



The 5th IEEE International Conference on Autonomic Computing (ICAC-08)

Preliminary Call for Papers

Chicago, IL, USA

June, 2008

<http://www.autonomic-conference.org>

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To deal with the increasing complexity of large-scale computing systems, computers and applications must learn to manage themselves in accordance with high-level guidance from humans – a vision that has been referred to as **autonomic computing**. Meeting the grand challenges of autonomic computing requires scientific and technological advances in a wide variety of fields, as well as new software and system architectures that support the effective integration of the constituent technologies.

The purpose of the 5th International Conference on Autonomic Computing (ICAC-08) is to bring together researchers and practitioners addressing aspects of self-management in computing systems. In doing so, we hope to develop and nurture a community that can work together to realize the vision of large-scale self-managing systems. The conference builds on previous highly influential meetings in New York, Seattle, Dublin and Jacksonville.

Papers are solicited on a broad array of topics of relevance to autonomic computing, particularly those that bear on connections and relationships among different areas of research or report on prototype systems or experiences. Topics of interest include, but are not limited to:

- **Autonomic computing systems or prototype systems** that exhibit self-monitoring, self-configuration, self-optimization, self-healing, and/or self-protection.
- **Fundamental science of self-managing systems:** understanding, controlling, or exploiting emergent behavior, fault-tolerance, machine learning, control theory, predictive methods and their use to automate manual operations and enforce behavior.
- **Software architectures** for self-managing systems, based on interoperable Grid Services, agent-based systems, Web Services, model-based systems or novel paradigms such as biological, economic or social.
- **System-level technologies, middleware or services** that entail interactions among two or more components of self-managing systems (e.g., health monitoring, dependency analysis, problem localization or remediation, workload management, and provisioning).
- **Toolkits, environments, models, languages, runtime and compiler technologies** for building self-managing components, systems or applications.
- **Specific self-managing components**, such as server, storage, network, data center or specific application elements. Emphasis should be placed on techniques or lessons that may generalize to other components.
- **Management topics**, such as specification and modeling of service-level agreements, negotiation or conversation support, and behavior enforcement, design processes, tie in with IT governance, and interaction with legacy systems.
- **Interfaces to autonomic systems**, including user interfaces, interfaces for monitoring and controlling behavior, techniques for defining, distributing, and understanding policies.
- **Experiences with autonomic system or component prototypes:** measurements, evaluations, or analyses of system behavior, user studies, or experiences with large-scale deployments of self-managing systems or applications.

PAPER/POSTER SUBMISSIONS AND PUBLICATION

Full papers (a maximum of 10 pages in length) and posters (2 pages) are invited on a wide variety of topics relating to autonomic computing as indicated above. 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. They should also not be under review or be submitted to another forum during the ICAC-08 review process. Posters are not subject to any of these restrictions. Authors should submit full papers or posters electronically (PDF or postscript) via EDAS using the link on the ICAC-08 conference web site at <http://www.autonomic-conference.org>, and should follow **IEEE CS format** - style files can be found at <ftp://pubftp.computer.org/Press/Outgoing/proceedings/>. Accepted papers and posters will appear in proceedings published by IEEE Computer Society Press, which will be distributed at the conference.

WORKSHOPS, DEMONSTRATIONS AND EXHIBITION

ICAC-08 welcomes proposals for co-located workshops on specific topics of general interest to the autonomic computing community. Workshops are expected to publish proceedings, and should cover areas that may not be properly addressed in the main scientific programme.

ICAC-08 will feature a demonstration and exhibition session consisting of prototypes and technology artifacts such as demonstrating autonomic software or autonomic computing principles. Entries will be judged by a separate subcommittee led by the demo/exhibit chair. Please see the conference web site for more information.

STUDENT AWARDS

A student best paper award will be presented, consisting of a commemorative plaque, complimentary student registration to the conference and an honorarium that will partially cover travel & hotel costs. (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.

VENUE

ICAC-08 will be held in Chicago, Illinois, USA.

IMPORTANT DATES

Title/Abstract submissions: 08:00 GMT, Nov 31, 2007 *Demo/Exhibit & Workshop submissions: Mar 3, 2008*
Full paper submissions: 08:00 GMT, Dec 7, Dec 14, 07 *Final manuscripts due: April 07, 2008*
Author notification: Feb 25, 2008 *Conference: June, 2008*

INFORMATION

WWW: www.autonomic-conference.org E-mail: icac@caip.rutgers.edu