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Nota di contenuto	Keynote Addresses -- Rethinking Computer Architecture Research -- Event Servers for Crisis Management -- DIET: Building Problem Solving Environments for the Grid -- The Future Evolution of High-Performance Microprocessors -- Low Power Robust Computing -- Networks and Games -- Plenary Session - Best Papers -- An Incentive Driven Lookup Protocol for Chord-Based Peer-to-Peer (P2P) Networks -- A Novel Battery Aware MAC Protocol for Ad Hoc Wireless Networks -- Session I -Wireless Network Management -- Dynamic Topology Construction in Bluetooth Scatternets -- Efficient Secure Aggregation in Sensor Networks -- Optimal Access Control for an Integrated Voice/Data CDMA System -- Adaptive Load Balancing of Cellular CDMA Systems

Considering Non-uniform Traffic Distributions -- An Active Framework for a WLAN Access Point Using Intel's IXP1200 Network Processor -- MuSeQoR: Multi-path Failure-Tolerant Security-Aware QoS Routing in Ad Hoc Wireless Networks -- Session II - Compilers and Runtime Systems -- A Tunable Coarse-Grained Parallel Algorithm for Irregular Dynamic Programming Applications -- A Feedback-Based Adaptive Algorithm for Combined Scheduling with Fault-Tolerance in Real-Time Systems -- A Shared Memory Dispatching Approach for Partially Clairvoyant Schedulers -- Data Redistribution Algorithms for Homogeneous and Heterogeneous Processor Rings -- Effect of Optimizations on Performance of OpenMP Programs -- Sparse Matrices in Matlab\*P: Design and Implementation -- Session III - High-Performance Scientific Applications -- Architecture and Early Performance of the New IBM HPS Fabric and Adapter -- Scheduling Many-Body Short Range MD Simulations on a Cluster of Workstations and Custom VLSI Hardware -- Performance Characteristics of a Cosmology Package on Leading HPC Architectures -- A DynamicGeometry-Based Shared Space Interaction Framework for Parallel Scientific Applications -- Earthquake Engineering Problems in Parallel Neuro Environment -- Parallel Simulation of Carbon Nanotube Based Composites -- Session IV - Peer-to-Peer and Storage Systems -- Design of a Robust Search Algorithm for P2P Networks -- Efficient Immunization Algorithm for Peer-to-Peer Networks -- Leveraging Public Resource Pools to Improve the Service Compliances of Computing Utilities -- Plethora: An Efficient Wide-Area Storage System -- iSAN -- An Intelligent Storage Area Network Architecture -- Session V - High-Performance Processors and Routers -- Static Techniques to Improve Power Efficiency of Branch Predictors -- Realistic Workload Scheduling Policies for Taming the Memory Bandwidth Bottleneck of SMPs -- A Parallel State Assignment Algorithm for Finite State Machines -- A Novel Scheme to Reduce Burst-Loss and Provide QoS in Optical Burst Switching Networks -- Single FU Bypass Networks for High Clock Rate Superscalar Processors -- DSP Implementation of Real-Time JPEG2000 Encoder Using Overlapped Block Transferring and Pipelined Processing -- Session VI - Grids and Storage Systems -- Dynamic Load Balancing for a Grid Application -- Load Balancing for Hierarchical Grid Computing: A Case Study -- A-FAST: Autonomous Flow Approach to Scheduling Tasks -- Integration of Scheduling and Replication in Data Grids -- Efficient Layout Transformation for Disk-Based Multidimensional Arrays -- Autonomic Storage System Based on Automatic Learning -- Session VII - Energy-Aware and High-Performance Networking -- Broadcast Based Cache Invalidation and Prefetching in Mobile Environment -- Efficient Algorithm for Energy Efficient Broadcasting in Linear Radio Networks -- Characterization of OpenMP Applications on theInfiniBand-Based Distributed Virtual Shared Memory System -- Fast and Scalable Startup of MPI Programs in InfiniBand Clusters -- Parallel Performance of Hierarchical Multipole Algorithms for Inductance Extraction -- Session VIII - Distributed Algorithms -- A New Adaptive Fault-Tolerant Routing Methodology for Direct Networks -- Fast and Efficient Submesh Determination in Faulty Tori -- High Performance Cycle Detection Scheme for Multiprocessing Systems -- Improved Quality of Solutions for Multiobjective Spanning Tree Problem Using Distributed Evolutionary Algorithm -- Simple Deadlock-Free Dynamic Network Reconfiguration -- Lock-Free Parallel Algorithms: An Experimental Study.

Sommario/riassunto

timely work, the quality of this program would not be as high nor would the process have run so smoothly. I also wish to thank the others supporting cast members who helped in putting to

gether this program, including those who organized the keynotes, tutorials, workshops, awards, poster session, industrial track session, and those who performed the administrative functions that are essential to the success of this conference. The work of Sushil K. Prasad in putting together the conference proceedings is also acknowledged, as well as the support provided by Mathieu Jan and Sébastien Monnet, PhD students at IRISA, in maintaining the CyberChair online paper submission and evaluation software. Last, but certainly not least, I express heartfelt thanks to our General Co-chairs, Viktor Prasanna and Uday Shukla, and to the Vice-General Chair, David A. Bader, for all their useful advice. The preparation of this conference was unfortunately marked by a very sad and unexpected event: the sudden demise of Dr. Uday Shukla, who was a strong supporter of HiPC over the past ten years. He passed away on July 20, 2004 after a very brief illness. Dr. Shukla had been involved in organizing HiPC since the beginning. In addition to his encouragement in organizing HiPC, Dr. Shukla was a strong supporter of research activities in computer science and information technology in India. We will miss a friend of HiPC.

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