

COMPUTER SCIENCE SEMINAR SERIES

Department of Computer Science
City University of Hong Kong
(Departmental Seminar Seminar 2006/2007 - No 54)

Centralized Scheduling and Channel Assignment in Multi-Channel Single-Transceiver WiMax Mesh Network

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Date : 7 May 2007 (Monday)

Time : 5:00pm-5:40pm

Venue : CS Seminar Room, Rm Y6405, 6th Floor Yellow Zone, Academic Building, City University of Hong Kong, Tat Chee Avenue, Kowloon Tong.

Abstract

The IEEE 802.16a standard defines WiMax mesh network, using the base station (BS) as a coordinator for the centralized scheduling. We propose a centralized scheduling algorithm for WiMax mesh networks. In our scheme, each node has one transceiver and can be tuned between multiple channels, intending to eliminate the secondary interference for reducing the length of scheduling. We first study the problem when sufficient channels are supported, then extend our solution to the case with insufficient number of channels. Both the scheduling algorithm and the channel assignment strategies are included. The simulation results show that the multi-channel single-transceiver MAC can reduce the length of scheduling substantially as compared with the single channel system, and double channel may provide a performance similar to the multiple channels.

Supervisor: Dr. Weijia Jia (CS)

Research Interests: WiMAX, WiFi, bandwidth allocation & channel assignment in wireless networks

All are welcome!

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