The IADIS International Conference Telecommunications, Networks and Systems 2007 was held in Lisbon, Portugal, 3-5 July, 2007.

The IADIS Telecommunications, Networks and Systems 2007 Conference covered theory, design and application of computer and telecommunication networks and systems. During recent years there has been an impressive increase in the use of networked applications and networks are now key resources in any information system configuration. Wireless and fixed-line networks complemented by a growing range of mobile devices are having a significant impact on the way we run our lives and our businesses.

This Conference provided an international meeting for academic researchers and industry practitioners to share and exchange their experiences, discuss challenges and present original ideas in all aspects of networks, telecommunications and systems. We welcomed research papers which dealt with specific networked application issues, telecommunications and networking research problems and implementation or case study reports. It offered an opportunity to discuss ideas about newly emerging systems, protocols, standards, services and applications in the area of telecommunications and networking.

This year Conference received 55 submissions from more than 19 countries. Each submission had been anonymously reviewed by an average of four independent reviewers, to ensure the quality of the accepted submissions. Hence only 11 full papers were approved which meant an acceptance rate of 20 %. A few more papers were accepted as short papers, reflection papers and posters. An extended version of the best papers was published in a special issue of the IJBDCN - International Journal of Business Data Communications and Networking (ISSN: 1548-0631), and in the IADIS International Journal on Computer Science and Information Systems (ISSN: 1646-3692).

The submissions were accepted under the following main areas:

- Adoption and diffusion of networking technologies
- Business applications of telecommunications
- Cross-border network-based information systems
- Design and performance evaluation of new network application and systems
- Designing, deploying and using networked systems in specialized sectors (i.e. Health, Education, Manufacturing)
- Effects of legislation and regulation on telecommunications
- Emerging networking trends
- Frameworks for wireless security
- Grid, Cluster and Internet Computing
- Internetworking Protocols
- Location- and context-aware distributed systems
- Management of telecommunications in organizations
- Mobile computing, mobile networks, and mobile agents
- Mobility and m-commerce issues
- Network management contingency issues
- Network Performance Analysis and Evaluation
- Network pricing issues and strategies
- Networking: architectures, services, routing, and applications
- Outsourcing of networking and data communication services
- Peer-to-Peer (P2P) Systems
- Policy-based network management systems
- Policy-based security systems
- Quality of Service issues associated with networked systems
- Security of interconnected systems
- Sensor, mesh, and ad hoc networks
- Standards and network interoperability issues
- Strategic use of networking technologies
- Success factors of networked systems
- Pervasive Computing Environments
- Telecommuting, remote access and Virtual Private Networks
- Use of distributed services over wireless networks
- Wireless and Mobile Networking and Computing

The Conference included the presentation of full papers, short papers, reflection papers and posters and also a tutorial by Professor J. P. Shim, Mississippi State University, USA.

Conference Tutorial:

CELLULAR TV AND EMERGING ISSUES IN WIRELESS MOBILE ENVIRONMENT by Professor J. P. Shim, Mississippi State University, USA

Abstract:

The trend of mobile wireless technologies is the convergence of multiple devices into one single device. A single device can contain any or all of the following components, such as cellular phone functionalities, digital camera, video recording, MP3 player, mobile cellular TV services (which include digital multimedia broadcasting [DMB], digital video broadcasting-handheld [DVB-H], and MediaFLO). The speaker will also deliver talks on evolution and emerging issues in mobile wireless networks.

This session will cover the following topics:

Current status of mobile wireless technologies
Current status of digital mobile broadcasting
Digital TV transmission standards
Empirical Findings - research methodology (qualitative and quantitative analyses); data analysis; and findings
Implications and the future of wireless mobile technology
Evolution and emerging issues in mobile wireless networks

Conference Best Papers:

- PROVIDING QUALITY-OF-SERVICE SUPPORT TO LEGACY APPLICATIONS USING MACHINE LEARNING by Isara Anantavrasilp, Technische Universität Dresden, Germany and Thorsten Schöler, Siemens AG, Germany
Abstract:

Quality-of-Service (QoS) support is an essential feature in recent and upcoming networking standards. Applications running on these networks can specify appropriate service classes for their connection flows so that the flows are treated accordingly. However, current internet applications (legacy applications) cannot benefit from this facility as they are designed using the best-effort scheme. Effective QoS support to applications with unspecified service classes can be provided through our proposed intelligent QoS Manager.

This paper describes the important features that can be used to determine service classes and discusses how machine learning can be incorporated into a QoS Manager, enabling it to distinguish different types of application flows and assign them appropriate service classes. Experiments using 10-fold cross-validation (CV), 33% hold-out (HO) and the learner's specific features lead to the selection of PART (Frank & Witten, 1998) as the classifier of the framework. It achieves 91.55% and 93.29% prediction correctness in CV and HO experiments respectively.

- REMBASSY: OPEN SOURCE TOOL FOR NETWORK MONITORING by Vreixo Formoso, Fidel Cacheda, Víctor Carneiro and Juan Valiño, Universidad de A. Coruña, Spain

Abstract:

Monitoring systems are an essential element in the management of information systems. However, in the context of Open Source, existent monitoring systems have not yet obtained the necessary level of maturity and professionalism. In this paper, the limitations of the current tools are analyzed, and a new architecture is developed, which in our opinion resolve the principal existing problems. The system which is presented incorporates important improvements, such as a centralized configuration via web, support for monitoring templates, a hierarchical structure of objects in which its design or flexibility is based, and support for centralized and distributed monitoring schemes. Its extension system, based on plug-ins, is especially innovative for its power and simplicity. Finally, this article studies its use in an authentic environment, which makes it possible to verify the importance of the improvements that have been developed.


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