
FOREWORD

Special Section on European ICT R&D Project Activities on Broadband Access Technologies in Conjunction with Main Topics of 2016/2017 IEICE ICT Forum

The ongoing development of virtual services, common broadband access to Internet resources and the dynamic growth of the Internet of Things impose upon researchers and engineers intensive work on devising new network technologies and services, and studying their influence on society.

The aim of this Special Section on European ICT R&D Project Activities on Broadband Access Technologies in Conjunction with the Main Topics of 2016/2017 IEICE ICT Forum was to present the recent advances in optical communication, resource management, security solutions, and analytical modelling and performance evaluation of multiservice networks.

The Section contains two invited papers and one regular, technical paper selected from 7 submissions in a strict review process. The first invited paper “*Overflows in multiservice systems*” provides a review of the current trends in modelling multi-service communication networks servicing elastic traffic streams. The authors, Mariusz Głabowski, Damian Kmiecik and Maciej Stasiak, also propose a new method of determining the basic characteristics of multi-service overflow systems. The analytical model is accompanied by a few numerical examples.

The second invited paper entitled “*Assessing Lightweight Virtualization for Security-as-a-Service at the Network Edge*” discusses the provisioning of virtualized security services in resource-constrained edge nodes by the use of virtualization technologies. The authors, Abderrahmane Boudi, Ivan Farris, Miloud Bagaa, and Tarik Taleb, pay special attention to the feasibility of container-based security solutions in a realistic testbed environment for a broad range of possible workloads. At the same time, they provide useful guidelines towards the orchestration of security at the network edge.

The technical paper “*Wide-Sense Nonblocking W-S-W Node Architectures for Elastic Optical Networks*” was written by Wojciech Kabacinski, Mustafa Abdulshaib and Marek Michalski. The authors propose six control algorithms for two switching fabric architectures.

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Piotr Zwierzykowski, Guest Editor-in-Chief

Piotr Zwierzykowski (*Senior Member*) received the M.Sc., Ph.D. and D.Sc. degrees in telecommunications at the Poznan University of Technology, Poland, in 1995, 2002, and 2015, respectively. Since 1995 he has been working in the Department of Electronics and Telecommunications, Poznan University of Technology. He is engaged in research in the area of routing and performance analysis of multiservice networks, and switching systems. Piotr Zwierzykowski is senior member of the IEICE, ACM and IEEE. Currently, he is Vice-Chair of IEICE Europe Section.

