

IEEE COMMUNICATIONS MAGAZINE
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FEATURE TOPIC:

WIRELESS BROADBAND ACCESS – WIMAX AND BEYOND

Recent developments on wireless communication technology have resulted in tremendous innovations to make wireless access networks able to replace the wired access networks with much more bandwidth. The IEEE 802.16d standard, which has been ratified in June 2004, has specified all the techniques needed at the physical layer, and the services that should be provided at the medium access control (MAC) layer in the WiMax systems. As a wireless access network, WiMax has shown great potential to provide broadband transmission services to the residential houses. The services include normal Internet access, data transmission, as well as voice and video transmission due to its broad bandwidth. With the support of mesh networking, WiMax systems can be easily configured as a wireless metropolitan area networks (WMAN). The IEEE 802.16e, which was officially approved in December 2005, has further enhanced the ability of WMANs with mobility support. The amended standard specifies the mobile WMANs for combined fixed and mobile broad bandwidth access supporting subscriber stations moving at vehicular speeds operating in licensed bands below 6 GHz. The IEEE 802.16e standard provides service providers the ability to offer a wide range of new and revolutionary high-speed, mobile wireless applications and services that will greatly improve people's way of life. It can be expected that with the mobile WMANs, much more flexibility and applications will be provided in our modern life to achieve the goal of accessing the global information at any place and at any time by any mobile device in the future. The significance of the WMAN development is obvious and huge.

The aim of this Feature Topic is to feature the recent advances in theory, application and implementation of WiMax networks including mobile WMANs. Articles as both research papers and tutorials from both academia and industry are solicited. Topics of interests include, but are not limited to:

- Enhancing techniques for the physical layer of WiMax systems
- QoS service enhancements for the medium access control layer
- Topology and architecture of WiMax mesh networks
- Medium access control and routing issues in WiMax mesh networks
- Introduction of mobile WMANs
- Security architectures and protocols for WiMax mesh networks and mobile WMANs
- Novel application and deployment scenarios
- Standardization activities
- Practical issues including performance measurements, deployment, field trials on scalability in dense areas, interference, coverage and mobility
- Comparative studies with other competing solutions such as IEEE 802.20 standard
- WiMax system design issues

SUBMISSION

Articles should be tutorial in nature and written in a style comprehensible to readers outside the specialty of the article. Mathematical equations should be minimal. Articles should not exceed 4500 words. Figures and tables should be limited to a combined total of six. Complete guidelines for prospective authors can be found at: http://www.comsoc.org/pubs/commag/sub_guidelines.html. Please submit PDF (preferred) or MSWORD formatted papers by the submission deadline to Manuscript Central (<http://commag-ieee.manuscriptcentral.com>). Register or log in to Manuscript Central, and go to the Author Center. Follow the instructions there, and select the feature topic "May 2007/Wireless Broadband Access". Questions should be directed to the guest editors.

SCHEDULE FOR SUBMISSION

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GUEST EDITORS

Dr. Mohsen Guizani,
Computer Science Department
Western Michigan University
USA
mguizani@cs.wmich.edu

Dr. Mounir Hamdi
Department of Computer Science
Hong Kong University of Science and Technology
Hong Kong
hamdi@cs.ust.hk

Dr. Pascal Lorenz,
University of Haute Alsace
France
lorenz@ieee.org

Dr. Maode Ma
School of Electrical and Electronic Engineering,
Nanyang Technological University
Singapore
emdma@ntu.edu.sg