REACTION 2014

Submitted by Anonymous on Mon, 08/25/2014 - 3:15pm

Dec 02, 2014 8:00 am - 5:00 pm CET

3rd International Workshop on Real-Time and Distributed Computing in Emerging Applications

Co-located with IEEE RTSS

The vision of Cyber Physical Systems goes far beyond the traditional world of real-time embedded systems by integrating a number of characteristics such as autonomy, distribution, large-scale, real-time, dynamic behavior, etc., that pose enormous challenges to their design and development. More complex hardware and software architectures are required by the current and future generation applications where computing is distributed across a network of interconnected and possibly heterogeneous processing units where the functional software and hardware pieces are not necessarily static. Soft real-time co-exists with hard real-time, and high level software infrastructures and communication middleware play an increasingly important role in the overall picture. At the same time, the world of high-end parallel and distributed computing systems and applications, in its continuously evolving declinations in the form of High-Performance Computing, GRID Computing, Service- Oriented and recently Cloud Computing, is generally paying more and more attention to issues related to Quality of Service, predictability of the timing behavior, interactivity, and real-time performance.

Providing real-time guarantees in the cyber-physical distributed computing arena raises a number of challenging scientific and engineering problems that span across a variety of research areas, such as: real-time computing, parallel and distributed systems, software engineering and architectures, dependability, and virtualization.

From different though related research communities, researchers are heading towards the same point possibly walking parallel paths with the goal of effectively and efficiently providing the level of temporal guarantees required by the new complex systems, spanning from temporal predictability to QoS guarantees. Solutions from different communities present interesting approaches that can benefit from meeting at a common forum with the goal of drawing a complete picture of the problem and of the possibility of identifying novel research areas as resulting from this crossbreading.

From its original conception, REACTION workshop aims at providing a forum for presentation and discussion of the contributions and ideas of researchers working

on real-time systems and distributed systems for the next-generation applications. The goal is to bring together contributions on both practical and theoretical aspects applied to the integration of real-time support in these new computation paradigms.

Topics:

- Scheduling and resource management for Quality of Service support and Real-Time operation in distributed systems;
- Real-time middleware;
- Real-time reconfiguration in distributed computing;
- Scalable computing models and algorithms and massively parallel real-time distributed computing;
- System modeling and component technology;
- Technologies for modeling and programming distributed real-time systems and CPS;
- Operating system support and resource management for dynamic distributed real-time systems and cloud computing applications;
- Real-time assurance in virtualized environments and performance assessment;
- QoS properties for distributed systems;
- Self-healing and survivability of distributed real-time systems;
- Optimization of the network operation and performance;
- Energy-aware resource management;
- Service-oriented architectures and composition.

Programme Chairs and Organization:

- Marisol Garcia-Valls, Universidad Carlos III de Madrid
- Tommaso Cucinotta, Amazon, Ireland
- Laurent Pautet, ENST ParisTech, France

Programme Committee:

- Luca Abeni, University of Trento, Italy.
- Alejandro Alonso, Universidad Politecnica de Madrid, Spain.
- Moris Behnam, Malardalen University, Sweden.
- Antonio Casimiro, University of Lisbon, Portugal.
- Fabbio Checconi, IBM TJ Watson Research Center, USA.
- Pierre Courbin, ECE Paris, France.
- Julien Delange, Carnegie Mellon University, USA.
- Manuel Diaz Rodriguez, Universidad de Malaga, Spain.
- Aniruddha Gokhale, University Vanderbilt, USA.
- Javier Gutierrez, Universidad de Cantabria, Spain.
- Scott Moody, The Boeing Company, USA.
- Daniel Mose, University Pittsburgh, USA.
- Saad Mubeen, University Malardalen, Sweden.
- Luis Miguel Pinho, CISTER-IPP, Portugal.
- Frank Singhoff, University of Brest, France.
- Mikael Sjodin, Malardalen University, Sweden.

- Thomas Vergnaud, Thales Group, France.

Event Details

Location: Rome, Italy
URL: http://reactionws.uc3m.es

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Architectures Architectures Concurrency and Timing Real-time Systems Modeling Real-Time Coordination Resilient Systems CPS Technologies Foundations Real-Time Systems Symposium - RTSS 2014 2014 Workshop