Abstract

The IEEE 802.16 standard, which is called Worldwide Interoperability for Microwave Access (WiMAX) is a low cost solution for Internet access in metropolitan and rural areas; it provides both high throughput and large coverage broadband wireless access. Although it defines five service level classes to support real-time and bandwidth demanding applications, each class is associated with a set of Quality of Service (QoS) parameters. However, the standard does not specify which scheduling algorithm should be used to serve packets. Due to the wireless channel variability, scheduling mechanisms widely studied for wired networks are not suitable for IEEE 802.16 networks. In this paper, we introduce Deadline maximum Signal to Interference Ratio scheduler, which makes bandwidth allocation decisions based on information about the channel quality and deadline. Simulation results show the proposed approach gains more delivering packet and decreases the average end to end delay and improve the fairness index.

References

- IEEE 802.16e-2005, "IEEE Standard for Local and Metropolitan Area Networks –

- Po-Chun Ting, Chia-Yu Yu, and Naveen Chilamkurti, &quot;A Proposed RED-based Scheduling Scheme for QoS in WiMAX Networks,&quot; IEEE International Symposium on Wireless Pervasive Computing (ISWPC), February 2009.
- Z. Abate, &quot;WiMax RF systems engineering&,quot;, ARTECH HOUSE, Boston, 2009, pp. 68–73.
- Peng Wu, Tsung Tsa, Yung-Cheng Kao, Jenq-Neng Hwang, and Chung-Nan Lee,
An NS2 Simulation Module for Multicast and OFDMA of IEEE 802.16e Mobile WiMAX, unpublished.
- The Network Simulator (NS2), (http://www.isi.edu/nsnam/ns/).

Index Terms
Computer Science Wireless Communications

Keywords
Ieee 802. 16 WiMax Scheduling Qos Snr Ns-2