



Call for Papers

FAS* - Foundation and Applications of Self* Computing Conferences

The International Conference on Cloud and Autonomic Computing (CAC-2014)

Collocated with
The 8th IEEE Self-Adaptive and Self-Organizing System Conference
The 14th IEEE Peer-to-Peer Computing Conference
Imperial College, London, September 8-12, 2014
<http://www.autonomic-conference.org>

GENERAL CHAIR

Geoffrey C. Fox, Indiana Univ., USA

PROGRAM CO-CHAIRS

Franck Cappello, ANL, UIUC, USA
Masoud Sadjadi, FIU, USA

POSTERS CHAIR

Andres Quiroz, Xerox, NY, USA

WORKSHOP CHAIR

Xiaolin (Andy) Li, University of Florida

INDUSTRY CHAIR

John Howie, Cloud Security Alliance, UK

PUBLICITY CHAIR

Ivan Rodero, Rutgers University, USA

STEERING COMMITTEE

Salim Hariri, Univ. of Arizona, USA
Manish Parashar, Rutgers Univ., USA
Masoud Sadjadi, Florida International University, USA
John Howie, Cloud Security Alliance, UK
Jeanna Matthews, Clarkson University, USA
Alan Sill, Texas Tech University, USA
Vladimir Vlassov, KTH Royal Institute of Technology, Sweden
Vaidy Sunderam, Emory University, USA

PROGRAM COMMITTEE

The CAC 2014 technical program committee is an internationally recognized group of leading researchers covering a broad range of topics related to the conference themes.

Alan Sill, Texas Tech. University, USA
Ali Ebneenasir, Michigan Tech., USA
Andres Quiroz, Xerox, USA
Andrew Grimshaw, University of Virginia, USA
Artur Andrezjak, Heidelberg University, USA
Borko Furht, FAU, USA
David Villegas, IBM, USA
Eduardo Fernandez, FAU, USA
Fabio Costa, UFG, Brazil
Gustavo Rossi, UNLP, Argentina
Hector Alejandro Durán Limón, UdeG, Mexico
Ivan Rodero, Rutgers University, USA
Javier Diaz, UNLP, Argentina
Jinpeng Wei, FIU, USA
Jun Zhu, IBM China Research Lab., China
Junwei Cao, Tsinghua University, China
Liana Fong, IBM T. J. Watson Research, USA
Manish Parashar, Rutgers, USA
Marin Litoiu, York University, Canada
Onyeka Ezenwoye, ASU, USA
Peter Clarke, FIU, USA
Salim Hariri, U. of Arizona, USA
Selim Kalayci, ETSU, USA
Shaolei Ren, FIU, USA
Sherif Abdelwahed, Mississippi State U., USA
Shu-Ching Chen, FIU, USA
Weichao Wang, FAU, USA
Wolfgang Ziegler, Fraunhofer, Germany
Zhihui Du, Tsinghua University, China
Shihong Huang, FAU, USA
(to be completed)

SPONSOR

NSF Center for Cloud and Autonomic Computing, UA

Enterprise-scale **cloud** platforms and services systems, present common and cross-cutting challenges in maximizing power efficiency and performance while maintaining predictable and reliable behavior, and at the same time responding appropriately to environmental and system changes such as hardware failures and varying workloads. **Autonomic computing systems** address the challenges in managing these environments by integrating monitoring, decision-processing and actuation capabilities to autonomously manage resources and applications from high-level policies. Research in cloud and autonomic computing spans a variety of areas, from computer systems, architecture, middleware services, databases and data-stores, and networks to machine learning and control theory. The purpose of the 2nd International Conference on Cloud and Autonomic Computing (CAC) is to bring together researchers and practitioners across these disciplines to address the multiple facets of self-management in computing systems and applications. Papers are solicited on a broad array of topics of relevance to cloud and autonomic computing and their intersections, and particularly those that bear on connections and relationships among different research areas or report on prototype systems or experiences. The goal is establish a premier international forum focused on the latest research, applications, and technologies aimed at making cloud and autonomic computing systems and services easy to design, to deploy and to implement, while achieving the simultaneous goals to be self-manageable, self-regulating and scalable with little involvement of human or system administrators.

