Call for Papers

IEEE Transactions on Vehicular Technology

Special Section on Green Mobile Multimedia Communications

Scope

Recent ubiquitous deployment of mobile broadband devices and services has led to the explosive demands for mobile multimedia communications, which have significantly increased not only spectrum requirements but also energy consumptions. Currently, the telecommunications industry is responsible for about 2 percent of global CO_2 emissions, and it could increase to 4 percent by 2020 given the projected growth in mobile multimedia communications. This demonstrates an urgent need for energy-aware and spectrum-efficient technologies to achieve green mobile multimedia communications.

The broadband nature of mobile multimedia communications, combined with radio channel variations due to user mobility, brings many technical challenges to the delivery of satisfactory quality of service and quality of experience to mobile users. For a given performance requirement, there is a saturation point, where the energy consumption can no longer be reduced. For a fixed homogeneous network deployment, the performance saturation point is dictated by hardware performance; while for a flexible heterogeneous network deployment, the performance saturation point is dictated by the achievable capacity of the network architecture and transmission techniques. Moreover, traditional mobile communication networks are designed statically based on the "worst case" of all expected communication scenarios. Without considering the dynamic nature of channel conditions and user traffic demands, existing mobile communication networks often result in a very inefficient usage of the radio resources. For example, the conventional spectrum allocation approaches are not flexible enough to cope with the varying channel conditions and user demands. All these challenges have motivated comprehensive efforts from both industry and academia in designing new energy- and spectrum-efficient network architectures, protocols, algorithms and transmission technologies for green mobile multimedia communications.

The objective of this special issue is to cover the most recent research and development on the enabling technologies for green mobile multimedia communications and to stimulate discussions on state-of-the-art and innovative aspects in the field. This special issue is focused on energy and spectrum efficiency in mobile multimedia communications. Original and unpublished papers are encouraged.

Topics of Interest

- Energy-aware and spectrum-efficient transmission techniques for mobile multimedia communications

- Energy- and spectrum-efficient mobile multimedia systems
- Energy, spectrum and cost trade-off in the context of mobile multimedia communications
- Green cloud-based multimedia services
- Mobile system architecture design and performance analysis
- Cognitive and adaptive mobile multimedia systems
- Cooperative and relay technique in multimedia delivery
- Energy efficiency and power management for mobile multimedia communications
- Enabling technologies for emerging mobile multimedia systems (e.g. WiMAX, LTE-Advanced)
- Quality of experience (QoE) oriented resource allocation
- Cross-layer design for mobile multimedia communications
- Location based mobile multimedia services
- Handover in mobile multimedia communications

Submission Instruction

Authors should follow the IEEE TVT manuscript format and submission procedure, which can be found at the IEEE TVT home page (http://transactions.vtsociety.org/) under Information for Authors. We recommend a length of 20 pages in the TVT submission format (or 8 pages in final publication format) for regular papers submitted to this special section. Authors who need more space may submit papers of up to 35 pages as TVT policy allows, but extra page charges will apply (see TVT website for details). Prospective authors should submit a PDF version of their complete manuscript via the journal online paper submission system at http://mc.manuscriptcentral.com/tvt-ieee

Important Dates (tentative)

Manuscript Due:	August 1, 2013.
First Editorial Decision:	October 15, 2013.
Revised Manuscript Due:	November 15, 2013
Final Editorial Decision:	January 1, 2014.
Final Manuscript due:	February 1, 2014.
Publication:	2nd Quarter 2014.

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