INTRODUCING THE SERIES ON NETWORK AND SERVICE MANAGEMENT

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This is the first issue of a new series on Network and Service Management that will be published twice a year. The series intends to provide articles on the latest developments in this well established and thriving discipline, highlighting recent research achievements and providing insight into both theoretical and practical issues related to the evolution of this discipline from different perspectives. The series will provide 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.

A number of key conferences and workshops exist in this discipline: Integrated Management Symposium (IM), Network Operations and Management Symposium (NOMS), Distributed Systems Operations and Management Workshop (DSOM), Management of Multimedia Networks and Services Workshop (MMNS), and IP Operations and Management Workshop (IPOM), all sponsored by IEEE. In addition, two archival journals exist, the recently established *IEEE Electronic Transactions on Network and Service Management* (*eTNSM*) and the *Kluwer Journal of Network and System Management* (*JNSM*) that has been going for more than a decade. This series will publish articles of a tutorial nature written in a style comprehensible to readers outside this discipline; as such, it will complement the existing conferences and journals in this area.

Network and service management is an evolving discipline, covering both operation, administration, maintenance, and provisioning (OAM&P) aspects of networks and computing infrastructures, and adaptive control functionality built into the managed elements themselves; the latter is becoming more and more important in emerging self-managed ubiquitous communications and computing environments. General areas addressed by network and service management include, but are not limited to: management models, architectures, and frameworks; network and service provisioning; service reliability, and quality assurance; management standards, technologies, and platforms; policy-based management; and applications, case studies, and experiences.

We experienced overwhelming interest in the first issue, receiving 21 submissions overall. All these submissions were subject to three independent reviews, and we finally selected four articles, resulting in an acceptance rate of 19 percent. We plan to maintain this high quality in the future, publishing only articles that make it through our rigorous review process. The resulting articles cover a number of areas, from management frameworks to specific case studies.

The first article, "Managing Computer Networks Using Peer-to-Peer Technologies" by Granville, Rosa, Panisson, Melchiors, Almeida, and Tarouco, looks at the potential impact of peer-to-peer technologies on management frameworks as an alternative to improve current solutions. Peer-to-peer networks are used to support flexible interdomain management systems; three relevant examples are presented.

The second article, "Policy-Based Management of Networked Computing Systems" by Agrawal, Lee, and Lobo, provides an overview of a platform for policy-based management of autonomic computing systems. The policy information model, and the main platform components for policy creation, storage, and enforcement are presented, along with relevant management applications.

The third article, "Virtual Network Approach to Scalable IP Service Deployment and Efficient Resource Management" by Cheng, Farta, Tizghadam, Kim, Hashemi, Leon-Garcia, and Hong, presents a virtual-network-based architecture with efficient bandwidth sharing between virtual networks, where the bandwidth sharing is service level agreement (SLA)-based.

Finally, the fourth article, "Monitoring IP Multicast in the Internet: Recent Advances and Ongoing Challenges" by Sarac and Almeroth, considers the key issues behind multicast service management, in particular the challenges of interdomain management, presenting recent advances and outlining existing challenges for global multicast service deployment and management.

We hope 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 Electronic 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 technical program co-chair of IM 2001.

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