The 2014 CAC conference will be organized around 3 crosscutting themes: (1) **Clouds and Autonomic Computing: NaaS/IaaS - Network and Infrastructure**; (2) **Clouds and Autonomic Computing: PaaS, Middleware, Tools, Security and Privacy**; and (3) **Clouds and Autonomic Computing: SaaS- Applications and Performance**. Topics of interest include, but are not limited to:

- Autonomic Cloud Computing:
 - Self-management cloud services
 - Autonomic cloud applications and services
 - Autonomic virtual cloud resources and services
 - Cloud workload characterization and prediction
 - Monitoring and analysis of behavior of cloud resources and services
 - Theoretical frameworks for modeling and analysis autonomic computing systems and services
- Autonomics for Extreme Scales
 - Large scale autonomic systems
 - Self-optimizing and self-healing at petacomputing scale
 - Self-managing middleware and tools for extreme scales
 - Experiences in autonomic systems and applications at extreme scales (peta/exa-computing)
- Autonomic Cloud Cybersecurity
 - Self-protection techniques of computing systems, networks and applications
 - Metrics to evaluate and performance of self-protection algorithms
 - Anomaly behavior analysis of autonomic systems and services
 - Data mining, stochastic analysis and prediction of autonomic systems and applications
 - Metrics to characterize and quantify the cybersecurity algorithms (confidentiality, Integrity, and Availability of autonomic systems
 - Datasets and benchmarks to compare and evaluate different self-protection techniques
- Autonomic Cloud Tools and Applications
 - Benchmarks and tools to evaluate and compare different architectures to implement autonomic cloud systems
 - High performance autonomic applications
 - Self* applications in science and engineering
 - Self* Human Machine Interface
 - Full visibility into the behavior of autonomic systems and services
 - Knowledge representation and visualization of behavior of autonomic systems and services

PAPER/POSTER SUBMISSIONS AND PUBLICATION

Full papers (a maximum of 10 pages in length) and posters (4 pages) are invited on a wide variety of topics relating to autonomic computing as indicated above. Both full and short papers must follow the official ACM proceedings format with strict adherence to SIGS style (i.e., Option 1). Both kinds of papers should be submitted via the Web submission form, available here. All manuscripts will be reviewed and judged on merits including originality, significance, interest, correctness, clarity, and relevance to the broader community. Papers are strongly encouraged to report experiences, measurements, and user studies, and to provide an appropriate quantitative evaluation.

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 CAC-14 review process. Authors should submit full papers or posters electronically following the instructions from the CAC-14 conference web site. Formatting instructions will also be posted at the web site. Accepted papers and posters will appear in proceedings distributed at the conference and available electronically. Authors of accepted papers/poster are expected to present their work at the conference. Authors are also encouraged to submit a poster or demo that summarizes and highlights the main points of their paper (see below). Extended versions of the best papers will be considered for a special section of TAAS and a special issue in Cluster Computing Journal.

WORKSHOPS, DEMONSTRATIONS AND EXHIBITION

CAC-14 welcomes proposals for co-located workshops on specific topics of general interest to the cloud and autonomic computing community. Workshops are expected to publish proceedings, and should cover areas that may not be properly addressed in the main scientific program. CAC-14 will also feature a demonstration and exhibition session consisting of prototypes and technology artifacts such as demonstrating autonomic software or autonomic computing principles.

IMPORTANT DATES

Abstract registration: **April 7, 2014 (Extended)**

Full paper submission: **April 14, 2014 (Extended)**

Author notification: June 12, 2014

Camera-ready version due: July 12, 2014