



Call for Papers / Invitation to Special Session SS10

REAL-TIME OPERATING SYSTEMS AND EMBEDDED VIRTUALIZATION TECHNOLOGIES: TRENDS AND CHALLENGES

Special Session Organizers

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Aim: The need to guarantee determinism and predictability in embedded systems is hindered by the demand for increasingly complex functionalities and sets of features. In order to cope with this emerging cognitive challenge for system designers, virtualization is becoming ubiquitous in complex embedded systems. The partitioning of physical machines (which range from single to multi and many core systems) into several space and time partitioned virtual machines supported by a Virtual Machine Monitor (i.e., Hypervisor) enables systems to operate in a strict real-time fashion while enjoying all the rich functionalities of general purpose software; additionally, Hypervisors can provide novel Fault Tolerance capabilities not available to single OS systems, which is fueling their rise to becoming the de facto support for safety-critical applications. RTOSs design can be greatly enhanced by hypervisor awareness, using a set of hypercall APIs which can reduce RTOS development time and provide increased real time performance. The aim of this Special Session is to explore new ideas and challenges in the design of virtualized systems with small performance footprint, ranging from hardware-software co-design to virtualization-aware processor architectures and paravirtualized Real-Time Operating Systems.

Topics:

- Paravirtualization of Real-Time Operating Systems
- Co-Designed Hypervisors
- Fault-Tolerant Virtualization
- Virtualization - Aware Instruction Sets
- Hypervisor Architectures for performance
- Virtualization Support to Real Time Operation.

SUBMISSION OF PAPERS

Papers should be submitted electronically. For further details, please refer to the conference web page.

AUTHOR'S SCHEDULE

Deadline for submission of papers: April 8, 2012

Notification of papers acceptance: May 30, 2012

Final manuscripts due: July 8, 2012

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