The TF-AAS newsletter is produced as a focal point for news concerning the (related) activities of the IEEE Computer Society Autonomous and Autonomic Systems Task Force. If you have any items for the next issue please contact r.sterritt@ulster.ac.uk

SAACS 2005
by Torsten Eymann

The workshop on "Self-Adaptive and Autonomic Computing Systems" (SAACS), which is held in conjunction with the DEXA conference each year, has in 2005 again attracted a close group of ca. 30 followers. As was the case with its predecessors in Prague and Zaragoza, the SAACS workshop in Copenhagen has shown familiar atmosphere and a lively discussion between academics and industrial researchers.

The topic of the SAACS workshop, as the name suggests, is not only Autonomic Computing. "Like Eskimos having 50 words or more for snow, the computing and technologies communities have a similar number of terms for self-managing computing systems. You say Pro-active! I say Dynamic! And so on and on. Lets call the whole thing SAACS!" is a quote by the organizers in their self-description. What is behind AC is of interest, not only the current (and maybe passing) term itself. This is because AC not only hoping to solve the many problems that Industry is experiencing with unreliable or increasingly more complex environments but it brings a unique challenge to Computer Scientists and Engineers to add the concept of the system's "self". Further it draws on a diverse community from biological systems science to operating systems engineering, and has produced solutions that have evolved from earlier work, reworking of older computing science and genuinely revolutionary ideas.

To this end the workshop mixes industrialists and academics and not only provides an arena for the presentation of innovative work, but panel sessions and opportunities to debate and brainstorm in a uniquely meaningful yet informal setting.

Looking forward, the 2006 issue of the SAACS workshop will be held again over two days alongside DEXA, which runs from September 4-8, 2006. Submissions are open until March 15, 2006, and the proceedings will be published in an IEEE DEXA workshop proceedings volume. The colourful webpages of the workshop can be found at: http://cms1.gre.ac.uk/conferences/saacs06/

SOAS 2005
by Huaglory Tianfield

The 2005 International Conference on Self-Organization and Adaptation of Multi-agent and Grid Systems (SOAS 2005) was held at the University of Paisley, Glasgow, Scotland, United Kingdom between 11 - 13 December 2005.

Multi-agent systems comprising of a collection of fully or semi-autonomous entities/components, whose global behaviors come from emergent interactions among these entities/components. Such multi-agent systems have been studied widely, not only in computer science, software engineering and artificial intelligence, but even more widely in economics, management science, sociology, systems science, etc. In fact, multi-agent systems permeate social, economic, and technical domains.

While Grid computing is the new generation of distributed and networked information and computing systems which have the capacity to enable users and applications in an emergent manner to transcend the organizational boundaries and to gain access to the local computing resources administrated by different organizations. A Grid computing system is by nature a large-scale, complex, and open multi-agent system. Grid computing integrates distributed computing resource management, semantic web technology, service oriented architecture and service management, distributed workflow management, monitoring and control of distributed problem solving, etc.

While self-organization and adaptation have been studied intensively in control theory, systems theory, adaptive complex systems, robotics, etc., they are relatively new concepts for computing systems. In recent years it has widely been recognized that large-scale complex computing systems are increasingly demanding self-organization and adaptation, as advocated by the autonomic/adaptive computing initiatives in, e.g., IBM, HP, etc. [cont. page 2].
SOAS’05 [cont. from page 1]

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SOAS’05 Organizers: Prof Cherif Branki, Prof. Rainer Unland, Prof. Huaglory Tianfield & Professor Hans Czap

The challenge here is that computing systems basically are artificial systems, which prevents conventional principles and approaches for self-organization and adaptation, which are mainly aimed at physical laws governed systems, from being applied to computing systems. To tackle the complexities of physical laws governed systems such as openness, uncertainty, discrete event randomness, etc., there have been established frameworks of principles and approaches for understanding and engineering self-organization and adaptation. However, for artificial systems such as large-scale complex computing systems, the understanding of the openness, uncertainty, discrete event dynamics, etc. is still very limited and the framework for self-organization and adaptation has yet to be established.

To respond to these challenges, SOAS was established to provide a focal forum to exchange and disseminate the state-of-art developments from different disciplines. The SOAS’05 Conference aimed to provide a timely forum to present the latest theoretical and practical results on self-organization and adaptation that have been arising in recent years especially in the areas of Multi-Agent Systems, Grid Computing and Autonomic/Adaptive Computing, and also served as an opportunity to focus on the challenges and to shape the future.


SOAS’06 will be in Erfurt, Germany, 18 - 21 September 2006. For details see http://www.soas2006.org/

Calendar of Community Activity

This section briefly lists some of the additional activity within the community (both within IEEE and beyond) over the forthcoming months.

March 2006

- Mar 27-30, 3rd IEEE EASE (Engineering of Autonomic Systems); Potsdam, Germany (co-located with IEEE 13th ECBS)
  http://www.ulster.ac.uk/ease

April 2006

- Apr 18-20: IEEE WS on Trusted and Autonomic Computing Systems (TACS); Vienna, Austria
  http://cs.okstate.edu/~xiaolin/tacs06/
- Apr 24-28: 3rd IEEE EASE (Engineering of Autonomic Systems); Columbia, MD, USA (co-located with NASA/IEEE SEW 30)
  http://www.ulster.ac.uk/ease

May 2006

- May 4-5: 3rd Int. WS Managing Ubiquitous Communications and Services (MUCS’06), Cork, Ireland
  http://www.aws.cit.ie/mucs06/
  http://www.cs.msu.edu/SEAMS/

June 2006

- June 1st: Special Issue Journal on “Autonomic and Trusted Computing Systems and Applications” (JoATC)
  http://cs.okstate.edu/~xiaolin/joatc/CFP06.htm
- June 12-16: 3rd IEEE Int. Conf. Autonomic Computing, Dublin, Ireland
  http://www.autonomic-conference.org
- June 12-16: (cfp 14th Feb) 2nd Self-Man 2006 @ ICAC’06
  http://research.host.com/selfman2006/
- June 12-16: (cfp 17th Mar) 2nd Int. WS Smart Grid Technologies (SGT06), @ ICAC’06
  http://www.iw.uni-karlsruhe.de/sgt06/
- other ICAC’06 workshops:
  www.caip.rutgers.edu/icac2006/wrk_tut.htm

July 2006

  http://www.intl.ulst.ac.uk/~autonomic/AA-SES/
  http://www.iairg.org/conferences/ICSA06.html

September 2006

Sept 3-6: (cfp 10 Mar’06), 3rd Int. Conf. Autonomic and Trusted Computing (ATC’06), Wuhan and Three Gorges, China
  http://grid.hust.edu.cn/atc06/
- Sept 4-8, (cfp 15 Mar’06) 4th Int. DEXA WS Self-Adaptive and Autonomous Computing Systems (SAACS’06), Krakow, Poland.
  http://cma1.ore.ac.uk/conferences/ssaacs06/
  http://www.soas2006.org/
- Sept 29th- Oct 1st 2006 (cfp 15 Apr’06): IEEE Dependable Autonomic and Secure Computing (DASC’06), Indianapolis, USA
  http://www.cs.iupui.edu/DASC06/

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Details can be found at the web site http://www.computer.org/tf
Where you can sign-up to TF-AAS and three others free
http://www.computer.org/TCaas/signup/index.htm
If you have already signed up, manage your Technical Activity through TECA:
http://www.computer.org/services/teca