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THE ADVANCED COMPUTING SYSTEMS ASSOCIATION

11th International Conference on Autonomic Computing (ICAC '14)

Sponsored by USENIX, the Advanced Computing Systems Association　　**June 18–20, 2014, Philadelphia, PA**

ICAC '14 will take place during USENIX Federated Conferences Week, June 17–20, 2014.

Important Dates

Paper registrations (titles and abstracts) due:
　February 26, 2014, 11:59 p.m. EST (hard deadline, no extensions)
Paper submissions due: *March 5, 2014, 11:59 p.m. EST*
　(hard deadline, no extensions)
Notification to authors: *April 9, 2014*
Final paper files due: *May 20, 2014*

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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, smart cities, cyber-physical systems, sensor networks, and embedded or pervasive environments, 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 analysis, 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 smartphones.

- AI and mathematical techniques, such as machine learning, control theory, operations research, probability and stochastic processes, queueing theory, rule-based systems, and bio-inspired techniques, and their use in autonomic computing.

- End-to-end design and implementation of systems for management of resources, workloads, scalability, availability, performance, reliability, power/cooling, and security.

- Monitoring components and platforms for autonomic systems in IT or cyber-physical 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, cloud computing, big data systems, multi-core servers, smart cities, and cyber-physical systems.

- 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

Regular papers: Full papers (a maximum of 10 pages) 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. They should be submitted electronically, via the Web submission form on the Call for Papers Web site, www.usenix.org/icac14/cfp. Submitted papers must be original work and must not be under consideration for another conference or journal. Complete formatting instructions can be found at www.usenix.org/conference/icac14/requirements-icac-14-authors. Some submissions will be accepted as short papers or posters.

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, icac14chairs@usenix.org, or the USENIX office, submissions-policy@usenix.org.

At least one author of each accepted full or short paper or poster must present the paper/poster 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 electronically 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 18, 2014. Accepted submissions will be treated as confidential prior to publication on the USENIX ICAC '14 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 '14 will host two special tracks, each of which will be reviewed by its own subcommittee. Ron Ambrosio (rfa@us.ibm.com) will lead a special track on Smart Cyber-Physical Systems; Karsten Schwan (karsten.schwan@cc.gatech.edu) and Vanish Talwar (vanish.talwar@hp.com) will lead a special track on Management of Big Data Systems. Submission instructions for special tracks will be available soon.