Workshop on Parallel and Distributed Real-Time Systems

Workshop Description

Real-time and embedded systems have rapidly advanced from simple application-specific embedded systems handling periodic updates from sensors to include large distributed heterogeneous systems designed for asynchronous and dynamic operation with high degrees of flexibility, autonomy, quality of service, and reliability.

The International Workshop on Parallel and Distributed Real-Time Systems is a forum for the presentation and discussion of approaches, research findings, and experiences in the applications of large-scale parallel and distributed real-time systems. Of interest is the development of relevant technology (e.g., hardware, middleware, tools) as well as the applications built using such technology.

WPDRTS brings together industry, academia, and government researchers to discuss and exchange ideas in the area of large-scale parallel and distributed real-time and embedded systems and to explore the special needs and issues in applying these technologies to defense and commercial applications.

Topics of Interest:

**Algorithms and Applications:** addressing computing needs of large-scale parallel and distributed real-time and embedded military and commercial applications areas such as signal/image processing, advanced vision/robotic systems, smart-sensor-based systems, industrial automation/optimization, vehicle guidance, command and control, databases.

**Networking:** in-the-large application programming models/API's, partitioning/mapping, system integration, debugging and testing tools.

**Programming Environments:** software design, programming, and parallelization methods/tools for DSP-based, reconfigurable, and mixed-computation-paradigm architectures.

**Operating Systems and Middleware:** distributed middleware services needs (e.g., QoS, object distribution), configurable/optimal OS features needs, scheduling, runtime systems, resource management.

**Architectures:** special-purpose processors, packaging, mixed-computation-paradigm architectures, size/weight/power modeling and management.

**Modeling, Analysis and System Specification:** new paradigms, benchmarking, tools and environments, formal methods, object orientation, validation, languages, simulation, high assurance systems.

**Stochastic and Dynamic Real-Time Systems**

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welch@ohio.edu
David Andrews (Co-Chair), University of Kansas
dandrews@ittc.ukans.edu
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