George Pavlou *Aiko Pras*

TOPICS IN NETWORK AND SERVICE MANAGEMENT

This is the eighth issue of the series on Network and Service Management that is published twice a year, typically in April and October. This issue, however, is being published in July, having been delayed by three months for logistical reasons, and the next issue will be published in November. 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.

An important recent development in the community was the change of chairmanship in IFIP WG6.6, the working group on the Management of Networks and Distributed Systems. Prof. Raouf Boutaba of the University of Waterloo, Canada, stepped down as chair of IFIP WG6.6 after serving two terms of three years each. Under Raouf's active leadership, the flagship management conferences Integrated Management (IM) and Network Operations and Management Symposium (NOMS) became more valuable to the community, and previously self-standing events such as DSOM, MMNS, and IPOM got integrated into Manweek. In addition, the new *IEEE Transactions on Network and Service Management* (TNSM) was launched. After a call for nominations, Prof. Boutaba's tasks were collectively taken over by Dr. Aiko Pras of the University of Twente, Netherlands (Chair) and Dr. Olivier Festor of INRIA, France (Vice-Chair); you may note that Dr. Pras is also a co-editor of this series. The new chairs plan to continue the organization of successful events such as IM and NOMS, as well as smaller events such as DSOM, MMNS, and others. Key to the success of these events has been the good collaboration with the IEEE Communications Society sister organization the Committee on Network Operations and Management (CNOM). Under the leadership of the new chairs, this successful collaboration will be continued, as well as coordination and cooperation with other IFIP WGs.

Another important development for the community has been the completion of three and a half years of integration work of the European EMANICS project on Management of the Internet and Complex Services at the end of June 2009. This is a European Network of Excellence that brings together 13 research institutions active in the management of the future Internet. It encompasses work areas dealing with integration (long-term vision, virtual laboratory, and testbeds), dissemination (a new European conference, electronic dissemination, training and technology transfer, open source initiatives), and joint research activities (scalable, economic, and autonomic management). For more information, visit the project site: http://www.emanics.org/. You will also find there a newsletter with community news, events, and developments, which is published roughly three times a year. EMANICS has also established a European conference on Autonomous Infrastructure Security & Management (AIMS). The third AIMS conference is taking place in Twente, Netherlands, June 30–July 2, 2009, see http://www.aims-conference.org/2009/.

The key annual event in this area, which this year was the 11th IEEE/IFIP Integrated Network Management Symposium (IM 2009), was held June 1–5 on Long Island, New York; http://www.ieee-im.org/2009/. The second key annual event in this area is Manweek 2009, which brings together conferences and workshops such as DSOM, MMNS, and IPOM, and also MACE and NGNM. This year's Manweek will take place October 26–30 in beautiful Venice, Italy; http://www.manweek.org/2009/.

Finally, we should mention that this issue has invited articles addressing the management of the future Internet. Given that in the United States there are initiatives such as FIND and GENI, in Europe there is the Future Internet Assembly and the FIRE program, and in Japan there is NWGN, there is considerable current interest in

the future Internet and its management. Two of the four articles in this issue address future Internet management, and we expect more articles on this topic in the next issue.

We again experienced an overwhelming interest in the eighth issue, receiving 27 submissions in total (1 major revision and 26 new articles). For all the articles we got at least three and sometimes four independent reviews. We finally selected four articles, resulting in an acceptance rate of 14.8 percent. It should be mentioned that the acceptance rate for all the previous issues has ranged between 18 and 25 percent, making this series a highly competitive place to publish. We intend to maintain our rigorous review process in future issues, maintaining the high quality of the published articles.

The first article, "Network Virtualization: the Past, Present and Future" by Chowdhury and Boutaba, presents a survey of network virtualization techniques that allow multiple heterogeneous network architectures to coexist on the same physical substrate and examines relevant future challenges.

The second article, "Future Internet = Content + Services + Management" by Schoenwaelder, Fouquet, Dreo Rodosek, and Hochstatter, takes the view of a future Internet user who is more interested in services than the supporting protocols, derives relevant service and network management requirements, and discusses some of them in detail.

The third article, "With Evolution for Revolution: the FEDERICA Approach" by Szegedi, Figuerola, Campanella, Maglaris, and Cervello Pastor, discusses the FEDERICA infrastructure, which extends the virtualization capabilities of current software/hardware infrastructures in order to provide a flexible environment to host disruptive next-generation architectures.

Finally, the fourth article, "Managing Interdomain Traffic in Latin America: Facts and Perspectives" by Grampin, Gagliano, German, Castro, Masip-Bruin, and Yannuzzi, outlines one of the solutions for separation of the IP address space, the Locator/Identifier Separation Protocol (LISP), and examines its potential in terms of interdomain traffic management in Latin America.

We hope that readers of this issue find 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, United Kingdom, where he coordinates the activities of the Networks and Services Research Laboratory. 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 network management, networking, and service engineering, including aspects such as traffic engineering, quality of service management, policy-based systems, autonomic networking, multimedia service control, and communications middleware. He has been instrumental in a number of European and U.K. research projects, and has contributed to standardization activities in ISO, ITU-T, and IETF. He was the technical program co-chair of the Seventh IFIP/IEEE Integrated Management Symposium (IM 2001) and the Tenth IFIP/IEEE International Conference on Management of Multimedia and Mobile Networks and Services (MMNS 2008).

AIKO PRAS (a.pras@utwente.nl) is an associate professor in the Departments of Electrical Engineering and Computer Science at the University of Twente, Netherlands, and a member of 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, Web services, network measurements, and accounting. He is chairing IFIP Working Group 6.6, "Management of Networks and Distributed Systems," and is a research leader in the European Network of Excellence on "Management of the Internet and Complex Services" (EMANICS). He has also been contributing to research and standardization activities as a member of the Internet Research Task Force (IRTF) Network Management Research Group (NMRG). He was the technical program co-chair of the Ninth IFIP/IEEE Integrated Management Symposium (IM 2005) and is a Steering Committee member of the IFIP/IEEE NOMS and IM Symposia.