SPECIAL ISSUE ON

Collaborative Next Generation Networking

Overview:

To catch up with the ever-increasing communication needs, the past decades have witnessed a fast development in computer networks, in both core networks and access networks. Recently, a diversity of next-generation networking technologies, such as software-defined networking (SDN), network function virtualization (NFV) and cloud-radio access networks (C-RAN) have been proposed. Owing to the programmability and flexibility provided by these advanced technologies, various network elements and resources can be efficiently well scheduled to satisfy different communication needs. For example, by decoupling the control plane and data plane via SDN, network administrators can easily manage the flow routing as well as other in-network packet processing by setting appropriate rules on the routers. With centralizing baseband processing in C-RAN, cooperative spectrum allocation and sharing can be allowed among different users. In addition, flexible deployment of virtual network functions can be enabled by NFV.

However, by adopting these technologies, there are a lot of critical issues with respect to the collaboration happening between the network elements and various resources (e.g., computation resources, storage resources and energy resources). For instance, considering the coexistence of multiple heterogeneous radio access technologies (RATs), how these RATs cooperate with each other to promote each network's efficiency should be seriously studied. Furthermore, taking into account the deployment decision for big data processing, it shall be carefully considered in conjunction with the storage resource and computation resource allocation to handle big data efficiently. Therefore, it is significant to investigate the collaboration issue in next generation networks.

Topics

This special issue is to provide a forum for researchers from both academia and industry to share their latest achievements regarding collaboration in the next generation networks. This special issue invites original manuscripts with special focuses on the following topics, but not limited to:

- Future generation network architecture design
- Software-define networking
- Future generation network implementation and testing
- Cloud-radio access networks
- Network performance analysis

- Internet-of-things
- Network modeling, analysis and optimization
- Network function virtualization
- Access network optimization
- Cloud resource allocation and management for big data
- Network security, privacy and trust
- Heterogeneous radio access technologies
- Mobile offloading

Important Dates (Please kindly check the deadlines)

- **Manuscript submission deadline: 1 July 2018**

- Notification of acceptance: 1 Sept. 2018

- Submission of final revised paper: November 2018

- Publication of special issue (tentative): January 2019

Submission Procedure

This MONET Special Issue will publish XX selected high-quality extended papers from CollaborateCom 2017 (http://collaboratecom.org/2017/show/home) and from the open call-for-papers.

Authors should follow the MONET Journal manuscript format described at the journal site. Manuscripts should be submitted on-line through http://www.editorialmanager.com/mone/.

A copy of the manuscript should also be emailed to the Guest Editors at the following email address(es): zhangbing.zhou@gmail.com, hara@ist.osaka-u.ac.jp, yzhang@lincoln.ac.uk, dazzae@gmail.com, chunsheng.tom.zhu@gmail.com

Guest Editors:

Zhangbing Zhou, China University of Geosciences (Beijing), China & TELECOM SudParis, France
Takahiro Hara, Osaka University, Japan
Yu Zhang, University of Lincoln, UK
Deze Zeng, China University of Geosciences (Wuhan), China
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Short Bios of Guest Editors:

Dr. Zhangbing Zhou is a Professor at the school of information engineering, China University of Geosciences (Beijing), China, and an Adjunct Associate Professor at the computer science department, TELECOM SudParis, France. He received his Ph.D. from the Digital Enterprise Research Institute, National University of Ireland, Galway, Ireland. After receiving his Master of Engineering from the Institute of Automation, Chinese Academy of Sciences in Beijing, he worked as a software engineer at Huawei Technologies Co. Ltd. for one year, and was served as a Member of Technical Staff and a team leader at Bell Labs China, Lucent Technologies for five years. His research interests include process-aware information system, service-oriented computing, sensor network middleware etc. He has over 100 publication records. He is an associate editor of IEEE Access, and an editor of Journal of Network and Computer Applications. He has served as a general/program/publicity co-chair at over 10 international conferences. He has been anticipating in several national and European research projects.

