

Proposal for a journal special issue on Middleware and Network Applications

Based on best papers presented at the Second International Symposium on Middleware and Network Applications (mna2011.middleware-tech.net) to be held in April 2011 in Las Vegas, USA in conjunction with ITNG 2011

We would like to organize and co-edit a special issue in your journal covering the area of middleware technologies and network applications. The main target is to gather quality research contributions in the most recent advancements in middleware approaches to facilitate and add value to network applications.

Guest Editors:

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Overview of the Symposium:

With the recent advances in network technologies, there has been a growing interest in new network applications such as cloud applications, ubiquitous applications, and sensor applications. The development of these applications is usually not trivial and faces a number of challenges. These challenges are relaxed with the existence of enabling techniques such as advanced middleware services. Middleware technologies had evolved tremendously over the past decade from simple support techniques for applications integration to a field of its own. The latest advances and innovations in middleware research, design and utilization highlighted great expansion of the middleware field.

This symposium is designed to combine the network applications and middleware development communities to discuss and highlight the latest advancements in both network applications and enabling middleware technologies. Original work and contributions in network applications and middleware concepts, design, implementation, deployment, and evaluation are sought.

Topics:

Topics of interest included, but are not limited to, the following:

Middleware Issues:

- Social-aware middleware
- Power-aware middleware

- Security middleware
- Event-based, publish/subscribe, and message-oriented middleware
- Reconfigurable, adaptable, and reflective middleware approaches
- Middleware solutions for reliability, fault tolerance, and quality-of-service
- Scalability of middleware
- Context-aware middleware
- Autonomic and self-managing middleware
- Evaluation techniques for middleware solutions
- Formal methods and tools for designing, verifying, and evaluating middleware
- Software engineering techniques for middleware
- Service oriented middleware
- Agent-based middleware

Domain-Specific Middleware:

- Middleware for web services
- RFID and sensor networks middleware
- Nano-middleware
- Middleware for cluster, grid, and cloud computing
- Middleware for ubiquitous and mobile computing
- Middleware solutions for large scale distributed databases
- Middleware for robotics
- Middleware for WiMax and mesh networks
- Smart spaces middleware
- Middleware for personal area network
- Application servers
- Vehicular systems middleware

Network Applications:

- Body and Personal Area Network Applications
- Cloud applications
- Emergency responses networked systems
- Ubiquitous and pervasive applications
- Collaborative applications
- RFID and sensor network applications
- Ultra-wideband applications
- Mobile applications
- Smart home applications
- Infrastructure monitoring and control applications
- Remote health monitoring
- GPS and location-based applications
- Networked vehicles applications
- Alert applications

Network Applications Issues:

- Application specific protocols
- Network applications management

- Network-based automation
- Critical infrastructure networks
- Fault-tolerance for network applications
- Real-time issues for network applications
- Industrial networks
- Network support for multi-player gaming
- Highly available networks
- Networks for grid and cluster computing
- Software engineering for network applications
- Social networks

In 2009 we organized a special track on middleware as part of the ITNG 2009 conference in Las Vegas, USA and it was very successful. In 2010 we held our first Symposium on Middleware and Network Applications (MNA 2010) also in conjunction with ITNG 2010 in Las Vegas. MNA 2010 was a success with an international technical program committee and excellent submissions. Along with the symposium we organized a special issue in The Journal of Software and invited the authors of the best accepted papers in the symposium to submit extended versions for publication. This issue is currently at the final publication stage with 6 accepted papers.

This year we have an expanded technical program committee from around the world representing both academia and industry. We also expect a high number of quality submissions. Our target is to select the best quality contributions from this symposium and invite the authors to submit extended versions of their work for review for the special issue. These re-submissions will go through the journal-level review and around four papers will be accepted for publication in the special issue.

The symposium will be held in April 2011 and we will include the information about the special issue as part of the symposium's call for paper. Soon after the symposium presentations, we will invite the authors of selected symposium papers to submit their extended versions. The tentative timeline would be as follows:

Invitation for symposium selected papers: April 15, 2011

Submission deadline: May 31, 2011

Reviews due: June 30, 2011

Submission deadline for revisions: July 31, 2011

Final decision: August 31, 2011

Publication: Soon after

**List of potential reviewers from MNA 2011 technical program committee
(Additional reviewers may be added later):**

Habtamu Abie, Norwegian Computing Center, Norway

Faheem Ahmed, UAEU, UAE

Hend S. Alqamzi, UAEU, UAE

Bassel Arafeh, Sultan Qaboos University, Oman
Wan D. Bae, University of Wisconsin-Stout, USA
Janaka Balasooriya, Arizona State University, Tempe, USA
Doina Bein, The Pennsylvania State University, USA
Paolo Bellavista, University of Bologna, Italy
Chiara Boldrini, IIT-CNR, Italy
Bo Cheng, Beijing University of Posts and Telecommunications, China
Gabriele D'Angelo, University of Bologna, Italy
Akshay V. Dabholkar, Vanderbilt University, USA
Franca Delmastro, IIT-CNR, Italy
Thomas DuBois, The Boeing Company, USA
Badidi Elarbi, UAEU, UAE
Gledson Elias, Federal University of Paraíba, Brazil
Homam Reda El-Taj, Universiti Sains Malaysia, Malaysia
Mohammed Erradi, Mohamed V Souissi University, Morocco
Filippo Gandino, Politecnico di Torino, Italy
V́ctor Manuel Álvarez García, University of Oviedo, Spain
Laurent Gomez, SAP Research, France
Ian Gorton, Pacific Northwest National Lab, USA
Sven Graupner, Hewlett-Packard Laboratories, USA
Abdelhakim Hafid, University of Montreal, Canada
Asrar Haque, King Faisal University, Saudi Arabia
Philip Hartman, IBM Global Business Services, USA.
Wouter Horré, K.U. Leuven, Belgium
I-Ching Hsu, National Chung-Hsing University, Taiwan
Sajid Hussain, Fisk University, USA
Danny Hughes, Xi'an Jiaotong-Liverpool University, China
Christophe Huygens, K.U. Leuven, Belgium
Hamidah Ibrahim, Universiti Putra Malaysia, Malaysia
Nader Kesserwan, UAEU, UAE
Panayiotis Koutsabasis, University of the Aegean, Greece
Masaud Jahromi, Ahlia University, Bahrain
Imad Jawhar, UAEU, UAE
Fang-Yie Leu, TungHai University, Taiwan
Xuli Liu, University of Nebraska Kearney, USA
M-Puerto Paule, University of Oviedo, Spain
Dennis Pfisterer, University of Luebeck, Germany
Luís Ferreira Pires, University of Twente, Netherlands
Praveen Madiraju, Marquette University, USA
Kami Makki, Lamar University, USA
Sadananda Narayanappa, Jeppesen, A Boeing Company, USA
Mais Wasef Nijim, USA
Tomi Rätý, VTT Technical Research Centre of Finland, Finland
Maytham Safar, Kuwait University, Kuwait
Reijo Savola, VTT Technical Research Centre of Finland, Finland
Mohamed Adel Serhani, UAEU, UAE

Yicong Zhou, Tufts University, USA
Yifeng Zhu, University of Maine, USA

Biographical Information of the Guest Editors:

Nader Mohamed is an associate professor at The Faculty of Information Technology, United Arab Emirates University, Al-Ain, UAE. Before that, he was an assistant professor of Computer Engineering at Stevens Institute of Technology in New Jersey, USA. He worked at the University of Nebraska-Lincoln as a research assistant from May 2001 to May 2004 in National Science Foundation (NSF) supported research and development projects. His current professional interest focuses on communication software and middleware, sensor networks, Internet computing, and cluster, Grid and cloud computing. His research was published in prestigious international journals such as IEEE Transactions on Parallel and Distributed Systems (TPDS), Journal of Network and Computer Applications (JNCA), Journal of Computer Communications, Journal of Parallel and Distributed Computing (JPDC), International Journal of High Performance Computing Applications, and IEEE Distributed Systems Online. He has 8 years of industry experience in the middleware field as IT Consultant and IT projects leader. He obtained his Ph.D. in Computer Science from The University of Nebraska-Lincoln, Nebraska, USA in 2004. In addition, He obtained The American Management Association's Certificate in Business Management for IT and Technical Professionals, New York, USA.

Jameela Al-Jaroodi received her Doctor of Philosophy degree in Computer Science from the University of Nebraska-Lincoln, USA, 2004. Since August 2006, she has been with the College of Information Technology, at the United Arab Emirates University, UAE as an Assistant Professor. Prior to joining UAEU, Dr. Al-Jaroodi was a research assistant professor at Stevens Institute of technology in New Jersey, USA. Currently, her research interests involve middleware, distributed collaborative systems, information systems, and mobile and pervasive computing. Her research generated over 60 refereed articles in international Journals and conferences such as Journal of Network and Computer Applications (JNCA), Concurrency and Computation: Practice and Experience, IEEE Transactions on Distributed Systems, and IEEE International Conference on Cluster Computing. Dr. Al-Jaroodi received the Research Excellence Grant from Sun Microsystems, Inc. In addition, several areas of her research were also supported by the United States National Science Foundation (NSF), Nebraska Foundation, and the National Center for Information Technology in Education (NCITE).