

TOPICS IN NETWORK AND SERVICE MANAGEMENT



George Pavlou

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This is the 12th issue of the series on Network and Service Management, which is typically published twice a year. It was originally published in April and October but since last year it is published in July and December. 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 12th Integrated Management Symposium (IM 2011), which was held at Trinity College Dublin, Ireland, last May, the new CNOM committee was elected after a call for nominations. The previous Chair, Dr. Marcus Brunner of NEC Europe, was re-elected, while the previous Vice Chair, Prof. George Pavlou of University College London, United Kingdom, stepped down after having served for a term of two years. The previous Technical Program Chair, Prof. Lisandro Granville of the Federal University of Rio Grande, Brazil, was elected as Vice Chair, while Dr. Filip de Turck of Ghent University, Belgium, was elected Technical Program Chair. Finally, the previous Secretary, Dr. Brendan Jennings of Waterford Institute of Technology, Ireland, was re-elected in this position. The new Chairs plan to continue the organization of successful events such as IM, NOMS, CNSM, and others. Key to the success of these events has been the good collaboration with the IFIP TC6 sister organization WG 6.6 whose Chair is Prof. Aiko Pras of the University of Twente, the Netherlands, with Co-Chair Dr. Olivier Festor of INRIA, France.

During the same Symposium (IM 2011) it was announced that Prof. Morris Sloman had been elected an IEEE Fellow. Prof. Morris Sloman is among the most influential researchers in our field, having established and provided seminal contributions in policy-based management, and is the current Editor-in-Chief of *IEEE Transactions on Network and Service Management* (TNSM). In addition, Prof. George Pavlou received the Dan Stokesberry Award. This award is given in memory of IM '97 Chair Dan Stokesberry at each IM Symposium to an individual who has made particularly distinguished technical contributions to the growth of the field. Professor Pavlou has contributed significantly in various areas, including most notably management protocols and quality of service

management. The previous recipients of the Dan Stokesberry award have been Robbie Cohen of AT&T (1997), Morris Sloman of Imperial College London (1999), Heinz-Gerd Hegering of the Ludwig Maximilian University of Munich (2001), Aurel Lazar of Columbia University (2003), John Strassner of Motorola Research (2005), Joe Hellerstein of Microsoft (2007), and Raouf Boutaba of the University of Waterloo (2009).

The European Conference on Autonomous Infrastructure Security & Management (AIMS), which was established by the EMANICS Network of Excellence, continued running this year with its fifth instance (AIMS 2011), taking place at Nancy, France, June 13–17; see <http://www.aims-conference.org/2011/>. The key annual event in this area, which this year was the 12th IEEE/IFIP Integrated Management Symposium (IM 2011), was held May 23–27 in Dublin, Ireland, see <http://www.ieee-im.org/2011/>. The second key annual event in this area was the second instance of the relatively new IEEE/IFIP Conference on Network & Service Management (CNSM 2011), which has become another flagship event, complementing IM and NOMS. This took place October 24–28 in Paris, France, and was extremely successful with some 200 attendees and a very high quality technical program; <http://www.cnsm2011.fr/>. It was also announced during this event that Prof. Raouf Boutaba of the University of Waterloo will step down as head of the Steering Committee of IM, NOMS, and CNSM, with Prof. James Hong of POSTECH, Korea, taking over this position.

We again experienced overwhelming interest in this 12th issue, receiving 28 submissions in total. For each of the articles we got at least three independent reviews. We finally selected four articles, resulting in an acceptance rate of 14.3 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 maintaining the high quality of the published articles.

The first article, “RESTful Web Services for Service Provisioning in Next Generation Networks: A Survey” by Belqasmi, Fu, and Glitho, introduces the concept of RESTful web services, provides an evaluation of their overall suitability for service provisioning in next-generation networks, discusses potential research directions, and finally highlights the issues

that still need to be addressed for such services to provide a viable and credible solution to service provisioning.

The second article, "Identity Management Directions in the Future Internet" by Lampropoulos and Denazis, addresses the interesting topic of the diversity of both user identities and identity related user data exchanged between users and services. It proposes a new distributed architecture to deal with the current solution for heterogeneity, called dynamic identity mapping. It also highlights the shortcomings of existing solutions through relevant use cases and shows how the proposed approach can address them.

The third article, "Scalable Service Deployment on Software Defined Networks" by Rubio-Loyola, Astorga, Serrat, Lefevre, Fischer, Paler, de Meer, and Galis, asserts that future networks will require a greater degree of service awareness and advocates the AutoI open software infrastructure, which enables fast composition of services and their execution in an adaptive manner, taking into account shared network resources provided through network virtualization.

Finally, the fourth article, "Protecting Video Service Quality in Multimedia Access Networks through PCN" by Latre, Roobroeck, Wauters, and De Turck, considers the pre-congestion notification (PCN) mechanism standardized by the IETF and discusses the implications of applying PCN to protect video services with not very predictable behavior by describing relevant algorithms, showing the impact of those algorithms and giving guidelines for PCN configuration.

We hope that readers of this issue find again the articles informative, and we will endeavor to continue with similar

issues in the future. 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@ee.ucl.ac.uk) is a professor of communication networks in the Department of Electronic and Electrical Engineering, University College London, 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 and quality of service management, policy-based systems, autonomic networking, content-centric networking, and management middleware. He has been instrumental in a number of European and U.K. research projects that produced significant results, and has contributed to standardization activities in ISO, ITU-T and IETF. He has been Technical Program Chair of several conferences, including IM 2001 and the 10th IFIP/IEEE International Conference on Management of Multimedia and Mobile Networks and Services.

AIKO PRAS (a.pras@utwente.nl) is an associate professor in the Departments of Electrical Engineering and Computer Science at the University of Twente, where he is currently leading 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 chairs IFIP Working Group 6.6, Management of Networks and Distributed Systems, and has been research leader in the European Network of Excellence on Management of the Internet and Complex Services (EMANICS). He is a Steering Committee member of the IFIP/IEEE NOMS, IM, CNSM and AIMS Symposia, and has been Technical Program Chair of several conferences, including IM 2005 and IFIP/IEEE Management Week 2009 (ManWeek2009).

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