet scheduling problem. A major challenge in packet scheduling is that the behavior of each traffic class may not be known in advance, and can vary dynamically. In this paper, we describe how we have modeled the packet scheduling problem as an application for reinforcement learning (RL). We demonstrate how our RL approach can learn scheduling policies that satisfy the quality of service requirements of multiple traffic classes under a variety of conditions. The proposed solution has been designed to have an ability to accommodate integrated traffic in the networks with effective scheduling schemes. A series of simulation experiments have been carried out to evaluate the performance of the proposed scheduling algorithm. The results reveal that the proposed solution performs effectively to the integrated traffic composed of .messages with or without time constraints and achieves proportional fairness among different types of traffic

کلمات کلیدی:

,WiMax; schedulingAlgorithms; channel assignment ;802.16

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