



Issue 3: Feb./Mar. 2006

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

EASe 2006 @ Potsdam, Germany

Third IEEE International Workshop on
**ENGINEERING OF
AUTONOMIC & AUTONOMOUS
SYSTEMS (EASe 2006)**



The first of the dual meetings of the 3rd IEEE International Workshop on the Engineering of Autonomic and Autonomous Systems (EASe) took place in conjunction with the ECBS (Engineering of Computer-Based Systems) in Potsdam, Germany in March. Following EASe 2004 in Europe (Brno, Czech Republic) and EASe 2005 in USA (Greenbelt, Maryland), EASe 2006 is dual located in both the EU and USA.

This meeting marks the inaugural sponsorship of an event by our IEEE Computer Society Task Force (TFAAS). Also, this year the workshop has corporate sponsorship from IBM.

The aim of the workshop continues to be the advancement of research in Systems and Software Engineering methods for the realization of Autonomic and Autonomous Computing and Communications, to conquer complexity and cost inherent within today's computer-based systems while preparing the self-managing and self-directing infrastructure for tomorrow's pervasive and ubiquitous environments.



Potsdam, Germany

Sam Lightstone, leader of IBM Canada's DB2 Autonomic Technologies efforts, gave the keynote talk (available in the letter's section below).

EASe website is at <http://www.ulster.ac.uk/ease>

Proceedings available on IEEE website at <http://doi.ieeecomputersociety.org/10.1109/EASE.2006.18> (doi:[10.1109/EASE.2006.18](https://doi.org/10.1109/EASE.2006.18)).

LETTERS Foundations of Autonomic Computing Development

by Sam Lightstone

Abstract: The complexity of modern middleware, and software solutions, is growing at an exponential rate. Only self-managing, or autonomic computing technology can reasonably stem the confusion this complexity brings to bear on human administrators. While much has been published on "architecture" and "function" for producing such systems, little has been written about the engineering of self-managing systems as a distinct paradigm. In this paper we suggest a straw-man for engineering of autonomic systems that is based on two essential tracks: a set of engineering principles that should guide the planning of autonomic systems and their interfaces and secondly a set of mathematical foundations upon which such systems can best be constructed. These foundational attributes are intended to guide the thinking of R&D organizations pursuing the development of autonomic computing capability. The role of architecture and standards is also discussed, highlighting their role in inter-component management.

Sam expands the themes from his EASe'06 keynote in this article exploring foundational techniques along with seven development principles for successful engineering of autonomic computing systems:

- #1 Build what users need, not what's cool
- #2 Always give the user "an out". Features providing system automation must have an off switch.
- #3 Features must be on by default in order for the majority of users to exploit them.
- #4 Never force the user to make a choice that your scientists and engineers could not.
- #5 The plague of benchmarking: Autonomic computing technology must work in real world scenarios.
- #6 Never automatically undo or contradict the explicit choices of the administrator/application(s).
- #7 Minimize policy and keep it human.

Read the full article at: <http://tab.computer.org/aas/newsletter/2006-2/2006-2-tf-aas-letters.pdf>

TF Chair's Column

Welcome to the February-March 2006 issue of our TF newsletter and we've had a productive start to IEEE Computer Society's 60th year.

Announced in this issue is the launch of the Autonomic Community Web Portal. Many thanks goes to Manish for championing this, also to Pat Rago for her excellent effort assisting in pulling together the content and last but not least, Vincent Matossian, for the great development effort.

In this issue we are launching what will hopefully grow over the next couple of years, articles and papers as a *letters section* which will be available online and links provided from the newsletter. Sam Lightstone gets us off to an excellent start with a paper based on topics he explored in his keynote talk at EASe-2006 in Potsdam.

As our special interest in self-managing computing, communications and systems bring together software, computing hardware and communications – and people (that aren't totally out of the loop yet ☺), please also keep in mind that if you are organizing any conference or workshop activities in the area in the years ahead there are options available for IEEE TFAAS to sponsor or co-sponsor your event, please feel free to contact us to discuss.

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SELF-ADAPTING

off the mark by Mark Parisi



(Cartoon copyrighted by Mark Parisi, printed with permission.)



TF-AAS newsletter

IEEE
computer
society
60th anniversary

TFAAS Website & New Emails



<http://tab.computer.org/>

In the last newsletter, it was announced that we would start a weekly news email listing the relevant community calls for papers closely related to the TFAAS. This is now ongoing. For a listing of events see the TFAAS website @ tab.computer.org/aas/. If you have any specific autonomic, autonomous and self-managing systems related calls for papers or announcements please email them to us for inclusion in the TF news email.

