

CALL FOR PAPERS

The 3rd International Conference on *Self-Organization and Autonomous Systems in Computing and Communications (SOAS 2007)*

September 24-27, 2007, Leipzig, Germany

As a part of the *SABRE* event
(Software Agents and Services for Business, Research, and E-Sciences)

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PROGRAM COMMITTEE

(to be announced)

Technical Sponsorship:

System and Information Sciences
Notes (SISN Journal)

Technical Co-Sponsorship:

IEEE Systems, Man, and
Cybernetics Society (*Pending*)
<http://www.ieeesmc.org/index.html>



Important Dates:

Submission: 21 May 2007
Author notification: 18 June 2007
Invited-sessions,
Tutorials, or Panels: 18 June 2007
Final version: 16 July 2007

Today's IT systems with its ever-growing communication infrastructures and computing applications are becoming more and more large in scale, which results in exponential complexity in their engineering, operation, and maintenance. Conventional paradigms for run-time deployment, management, maintenance, and evolution are particularly challenged in tackling these immense complexities. Recently, it has widely been recognized that self-organization and self-management/regulation offer the most promising approach to addressing such challenges. Consequently, a number of autonomic/adaptive computing initiatives have been launched by major IT companies, like IBM, HP, and others.

Self-organization and adaptation are concepts stemming from the nature and have been adopted in systems theory. Since computing and communication systems are basically artificial systems, this prevents conventional self-organization and adaptation principles and approaches from being directly applicable. Complexity attributes in terms of openness, scalability, uncertainty, discrete-event dynamics, etc. have varied contexts in large-scale complex IT systems, and are too prominent to be solved by the procedures pre-defined at design-time. Rather, they have to be tackled by means of run-time perception of the complexity patterns and the run-time enforcement of self-organization and adaptation policies. The current knowledge about large-scale complex IT systems is still very limited, and a framework has yet to be established for their self-organization and adaptation.

The methodology of multi-agent systems and the technology of Grid computing have shed lights for the exploration into the self-organization and adaptation of large-scale complex IT systems. Essentially, multi-agent systems provide a generic model for large-scale complex IT systems. Exploring and understanding the self-organization and adaptation of multi-agent systems is of profound significance for engineering the self-organization and self-management/regulation of large-scale complex IT systems comprised of communication infrastructures and computing applications. A Grid computing system exposes all the complexity attributes typical of large-scale complex IT systems. Investigating the self-organization and autonomic systems for Grid computing has remained a huge challenge.

To respond to the challenge above, apparently there is the urgency to have a focal forum to exchange and disseminate the state-of-the art developments from different disciplines.

The SOAS'2007 conference right aims to provide a timely forum to present the latest theoretical and practical results on Self-Organization and Autonomous Systems in Computing and Communications that have been arising in recent years in the areas.

SCOPE

Papers are sought on theory, methodologies, technologies, and implementations concerned with innovations in Multi-agent Systems, Grid Computing, Transactional environments and Communications in the area of autonomic and autonomous computing. SOAS'2007 main topics:

- Principles and Methodologies for Self-Organization and Adaptation
- Self-Organization/Adaptation of Multi-Agent Systems
- Self-Organizing/Autonomic Grid
- Adaptive Transactional Environments
- Autonomic Computing in General
- Autonomic Communications

PAPER SUBMISSIONS AND PUBLICATION

All manuscripts will be reviewed and judged on merits including correctness, originality, technical strength, quality of presentation, and relevance to the conference themes. Submitted papers must include original work, and may not be under consideration for another conference or journal.

Submitted manuscripts should not exceed 20 double-spaced single-column pages, including figures, tables, and references. Submissions must be made electronically as Adobe PDF files through the conference web-site.

All manuscripts accepted by SOAS'2007 as regular or short papers will be formal published in the conference proceedings as a volume in the series of System and Information Sciences Notes. Selected best papers will be invited to revise and extend for publication in a journal special issue in the International Transactions on Systems Science and Applications after the conference.

STUDENT AWARDS

A student best paper award will be presented. A student paper is defined as one in which the principal (not sole) author is a student. The student will be required to present the paper to receive the award.

TUTORIALS, PANELS AND INVITED SESSIONS

Tutorials, panels and invited-sessions will be held in conjunction with the conference. Please see the conference web page for details on how to submit a proposal of tutorial and panel session and how to organise an invited session.

CONTACT

For more information visit the conference web site at