Dr. Takahiro Hara received the B.E, M.E, and Dr.E. degrees from Osaka University, Osaka, Japan, in 1995, 1997, and 2000, respectively. Currently, he is a full Professor of the Department of Multimedia Engineering, Osaka University. He has published more than 350 Journal and international conference papers in the areas of databases, mobile computing, peer-to-peer systems, WWW, and wireless networking. He served and is serving as a General Chair of IEEE International Symposium on Reliable Distributed Systems (SRDS'14), International Conference on Mobile and Ubiquitous Systems: Computing, Networking and Services (Mobiquitous'16), and International Conference on Collaborative Computing: Networking, Applications and Worksharing (CollaborateCom'17). He served and is serving as a Program Chair of a large number of international conferences including IEEE International Conferences on Mobile Data Management (MDM'06 and 10) and Advanced Information Networking and Applications (AINA'09 and 14), Mobiquitous'13, IEEE SRDS'12, and International Conference on Big Data Analytics and Knowledge Discovery (DaWak'15 and 16). He served and is serving as a Program Committee Member of more than 200 international conferences including top-ranked ones such as WWW, CIKM, ICDCS, and MobiHoc. He guest edited IEEE Journal on Selected Areas in Communications, Sp. Issues on Peer-to-Peer Communications and Applications. His research interests include distributed databases, peer-to-peer systems, sensor networks, and mobile computing systems. He is a distinguished scientist of ACM, a senior member of IEEE, and a member of three other learned societies.

Dr. Yu Zhang has obtained her BSc degree from School of Aerospace Engineering and Applied mechanics, Tongji University, Shanghai, China, in 2004. She has finished her MSc degree and PhD degree from the Department of Civil Engineering, University of Nottingham, Nottingham, U.K. in 2005 and 2011 separately. She is currently a Senior Lecturer in the School of Engineering, University of Lincoln, Lincoln, U.K. Her research interests include Equipment Fault Detection and Diagnosis, Grey-box System Modelling, and development of Data Analysis and Machine Learning algorithms. Her recent major projects, including two Innovate UK projects, one international project with Guangdong University of Petrochemical Technology and one industrial project funded by Siemens, Germany, all focus on the areas of Data Analysis and Machine Fault Diagnosis.

Dr. Deze Zeng received his Ph.D. and M.S. degrees in computer science from University of Aizu, Aizu-Wakamatsu, Japan, in 2013 and 2009, respectively. He received his B.S. degree from School of Computer Science and Technology, Huazhong University of Science and Technology, China in 2007. He is currently an Associate Professor in School of Computer Science, China University of Geosciences, Wuhan, China. His current research interests include: network function virtualization, cloud computing, software-defined networking, wireless sensor networks, data center networking, networking protocol design and analysis. He has authored 1 book and over 70 papers in refereed journals and conferences in these areas. He serves in editorial boards of Journal of Network and Computer Applications. He is a member of IEEE.

Dr. Chunsheng Zhu received the Ph.D. Degree in Electrical and Computer Engineering from The University of British Columbia, Canada. He is currently a Postdoctoral Research Fellow in the Department of Electrical and Computer Engineering at The University of British Columbia in Canada. He was a visiting scholar in the Department of Information Technology at Uppsala University in Sweden, from July 2015 to August 2015. His current research interests mainly include wireless sensor networks, cloud computing, Internet of Things, social networks, and security. He has authored more than 100 publications accepted or published by refereed international journals, magazines and conferences. He is an Editor of EAI Endorsed Transactions on Industrial Networks and Intelligent Systems and a Guest Editor of IEEE Access. He serves/served as the Program co-chair/Track co-chair/Symposium co-chair/Special Session co-chair/Workshop co-chair/Publicity co-chair/Local co-chair of around 30 international conferences and the Co-chair/Program co-chair of around 5 international workshops. He was a reviewer of around 50 international journals/magazines and around 50 international conferences/workshops. He was awarded the Outstanding Service Awards from iThings/CPSCom/SmartData/GreenCom 2016, IEEE CloudCom 2015, and HPCC/UIC/ATC/FTDCS 2011. He is a recipient of the 2016 IEEE TCSC Outstanding Ph.D. Dissertation Award.