

## NETWORK AND SERVICE MANAGEMENT



Aiko Pras



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This is the 16th issue of the series on Network and Service Management, which is typically published twice a year, from 2014 in January and July. In recent years it was published in July and December, but the December 2013 issue moved to January 2014 for “symmetry,” with a six-month interval between the two issues in the future. The series provides articles on the latest developments in this well-established discipline, highlighting recent research achievements and providing insight into both theoretical and practical issues related to the evolution of the discipline from different perspectives. The series provides a forum for the publication of both academic and industrial research, addressing the state of the art, theory and practice in network and service management.

During the Integrated Management Symposium (IM 2013) which was held in Ghent, Belgium in May 2013, elections for the next term of the IEEE Committee on Network Operations and Management were held. The previous committee included Dr. Marcus Brunner, NEC, Chair, Dr. Granville, UFRGS, Brasil, Vice Chair, Dr. Filip de Turck, Univ. of Ghent, Belgium, Technical Program Chair, and Brendan Jennings, Waterford Institute of Technology, Ireland, Secretary. The newly elected committee includes Dr. Granville, UFRGS, Brasil, Chair, Prof. Deep Medhi, Univ. of Missouri Kansas City, United States, Vice Chair, Dr. Filip de Turck, Univ. of Ghent, Belgium, Technical Program Chair, and Dr. Shingo Ata, Osaka University, Japan, Secretary.

Another important key event for both the network/service management but also the networking research community as a whole was the appointment of Prof. Aiko Pras of the University of Twente, Netherlands, as Chair of the entire IFIP TC6 Communication Systems, taking over from Prof. Guy Leduc of the University of Liege, Belgium. Professor Pras has also been chair of IFIP 6.6 Management of Networks and Distributed Systems since 2008.

You may note that Prof. Pras has also been a Co-Editor of this series since its inception.

The European Conference on Autonomous Infrastructure Security & Management (AIMS), which was established by the EMANICS and is now supported by the FLAMINGO network of excellence, continued running again last year, with its seventh instance (AIMS 2013) having taken place in Barcelona, Spain, June 25–28; <http://www.aims-conference.org/2013/>. The key annual event in this area, which this year was IM 2013; <http://www.ieee-im.org/2013/>. The second key annual event in this area was the fourth instance of the relatively new IFIP/IEEE Conference on Network & Service Management (CNSM 2013), which is organized in a single track and attended by the leading researchers in this area. As such it has become another flagship event, with the same format as, for example, ACM CoNEXT; as such, it complements IM and NOMS. CNSM 2013 took place in October in Zurich, Switzerland, and was a very successful event with a very high quality technical programme; <http://www.cnsm-conf.org/2013/>. Finally, the next key event in the community will be the IEEE/IFIP Network Operations and Management Symposium (NOMS 2014), which will take place 5–9 May 2014 in Krakow, Poland; <http://www.ieee-noms.org/2014/>.

It should be finally mentioned that a new European Network of Excellence project on the Management of the Future Internet started on November 1, 2012 and has completed its first year of work. The new project FLAMINGO will continue effectively the work that the EMANICS project (<http://www.emanics.org/>) did in the past; for an overview, see here: <http://fp7-flamingo.eu/>.

We again experienced overwhelming interest in the 16th issue, having received 22 submissions in total. For all the articles we got at least three independent reviews. We finally selected five articles, resulting in an acceptance rate

of 22.7 percent. It should be mentioned that the acceptance rate for all the previous issues has ranged between 14 and 25 percent, making this series a highly competitive place to publish. We intend to maintain our rigorous review process in future issues, thus ensuring the high quality of the published articles.

The first article, “Challenges to support Edge-as-a-Service” by Davy, Latre, Famaey, Serrat, Neves, Dramitinos, Hudibovnik, and Miron, introduces the edge as a service concept in order to harness virtualized network functions and resources, and break the tightly coupled relationship between operators and infrastructure, enabling new ways of generating revenue.

The second article in this feature topic, “The Fluid Internet: Service-Centric Management of a Virtualized Future Internet” by Latre, Famaey, De Turck, and Demeester, proposed a new management paradigm for the future Internet, adapting the delivery substrate to the dynamic requirements of services and users in a similar fashion to a fluid adapting to fit its surroundings.

The third article, “A Northbound Interface for Power Management in Next Generation Network Devices” by Bolla, Bruschi, Davoli, Donadio, Fialho, Collier, Lombardo, Reforgiato, Riccobene, and Szemethy, proposes a novel framework for energy management, the green abstraction layer, which defines a multi-layered interface where energy management actions are performed.

The fourth article, “Management Driven Hybrid Multicast Framework for Content Aware Networks” by Iorga, Pinto, Borcoci, Carneiro, Mirura, and Calcada, proposes a management-driven hybrid multicast solution that combines overlay multicast, IP multicast, and peer-to-peer communication modes based on light virtualization performed in the data plane.

Finally, the fifth article, “The Impact of Application Signaling Traffic on Public Land Mobile Networks” by

Choi, Heo, Silvester, Ahn, Yoon, and Kim, presents facts behind the increased signaling load in mobile networks and discusses activities to reduce application signaling traffic and the network load in 3G and LTE networks.

We hope that readers of this issue again find the articles informative, and we will endeavor to continue in the same direction, maintaining the high quality of all the issues so far that have made this series a very competitive place to publish. We would finally like to thank all the authors who submitted articles to this series and the reviewers for their valuable feedback and comments on the articles.

### BIOGRAPHIES

GEORGE PAVLOU ([g.pavlou@ucl.ac.uk](mailto:g.pavlou@ucl.ac.uk)) is a professor of communication networks in the Department of Electronic and Electrical Engineering, University College London, United Kingdom, where he coordinates research activities in networking and network management. He received a Diploma in engineering from the National Technical University of Athens, Greece, and M.Sc. and Ph.D. degrees in computer science from University College London. His research interests focus on networking and network management, including aspects such as traffic engineering, quality of service management, policy-based systems, autonomic networking, information-centric networking, and software-defined networks. He has been instrumental in a number of European and U.K. research projects that produced significant results with real-world uptake and has contributed to standardization activities in ISO, ITU-T, and IETF. He has been the Technical Program Chair of several conferences, and in 2011 he received the Daniel Stokesbury award for “distinguished technical contribution to the growth of the network management field.”

AIKO PRAS ([a.pras@utwente.nl](mailto:a.pras@utwente.nl)) is an associate professor in the Departments of Electrical Engineering and Computer Science at the University of Twente, the Netherlands, where he leads the Design and Analysis of Communication Systems Group. He received a Ph.D. degree from the same university for his thesis titled *Network Management Architectures*. His research interests include network management technologies, network monitoring, measurements, and security. He is chairing the IFIP Working Group 6.6 on “Management of Networks and Distributed Systems,” and is coordinating the new European Network of Excellence on “Management of the Future Internet” (FLAMINGO). He is a Steering Committee member of the IFIP/IEEE NOMS, IM, CNSM, AIMS, and FUNEMS Symposia, and has been the Technical Program Chair of several conferences, including IM 2005 and IFIP/IEEE Management Week 2009.