

10th International Conference on Autonomic Computing (ICAC '13)

Sponsored by USENIX, the Advanced Computing Systems Association

www.usenix.org/conference/icac13

June 26–28, 2013

San Jose, CA

ICAC '13 will take place during USENIX Federated Conferences Week, June 24–28, 2013.

Important Dates

Paper registrations (title and abstract) due: *February 25, 2013, 11:59 p.m. PST*

Paper submissions due: *March 4, 2013, 11:59 p.m. PST*

Notification to authors: *April 8, 2013*

Final paper files due: *May 22, 2013*

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Overview

ICAC is the leading conference on autonomic computing techniques, foundations, and applications. Large-scale systems of all types, such as data centers, compute clouds, sensor networks, embedded or pervasive environments, and the Internet of Things are becoming increasingly complex and burdensome for people to manage. Autonomic computing systems reduce this burden by managing their own behavior in accordance with high-level goals. In autonomic systems, resources and applications are managed to maximize performance and minimize cost, while maintaining predictable and reliable behavior in the face of varying workloads, failures, and malicious threats. Achieving self-management requires and motivates research that spans a wide variety of scientific and engineering disciplines, including distributed systems, artificial intelligence, machine learning, modeling, control theory, optimization, planning, decision theory, user interface design, data management, software engineering, emergent behavior, and bio-inspired computing. ICAC brings together researchers and practitioners from disparate disciplines, application domains, and perspectives, enabling them to discover and share underlying commonalities in their approaches to making resources, applications, and systems more autonomic.

Topics

Papers are solicited from all areas of autonomic computing, including (but not limited to):

- Self-managing components, such as compute, storage, and networking devices; embedded and real-time systems; and mobile devices such as smart phones

- AI and mathematical techniques, such as machine learning, control theory, operations research, probability and stochastic processes, queuing theory, rule-based systems, and bio-inspired techniques, and their use in autonomic computing
- End-to-end design and implementations for management of resources, workloads, availability, performance, reliability, power/cooling, security, and others
- Monitoring systems that can scale to large environments
- Hypervisors, operating systems, middleware, or application support for autonomic computing
- Novel human interfaces for monitoring and controlling autonomic systems
- Goal specification and policies, including specification and modeling of service-level agreements, behavior enforcement, IT governance, and business-driven IT management
- Frameworks, principles, architectures, and toolkits, from software engineering practices and experimental methodologies to agent-based techniques
- Automated management techniques for emerging applications, systems, and platforms, including social networks, Big Data systems, multi-core processors, and Internet of Things
- Fundamental science and theory of self-managing systems for understanding, controlling, or exploiting emergent system behaviors to enforce autonomic properties
- Applications of autonomic computing and experiences with prototyped or deployed systems solving real-world problems in science, engineering, business, or society

Papers will be judged on originality, significance, interest, correctness, clarity and relevance to the broader community. Papers are strongly encouraged to report on experiences, measurements, user studies, and provide an appropriate quantitative evaluation if at all possible.

Paper Submissions

Full papers (a maximum of 10 pages) and short papers (4 pages) are invited on a wide variety of topics relating to autonomic computing. Both full and short papers should be typeset in two-column format in 10 point type on 12 point (single-spaced) leading, with the text block being no more than 6.5" wide by 9" deep. Both kinds of papers should be submitted via the Web submission form on the ICAC '13 Call for Papers Web site, www.usenix.org/conference/icac13/call-for-papers. Complete formatting and submission instructions can be found on the Call for Papers Web

site. Authors are also encouraged to submit a poster or demo that summarizes or augments their paper (see below).

Simultaneous submission of the same work to multiple venues, submission of previously published work, or plagiarism constitutes dishonesty or fraud. USENIX, like other scientific and technical conferences and journals, prohibits these practices and may take action against authors who have committed them. See the USENIX Conference Submissions Policy at www.usenix.org/conferences/submissions-policy for details. Papers accompanied by nondisclosure agreement forms will not be considered. If you are uncertain whether your submission meets USENIX's guidelines, please contact the program co-chairs, icac13chairs@usenix.org, or the USENIX office, submissionspolicy@usenix.org.

At least one author of an accepted paper is expected to present the paper in person at the conference. The accepted papers will be available online to registered attendees before the conference and will also appear in proceedings distributed via USB drives at the conference. If your accepted paper should not be published prior to the event, please notify production@usenix.org. The papers will be available online to everyone beginning on June 26, 2013. Accepted submissions will be treated as confidential prior to publication on the USENIX ICAC '13 Web site; rejected submissions will be permanently treated as confidential.

Special Tracks

To facilitate community collaboration and exchange of ideas in emergent technological areas, ICAC '13 will host two special tracks, each of which will be reviewed by its own subcommittee. Dr. Levent Gürgen (levent.gurgen@cea.fr) will lead a special track on self-aware Internet of Things and Dr. Karsten Schwan (karsten.schwan@cc.gatech.edu) will lead a special track on management of Big Data systems.

Posters, Demonstrations, and Exhibitions

ICAC '13 will also feature a poster, demonstration, and exhibition session consisting of research prototypes and technology artifacts that demonstrate autonomic software or autonomic computing principles. Formatting and submission instructions, plus the Web submission form specific to this session, will be available on the Call for Papers Web site.

PhD Thesis Digest Forum

Current PhD students who are working on topics relevant to autonomic computing are invited to submit a short summary (up to 2 pages) of their theses. Top selected submissions will be presented at a PhD forum during the ICAC '13 conference. Please check the Call for Papers Web site for submission instructions.