AC Community Web Portal



<http://www.autonomiccomputing.org/>

The Autonomic Computing web portal is now available for your review and comments. It's goal is to be a place for all things related to autonomic computing (non-marketing) for both academics and industry. Please feel free to critique and suggest additions/modifications/deletions.

Please send all comments to:
Vincent Matossian
<vincentm@caipclassic.rutgers.edu>,
cc: Manish Parashar
<parashar@caip.rutgers.edu>

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.

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/mucs2006/>

▫ May 21-22: ICSE 2006 WS Software Engineering for Adaptive and Self-Managing Systems, Shanghai, China
<http://www.cse.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: 2nd Self-Man 2006 @ ICAC'06
<http://research.ihost.com/selfman2006/>

▫ June 12-16: 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

▫ June 15: ICC 2006 Workshop on Autonomic Communications at ICC'06 in Istanbul, Turkey
<http://www.icc2006.org/index/conference-program-w.html>

▫ June 26: ACC 2006, 2nd IEEE WoWMoM Workshop on Autonomic Communications and Computing, Niagara-Falls, Buffalo-NY.
<http://www.autonomic-communication.org/acc/>

July 2006

▫ July 17-21: (cfp 1st May) A&A-SES-2 – Mini workshop Autonomic & Autonomous Space Exploration Systems as part of 2nd Int. Conf. Space Mission Challenges For Information Technology (SMC-IT 2006), Pasadena, California, USA.
<http://www.infi.ulst.ac.uk/~autonomic/AA-SES/>
<http://smc-it.jpl.nasa.gov/>

▫ July 18-19: (cfp 21st Apr) LAACS 2006: First Latin American Autonomic Computing Symposium, Dom Bosco Catholic University in Campo Grande, MS, Brazil
<http://www.fee.unicamp.br/laacs2006>

▫ July 19-21: Int. Conf. Autonomic and Autonomous Systems (ICAS), Silicon Valley, USA. Incorporating: SYSAT 2006: Advances in system automation; AUTSY 2006: Theory and practice of autonomous systems; AWARE 2006: Design and deployment of context-awareness networks, services and applications; AUTONOMIC 2006: Autonomic computing: design and management of self-behavioural networks and services; MCMAC 2006: Monitoring, control, and management of autonomous self-aware and context-aware systems; CASES 2006: Automation in specialized mobile environments; ALCOC 2006: Algorithms and theory for control and computation; MODEL 2006: Modeling, virtualization, any-on-demand, MDA, SOA
<http://www.iaria.org/conferences/ICSA06.html>

September 2006

Sept 3-6: 3rd Int. Conf. Autonomic and Trusted Computing (ATC'06), Wuhan and Three Gorges, China
<http://grid.hust.edu.cn/atc06/>

▫ Sept 4-8, 4th Int. DEXA WS Self-Adaptive and Autonomic Computing Systems (SAACS06), Krakow, Poland.
<http://cms1.gre.ac.uk/conferences/saacs06/>

▫ Sept 18-21, (cfp 30 Apr'06) Int. Conf. Self-Organization and Autonomic Systems in Computing & Communications (SOAS'2006) Erfurt, Germany.
<http://www.soas2006.org/>

▫ Sept 18-21, (cfp 30 Apr'06) ATAC 2006: First International Workshop on Agent Technology and Autonomic Computing, Erfurt, Germany.
<http://www.netobjectdays.org>

▫ Sept 25-29, Autonomic Networking 2006 incorp: SMARTNET - INTELLCOMM - IWAN - WAC, Paris – France.
www.autonomic-net.org

▫ Sept 29th -Oct 1st 2006 (cfp ext: 30 Apr'06): IEEE Dependable Autonomic and Secure Computing (DASC'06), Indianapolis, USA
<http://www.cs.iupui.edu/DASC06/>

Join IEEE TF AAS

If you have not already done so, you are invited to join the IEEE Computer Society Autonomic and Autonomous Systems Task Force online.

Details can be found at the web site

<http://www.computer.org/tab/>

Where you can sign-up to TF-AAS and three others free

<http://www.computer.org/TCsignup/index.htm>

If you have already signed up, manage your Technical Activity through TECA:

<http://www.computer.org/services/teca>