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TOPICS IN NETWORK AND SERVICE MANAGEMENT

This is the fourth issue of the Series on Network and Service Management that will be published twice a year, in April and October, from now on. 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.

In the last two editorials we mentioned that the recently established *IEEE Electronic Transactions on Network and Service Management (eTNSM)* journal had passed key IEEE approval stages, becoming a full fledged IEEE transactions journal from January 2007. The journal has published so far two issues per year; <http://www.comsoc.org/eTNSM>. The editorial of the second quarter 2006 issue states the following: “In the past few years we have witnessed a significant growth in the area of network and service management, yet at the same time we lacked a corresponding presence and visible venue in IEEE to publish high-quality papers in this area. *eTNSM* was established by the Communications Society in 2004 as an introductory initiative for timely electronic presentation of archival research on the management of networks, systems, services and applications, as well as on issues in communications software, service engineering, policies and business processes for network and service management. The success of the *eTNSM* trial encouraged the initiative toward a proposal for an IEEE transactions journal in this area. In June 2006, a new journal titled *IEEE Transactions on Network and Service Management (TNSM)* has gone through the last phase approval by the IEEE and will start as a full fledged IEEE Transactions in January 2007. This is an exciting event for the systems research community at large and for the network and service management community in particular!”

Another important development for the community has been, at the end of 2006, the completion of a year of integration work of the European EMANICS project on Management of the Internet and Complex Services. This is an

EU Network of Excellence that brings together 13 research institutions active in the area of network and service management. It encompasses work areas dealing with integration (long-term vision, virtual laboratory, and testbeds), dissemination (a new European conference, discussed later, 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 at <http://www.emanics.org/>. You will also find there a newsletter with community news, events, and developments, which is published three times a year. EMANICS has also established the new European conference Autonomous Infrastructure Security & Management (AIMS), which will take place at Oslo, Norway, 20–22 June, 2007, <http://www.aims2007.org/>; the proceedings will be published by Springer.

Finally, it is worth noting that the key annual event in this area, which this year is the 10th IEEE/IFIP Integrated Management Symposium (IM 2007), is to be held 21–25 May, 2007 in Munich, Germany. This includes a three-day symposium with technical paper, application, and panel sessions, and two days of tutorials by renowned experts in the field; <http://www.im2007.org/>.

We again experienced an overwhelming interest in the fourth issue, receiving 21 submissions. All these submissions were subject to three independent reviews, and we finally selected four articles, resulting in an acceptance rate of 19 percent. We intend to maintain our rigorous review process in future issues, thus maintaining the high quality of the published articles.

The first article, “Admission Control in Multiservice IP Networks: Architectural Issues and Trends” by Rito Lima, Carvalho, and Freitas, is a survey of the role of admission control in next-generation IP networks, presenting representative approaches. The architectural principles, main characteristics, advantages, and limitations of each approach are presented, followed by the identification of key design aspects for the successful deployment of flexible and scalable admission control solutions.

The second article, “Terminal-Controlled Mobility Management in Heterogeneous Wireless Networks” by Nguyen-Vuong, Agoulmine, and Ghamri-Doudane, pre-

sents a seamless terminal-controlled mobility management approach that does not require changes in the existing network infrastructure. A user-centric algorithm that enables the terminal to select a suitable network optimizing power consumption and cost, together with a suitably optimal handover process, is presented and evaluated.

The third article, "PS: A Policy Simulator" by Aib and Boutaba, presents a discrete-process-based simulation environment that tries to fill the current gap in the benchmarking of policy-based solutions. The main components of this policy simulator are presented together with a demonstration of how it has been used to evaluate the performance of a policy management solution for a Web application hosting service level agreement.

Finally, the fourth article, "How Not to Build a Performance Monitoring Agent" by Seligman, describes a number of problems related to the design of network performance monitoring SNMP management information bases. The article presents practices to avoid, such as the unnecessary use of gauges, data storage at the agent side, use of enumerated variables to model entity status, and accumulation of statistics for short-lived entities.

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@surrey.ac.uk) is a professor of communication and information systems at the Center for Communication Systems Research, Department of Electrical Engineering, University of Surrey, United Kingdom, where he leads the activities of the Networks Research Group. He received a Diploma in electrical and mechanical engineering from the National Technical University of Athens, Greece, and M.Sc. and Ph.D. degrees in computer science from University College London, United Kingdom. His research interests focus on network management, networking, and service engineering, including policy-based management, programmable networks, traffic engineering, multimedia service control, and object-oriented 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).

AIKO PRAS (pras@cs.utwente.nl) is an associate professor in the Departments of Electrical Engineering and Computer Science at the University of Twente, the 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 has participated in many European and Dutch research projects, such as SURFnet6 RoN, M2C, WASP, and Internet NG. He currently is research leader at the European Network of Excellence on Management of the Internet and Complex Services (EMAN-ICS). He has also contributed to research and standardization activities as a member of the Internet Research Task Force (IRTF) Network Management Research Group. He was the technical program co-chair of the Ninth IFIP/IEEE Integrated Management Symposium (IM 2005).

IEEE COMMUNICATIONS MAGAZINE CALL FOR PAPERS NETWORK & SERVICE MANAGEMENT SERIES

IEEE Communications Magazine publishes the Series on Network and Service Management twice a year, in April and October. The Series provides articles on the latest developments in this well-established and thriving discipline. Published articles are expected to highlight recent research achievements in this field and provide insight into theoretical and practical issues related to the evolution of network and service management 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. Both original research and review papers are welcome, in the style expected for IEEE Communications Magazine. Articles should be of tutorial nature, written in a style comprehensible to readers outside the speciality of Network and Service Management. This series therefore complements the IEEE Electronic Transactions on Network & Service Management (eTNSM). General areas include but are not limited to:

- * Management models, architectures and frameworks
- * Service provisioning, reliability and quality assurance
- * Management functions
- * Management standards, technologies and platforms
- * Management policies
- * Applications, case studies and experiences

The above list is not exhaustive, with submissions related to interesting ideas broadly related to network and service management encouraged.

IEEE Communications Magazine is read by tens of thousands of readers from both academia and industry. The magazine consistently ranks among the top telecommunications journals according to the ISI citation database. The published papers will also be available on-line through Communications Magazine Interactive, the WWW edition of the magazine. Details about IEEE Communications Magazine can be found at <http://www.comsoc.org/ci/>.

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