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Nota di contenuto	Scheduling -- Scheduling-Aware Real-Time Garbage Collection Using Dual Aperiodic Servers -- On the Composition of Real-Time Schedulers -- An Approximation Algorithm for Broadcast Scheduling in Heterogeneous Clusters -- Scheduling Jobs with Multiple Feasible Intervals -- Deterministic and Statistical Deadline Guarantees for a Mixed Set of Periodic and Aperiodic Tasks -- Real-Time Disk Scheduling with On-Disk Cache Conscious -- Probabilistic Analysis of Multi-processor Scheduling of Tasks with Uncertain Parameters -- Real-Time Virtual Machines for Avionics Software Porting and Development -- Algorithms for Managing QoS for Real-Time Data Services Using Imprecise Computation -- Networking and Communication -- On Soft Real-Time Guarantees on Ethernet -- BondingPlus: Real-Time Message Channel in Linux Ethernet Environment Using Regular Switching Hub -- An Efficient Switch Design for Scheduling Real-Time Multicast Traffic -- Embedded

Systems/Environments -- XRTJ: An Extensible Distributed High-Integrity Real-Time Java Environment -- Quasi-Dynamic Scheduling for the Synthesis of Real-Time Embedded Software with Local and Global Deadlines -- Framework-Based Development of Embedded Real-Time Systems -- OVL Assertion-Checking of Embedded Software with Dense-Time Semantics -- Pervasive/Ubiquitous Computing -- System Support for Distributed Augmented Reality in Ubiquitous Computing Environments -- Zero-Stop Authentication: Sensor-Based Real-Time Authentication System -- An Interface-Based Naming System for Ubiquitous Internet Applications -- Systems and Architectures -- Schedulability Analysis in EDF Scheduler with Cache Memories -- Impact of Operating System on Real-Time Main-Memory Database System's Performance -- The Design of a QoS-Aware MPEG-4 Video System -- Resource Management -- Constrained Energy Allocation for Mixed Hard and Soft Real-Time Tasks -- An Energy-Efficient Route Maintenance Scheme for Ad Hoc Networking Systems -- Resource Reservation and Enforcement for Framebuffer-Based Devices -- File Systems and Databases -- An Efficient B-Tree Layer for Flash-Memory Storage Systems -- Multi-disk Scheduling for High-Performance RAID-0 Devices -- Database Pointers: A Predictable Way of Manipulating Hot Data in Hard Real-Time Systems -- Performance Analysis -- Extracting Temporal Properties from Real-Time Systems by Automatic Tracing Analysis -- Rigorous Modeling of Disk Performance for Real-Time Applications -- Bounding the Execution Times of DMA I/O Tasks on Hard-Real-Time Embedded Systems -- Tools and Development -- Introducing Temporal Analyzability Late in the Lifecycle of Complex Real-Time Systems -- RESS: Real-Time Embedded Software Synthesis and Prototyping Methodology -- Software Platform for Embedded Software Development -- Towards Aspectual Component-Based Development of Real-Time Systems -- Testing of Multi-Tasking Real-Time Systems with Critical Sections -- Symbolic Simulation of Real-Time Concurrent Systems.

Sommario/riassunto

This volume contains the 37 papers presented at the 9th International Conference on Real-Time and Embedded Computing Systems and Applications (RT- CSA 2003). RTCSA is an international conference organized for scientists and researchers from both academia and industry to hold intensive discussions on advancing technologies topics on real-time systems, embedded systems, ubiquitous/pervasive computing, and related topics. RTCSA 2003 was held at the Department of Electrical Engineering of National Cheng Kung University in Taiwan. Paper submissions were well distributed over the various aspects of real-time computing and embedded system technologies. There were more than 100 participants from all over the world. The papers, including 28 regular papers and 9 short papers are grouped into the categories of scheduling, networking and communication, embedded systems, pervasive/ubiquitous computing, systems and architectures, resource management, ?le systems and databases, performance analysis, and tools and development. The grouping is basically in accordance with the conference program. Earlier versions of these papers were published in the conference proceedings. However, some papers in this volume have been modified or improved by the authors, in various aspects, based on comments and feedback received at the conference. It is our sincere hope that researchers and developers will benefit from these papers. We would like to thank all the authors of the papers for their contribution. We thank the members of the program committee and the reviewers for their excellent work in evaluating the submissions. We are also very grateful to all the members of the organizing committees for their help, guidance and support.