FOREWORD

Special Section on Internet Architectures and Management Methods that Enable Flexible and Secure Deployment of Network Services

It has attracted considerable attention to redesign the whole Internet architecture and management methods for enabling flexible and secure deployment of network services. This redesign includes a new cross-layer control framework that focuses on behaviors in the application layer and architectural consideration for various levels of virtualization techniques and new concepts such as SDN (Software-Defined Networking) and NFV (Network Functions Virtualization). The integration with information processing technologies is indispensable in order to tackle these complex situations. Furthermore, it will be applied for flexibly controlling ubiquitous environments that contain various kinds of mobile terminals and sensor nodes. In such environments, these frameworks for enabling network services should consider ever-changing security requirements.

Based on these activities, the editorial committee for the special section was organized to publish these new discussion items. After a careful discussion, the editorial committee has arranged two invited papers. The first invited paper surveys cache networks in content oriented networks, which change the fundamental abstraction of the current Internet architecture. The second invited paper proposes a design of real-time streaming data delivery over NDN (Named Data Networking), which is a challenging application and can use advantages of the NDN architecture. For the call for papers, 12 papers were submitted to this special section, and 7 of them were accepted for publication through the review process. The accepted papers include a wide variety of topics in the field of the Internet research. We believe that all these papers provide useful information to readers who are interested in this field and stimulate the future research activities of new Internet technologies.

Finally, the editorial committee would like to express their sincere appreciate to all authors for their valuable contribution and to all reviewers for their cooperation in completing the review process under the tight schedule.

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Osamu Akashi (NTT), Guest Editor-in-Chief

Osamu Akashi (*Member*)   is a senior research scientist in NTT Network Innovation Laboratories. He received BSc and MSc in information science from Tokyo Institute of Technology, in 1987 and 1989 respectively. He received a PhD degree in mathematical and computing sciences from Tokyo Institute of Technology in 2001. His research interests are in distributed systems, network architectures, and management models. He was a board member of JSSST (Japan Society for Software Science and Technology) from 2011 to 2015. He is a member of ACM, JSSST, and IPSJ.