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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Invited Talk -- The New Economics of Embedded Systems -- Application Specific (Co)Design -- A Framework for Architectural Description of Embedded System -- Automatically Customising VLIW Architectures with Coarse Grained Application-Specific Functional Units -- ASIP Architecture Exploration for Efficient Ipsec Encryption: A Case Study -- System and Application Synthesis -- Compact Procedural Implementation in DSP Software Synthesis Through Recursive Graph Decomposition -- An Integer Linear Programming Approach to Classify the Communication in Process Networks -- Predictable Embedded

Multiprocessor System Design -- Data Flow Analysis -- Suppression of Redundant Operations in Reverse Compiled Code Using Global Dataflow Analysis -- Fast Points-to Analysis for Languages with Structured Types -- Data Partitioning -- An Automated C++ Code and Data Partitioning Framework for Data Management of Data-Intensive Applications -- Combined Data Partitioning and Loop Nest Splitting for Energy Consumption Minimization -- On the Phase Coupling Problem Between Data Memory Layout Generation and Address Pointer Assignment -- Task Scheduling -- Dynamic Mapping and Ordering Tasks of Embedded Real-Time Systems on Multiprocessor Platforms -- Integrated Intra- and Inter-task Cache Analysis for Preemptive Multi-tasking Real-Time Systems -- A Fuzzy Adaptive Algorithm for Fine Grained Cache Paging -- Code Generation -- DSP Code Generation with Optimized Data Word-Length Selection -- Instruction Selection for Compilers That Target Architectures with Echo Instructions -- A Flexible Tradeoff Between Code Size and WCET Using a Dual Instruction Set Processor.

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### Sommario/riassunto

This volume contains the proceedings of the 8th International Workshop on Software and Compilers for Embedded Systems (SCOPES 2004) held in Amsterdam, The Netherlands, on September 2 and 3, 2004. Initially, the workshop was referred to as the International Workshop on Code Generation for Embedded Systems. The first took place in 1994 in Schloß Dagstuhl, Germany. From its beginnings, the intention of the organizers has been to create an interactive atmosphere in which the participants can discuss and profit from the assembly of international experts in the field. The name SCOPES has been used since the fourth edition in St. Goar, Germany, in 1999 when the scope of the workshop was extended to also cover general issues in embedded software design. Since then SCOPES has been held again in St. Goar in 2001; Berlin, Germany in 2002; Vienna, Austria in 2003; and now in Amsterdam, The Netherlands. In response to the call for papers, almost 50 very strong papers were submitted from all over the world. All submitted papers were reviewed by at least three experts to ensure the quality of the workshop. In the end, the program committee selected 17 papers for presentation at the workshop. These papers are divided into the following categories: application-specific (co)design, system and application synthesis, data flow analysis, data partitioning, task scheduling and code generation. In addition to the selected contributions, the keynote address was delivered by Mike Uhler from MIPS Technologies. An abstract of his talk is also included in this volume.

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