

20th IFIP World Computer Congress

Milano, Italy 7-10 September 2008

WG10.2 Conference on

Distributed and Parallel Embedded Systems – DIPES '08



Programme

Monday, September 8 th 2008	
9:30-10:30	Session 1: Applications and Case Studies Chair: Bernd Kleinjohann Hierarchically Distributing Embedded Systems for Improved Autonomy <i>Claudius Stern, Philipp Adelt, Willi Richert and Bernd Kleinjohann</i> Sorting Units for FPGA-Based Embedded Systems <i>Rui Marcelino, Horácio Neto and João M. P. Cardoso</i> Error-Exploiting Video Encoder to Extend Energy/QoS Tradeoffs for Mobile Embedded Systems <i>Kyoungwoo Lee, Minyoung Kim, Nikil Dutt and Nalini Venkatasubramanian</i>
10.30-11.00	Coffee Break
11.00-12.00	Session 2: DIPES Keynote Chair: Wayne Wolf Embedded Computing and the Reliability Challenge <i>Jörg Henkel University of Karlsruhe, Germany</i>
12.00-14.30	Lunch
14.30-16.00	Session 3: Verification and Validation Chair: Flavio R. Wagner Specification-based Verification of Embedded Systems by Automated Test Case Generation <i>Christoph M. Kirchsteiger, Christoph Trummer, Christian Steger, Reinhold Weiss and Markus Pistauer</i> Analysis of Periodic Clock Relations in Polychronous Systems <i>Hugo Metivier, Jean-Pierre Talpin, Thierry Gautier and Paul Le Guernic</i> Formal Correctness of an Automotive Bus Controller Implementation at Gate-Level <i>Eyad Alkassar, Peter Böhm and Steffen Knapp</i>
16.00-16.30	Coffee Break
16.30-18.30	Session 4: Design Methods and Modelling Chair: Jörg Henkel Unifying HW Analysis and SoC Design Flows by Bridging Two Key Standards: UML and IP-XACT <i>Sebastien Revol, Safouan Taha, Francois Terrier, Alain Clouard, Sébastien Gerard, Ansgar Radermacher and Jean-Luc Dekeyser</i>



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	<p>Expressing Environment Assumptions and Real-time Requirements for a Distributed Embedded System with Shared Variables <i>Simon Tjell and João M. Fernandes</i></p> <p>The Components Data Flow Machine: An Intermediate Modeling Format to Support the Design of Automobiles E/E Systems Architectures <i>Augustin Kebemou and Ina Schieferdecker</i></p> <p>On the Use of Software Quality Metrics to Improve Physical Properties of Embedded Systems <i>Ricardo M. Redin, Marcio F. S. Oliveira, Lisane B. Brisolara, Julio C. B. Mattos, Luis C. Lamb, Flávio R.. Wagner and Luigi Carro</i></p>
Tuesday, September 9th 2008	
09.00–10.30	<p>Session 5: Resource Management Chair: Nikil Dutt</p> <p>Minimizing Leakage Energy with Modulo Scheduling for VLIW DSP Processors <i>Meng Wang, Zili Shao, Hui Liu and Chun Jason Xue</i></p> <p>Using Imprecise Computation Techniques for Power Management in Real-Time Embedded Systems <i>Geovani R. Wiedenhof and Antônio A. Fröhlich</i></p> <p>A Power Model for Register-Sharing Structures <i>Balaji V. Iyer and Thomas M. Conte</i></p>
10.30–11.00	Coffee break
11.00–12.00	<p>Session 6: Middleware and Communication Chair: Achim Rettberg</p> <p>Design and Implementation of a FTT-CAN Communication Infra-Structure for the RT-femtoJava Processor <i>Rita Kalile Almeida Andrade, Thomás Alimena Del Grande, Tiago Bücken and Carlos E. Pereira</i></p> <p>Communication Paradigms for High-Integrity Distributed Systems with Hard Real-Time Requirements <i>Santiago Urueña, Zuan Zamorano, José A. Pulido and Juan A. de la Puente</i></p>
12.00–14.30	Lunch
14.30–16.00	<p>Session 7: Distributed Operating Systems and Timing Chair: Franz J. Rammig</p> <p>TinyOS Extensions for a Wireless Sensor Network Node Based on a Dynamically Reconfigurable Processor <i>Enkhbold Ochirsuren, Heiko Hinkelmann, Leandro Soares Indrusiak and Manfred Glesner</i></p> <p>Scheduling Dependent Distributable Real-Time Threads in Dynamic Networked Embedded Systems <i>Sherif Fahmy, Binoy Ravindran and Douglas Jensen</i></p> <p>An Efficient Time Annotation Technique in Abstract RTOS Simulations for Multiprocessor Task Migration <i>Henning Zabel and Wolfgang Müller</i></p>
16.00–16.30	Coffee break
16.30–18.00	<p>Session 8: Task and Data Partitioning Chair: Thomas Conte</p> <p>Handling QoS Dependencies in Distributed Cooperative Real-Time Systems <i>Luis Nogueira and Luis Miguel Pinho</i></p>

Topology-Aware Energy Efficient Task Assignment for Collaborative In-Network Processing in Distributed Networked Sensor Systems
Baokang Zhao, Meng Wang, Zili Shao, Jinannong Cao, Keith C.C. Chan and Jinshu Su

Data Partitioning Techniques for Partially Protected Caches to Reduce Soft Error Induced Failures
Kyoungwoo Lee, Aviral Shrivastava, Nikil Dutt and Nalini Venkatasubramanian