DANCE: International workshop on Distributed Architecture modeling for Novel Component Embedded systems
In conjunction with SEAA 2011
August 30 to September 2, 2011
Oulu, Finland
http://seaa2011.oulu.fi/index.php/dance/

IMPORTANT DATES:
Submission of papers: April 20, 2010
Notification of acceptance: Mai 20, 2010
Camera-ready paper due: June 1, 2010

Distributed systems research covers a wide spectrum of applications ranging across embedded real/time systems, commercial transaction systems, transportation systems, and military/space systems. Such systems raise several issues not found in single processor systems. The main difficulty arises when considering dependability, security, adaptability and resources constrained computing. This area requires computing systems to run software in an efficient and trustworthy way. That is, in order to be able to design complex architectures in reasonable time, novel and effective design methodologies are needed to automatically build applications from high-level descriptions to take into account what needs to be deployed on hardware. To remedy this weakness, combining both model and component seems to be a very promising cocktail for building solutions to this problem.

The introduction of the component approach in the development of embedded systems allows facilitating their design by building through an assembly of existing components. Indeed, this approach provides a clear separation between the specification and implementation of components. Note however that in the context of component software, distributed architecture is significantly more demanding than that of traditional monolithic integrated solution. Model-driven engineering provides a very useful contribution for the design of distributed systems since it bridges the gap between design issues and implementation concerns. It helps the designer to concentrate on application structure and required behavior and it permits us to specify in a separate way non-functional requirements such as underlying execution infrastructure/middleware, dependability and reconfiguration issues that are very important to guide the implementation process.

The main focus of DANCE is on the topic of making design and implementation expert knowledge available to distributed real time embedded systems (DRTES) engineering processes. Special emphasis will be devoted to promote discussion and interaction between researchers and practitioners focused on the particularly challenging task to efficiently integrate dependability and reconfiguration solutions within the restricted available design space and time. Furthermore, one important focus is on the potential benefits of the combination of model- driven engineering with languages and representation of component engineering solutions. The workshop aims to bring together researchers from various fields involved in the development and deployment of component in embedded systems with a particular focus on the transfer of results from fundamental research to the industrial development of energy, resource and time constrained applications. The exchange of concepts, prototypes, research ideas, and other results which contribute to the academic arena and also benefit business and industrial communities, is of particular interest. Some of the topics that we seek to include in the workshop are related to the development of models and tools to support the inclusion of energy, resource and time constraints within dependability and reconfiguration requirements issues into the embedded systems engineering process.

The session topics include but are not limited to:

- Engineering of component based DRTES:
 . Specification of distributed architecture for model driven development process
 . Architecture and execution support design
 . Specification of distributed architecture using new programming paradigms
 . Description languages, Patterns, Meta- modeling, Multi- modeling, UML Profiles, DSLs, …

- Dependability and reconfiguration with energy, resource and time constraints:
 . Distributed adaptive and self-adaptive softwares for DRTES applications with constraints
 . Reconfiguration and dependability requirements specification component-based approaches to engineering
 . Tools support for assisting modeling, deployment and configuration of DRTES with constraints
 . Case studies, empirical results, experience reports, suit-tools

SUBMISSION OF PAPERS

The Paper submission system and further instructions are available at the submission page (http://seaa2011.oulu.fi/index.php/submission).

Accepted papers will be included in the proceedings, published by the IEEE Computer Society Press, and the IEEE Xplore Digital library.

Extended versions of selected papers will be considered for publication in the Journal on Information and Software Technology (Elsevier).

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