ETFA 2006



11th IEEE International Conference on Emerging Technologies and Factory Automation



September 20-22, 2006; Prague, Czech Republic

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Special Session on

The IEC 61499 Function Block Model in Factory Automation

Today's rapidly changing market requirements impose the need of improving the agility of manufacturing systems. The International Electro-technical Commission (IEC) in order to improve productivity in terms of re-use, reliability, flexibility and interoperability has defined the IEC 61499 function block (FB) model. The proposed model attempts to reduce engineering cost and system implementation time as well as to increase the reliability and maintainability of the whole system through the simplified migration from existing systems and adoption of current software engineering technologies.

The interest from academia and industry for this model that has recently been accepted as IEC 61499 standard, is growing last years and a lot of approaches that utilize the model are in evolution. The focus of this special session is on the FB model and its use in factory automation. Theoretical issues related to the specification as well as its use in practice will be presented and discussed.

Aim: This special session aims to provide a significant insight into the FB model's specification and its ability to support the whole development process of distributed control applications. Papers covering theoretical issues regarding the FB model as well as its application in control and automation are welcome.

Special Session Papers: More specifically topics include but are not limited to the following:

- System architectures, development methodologies, design alternatives
- Verification of FB models
- FB allocation & execution scheduling
- Extensions and modifications to the IEC model
- Integration of FB with UML
- Support for reconfigurability and real time constraints
- Engineering support Systems
- FB implementation environments
- Experimental developments, real-world examples, experience reports.

Submission of Papers: The working language of the conference is English. Papers should be limited to 8 double column pages in a font no smaller than 10-points. Manuscripts must be submitted electronically in PDF format, according to the instructions contained in the Conference web site. Prospective authors are invited to contact session organizer.

SESSION ORGANIZER Prof. Kleanthis Thramboulidis Electrical & Computer Engineering University of Patras, Greece thrambo@ee.upatras.gr

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Paper Acceptance: Each accepted paper must be presented at the conference by one of the authors. The final manuscript must be accompanied by a registration form and a registration fee payment proof. All conference attendees, including authors and session chairpersons, must pay the conference registration fee, and their travel expenses.

Author's Schedule:

Deadline for submission of Special Session papers: Notification of acceptance of Special Session papers: Deadline for submission of final manuscripts: April 30, 2006 May 25, 2006 July 1, 2006