

32nd ACM/SIGAPP SAC Symposium on Applied Computing

April 3-7, 2017 Marrakech, Morocco.

Reliable Software Technologies and Communication Middleware *track*



Scope

In the last years it is manifest that the world of high-end parallel servers and distributed computing systems/applications (in their continuous evolving declinations of high-performance computing, grid computing, and cloud computing, and supports to mobile cloud computing) is paying increasing attention to the technical challenges related to quality of service, determination of temporal behavior and response of software platforms, interactivity, and performance of communication mechanisms and tools. In modern computation centers, traditional distributed applications may coexist with other supports and services that become more and more time-sensitive (cross-border surveillance and object tracking, big data analysis, smart city application supports, net gaming, adaptive video streaming, etc.), and this tends to happen more and more frequently on virtual resources hosted by a virtualized infrastructure.

Therefore, the design, implementation, and deployment of distributed reliable systems must take into careful account the critical and still open technical challenges about the dynamic selection and runtime evaluation of interaction models and software technologies/, as well as their temporal behavior, resource efficiency, performance, scalability, and coordination overhead vs. flexibility. In addition, this track calls for novel contributions about dynamic middleware solutions capable of taking context-aware resource management decisions to enforce the most appropriate quality levels depending on application SLAs and overall (possibly clustered) visibility of resource status. These solutions are particularly challenging when dealing with large-scale open deployment environments and their associated scalability issues.

Novel and relevant application domains push for evolution and disruptive research in this field; only to mention a few, middleware solutions for datacenter resource management optimization for quality-aware online stream processing of big data flows, energy-aware middleware for resource management in smart city/smart grid deployment environments, middleware for cloud-hosted cyber-physical systems with strict requirements on latency and reliability.

Given the above motivations, track topics include (but are not limited to) the challenging issues in the design of reliable and resource-efficient middleware solutions:

- Cloud computing advances for cyber-physical systems and mobile cloud computing
- Communication middleware for efficient reliability in wide-scale environments
- Efficient and context-aware management of big data flows (e.g., to support smart city apps)
- Efficient integration with run-time supports: operating systems and virtualization technologies
- Middleware for the efficient integration of cyber-physical systems and the cloud
- Programming models and languages for reliable high-end distributed systems
- Quality-aware middleware for datacenter resource management
- Reactive stream processing and on line processing of big data flows
- Reliable and time-sensitive distribution models
- Resource-efficient and time-constrained interaction models
- Scalability solutions and evaluation of reliable communications and distributed systems in wide deployment scenarios
- Simulation/emulation-based and on-the-field performance evaluation of distributed applications

Paper Submission and Acceptance

Manuscripts must be submitted electronically in PDF format, according to the instructions contained in the main Conference web site. Contributions must contain original unpublished work. Papers that have been concurrently submitted to other conferences or journals (double submissions) will be automatically rejected.

Submitted papers will undergo a blind review process. Authors of accepted papers should submit an editorial revision of their papers that fits within 6 two-column pages according to the ACM SAC templates (2 extra pages, to a total of 8 pages in the camera ready version, may be available at a charge). Authors must comply with this page limitation already at submission time.

SAC 2017 will also hold a Student Research Competition (SRC). Please refer to SAC main page to learn more about SRC. Paper registration is required, allowing the inclusion of the paper, poster, or SRC abstracts in the conference proceedings. An author or a proxy attending SAC MUST present the paper: This is a requirement for the presented work to be included in the ACM/IEEE digital library. No-show of scheduled papers, posters, and SRC abstracts will result in excluding them from the ACM/IEEE digital library.

Web Site

Main:

<http://www.acm.org/conferences/sac/sac2017/>

RST Track:

<http://www.dre.vanderbilt.edu/~caglar/rst2017/>

Track Chairs

- Paolo Bellavista – Alma Mater Studiorum University of Bologna, Italy
- Faruk Caglar, Meliksah University, Turkey
- Marisol García-Valls - Universidad Carlos III de Madrid, Spain
- Aniruddha Gokhale - Vanderbilt University, USA

Journal Special Issue

After the track celebration, a **special issue** will be produced in an international high-quality **JCR-indexed journal, Mobile Networks and Applications – MONET (SPRINGER)**. In this special issue, a selection of the best submitted papers will be considered after being enhanced with at least 35% additional content and results to their original contribution.

Important Dates

Full Paper Submission: **September 29, 2016**
Author Notification: **November 24, 2016**
Camera Ready: **December 9, 2016**

