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EDITOR'S NOTE

Open Call



Xuemin (Sherman) Shen

First, it is my great pleasure to introduce and welcome our new Associate Editor-in-Chief, Professor Nei Kato, from Tohoku University, Japan. He has made significant research contributions to computer and wireless networks. With his wealth of experience as an editor, Professor Kato will bring strong leadership and commitment to *IEEE Network*.

For the *IEEE Network* November/December 2014 issue, in addition to the Feature Topic on Unveiling 5G Wireless Networks: Emerging Research Advances, Prospects, and Challenges, we are also including six accepted open call articles.

The first article, "Cloud Computing Meets Mobile Wireless Communications in Next Generation Cellular Networks" by Yegui Cai *et al.*, studies the topology configuration and rate allocation problem in cloud radio access networks (C-RANs) with the objective of optimizing the end-to-end performance of mobile cloud computing (MCC) users in next generation cellular networks. The authors take a decision-theoretic approach to tackle the delayed channel state information problem in C-RANs. In addition, the response latency experienced by each MCC user is modeled as a constraint in the formulation.

Information-centric networking (ICN) is a new networking paradigm that makes content distribution and sharing more efficient and robust. To develop and evaluate diverse ICN protocols/applications, a large-scale and extensible testbed that enables realistic evaluation must be designed and deployed. The second article, "Container-Based Unified Testbed for Information-Centric Networking" by Hitoshi Asaeda *et al.*, proposes a container-based unified testbed for ICN named CUTEi, in which the lightweight virtualization Linux container (LXC) mechanism is employed for the testbed node.

The third article, "Toward Transcoding as a Service: Energy-Efficient Offloading Policy for Green Mobile Cloud" by Weiwen Zhang *et al.*, investigates an energy-efficient offloading policy for transcoding as a service (TaaS) in a generic mobile cloud system. Computation on mobile devices can be offloaded to a mobile cloud system that consists of a dispatcher at the front-end and a set of service engines at the back-end.

The fourth article, "Fiber and Wavelength Open Access in WDM and TWDM Passive Optical Networks" by Abhishek Dixit *et al.*, proposes novel architectures to support open access at the fiber and wavelength levels for WDM- and TWDM-PON. The authors compare the proposed architectures with regard to their cost and analyze the impact of adoption levels (percentage of users subscribed) and customer churn rate (how often the customers change network) on the cost of the architectures.

Bluetooth Low Energy (BT-LE) is a rapidly emerging ultra-low power radio technology expected to be incorporated in billions of Internet of Things (IoT) devices in the next few years. The fifth article, "Networking Solutions for Connecting Bluetooth Low Energy Enabled Machines to the Internet of Things" by Johanna Nieminen *et al.*, presents Internet connectivity solutions for BT-LE based on the ongoing standardization work in the Internet Engineering Task Force (IETF) and Bluetooth SIG (BT-SIG).

The sixth article, "Adaptive Multimedia Streaming in Information-Centric Networks" by Stefan Lederer *et al.*, investigates the implementation of adaptive multimedia streaming within networks adopting the ICN approach and presents an approach based on the recently ratified ISO/IEC MPEG standard dynamic adaptive streaming over HTTP (DASH) and the ICN representative, content-centric networking (CCN).

In closing, we would like to thank all the authors who have submitted their research papers to our Open Call. We would also like to acknowledge the contribution of Guest Editors, Associate Editors, and reviewers who have participated in the review process and provided helpful suggestions to the authors on improving the content and presentation of their papers. We hope you will enjoy reading the articles in this collection.