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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introducing Combustion-Turbulence Interaction in Parallel Simulation of Diesel Engines -- An Enhanced Parallel Version of Kiva-3V, Coupled with a 1D CFD Code, and Its Use in General Purpose Engine Applications -- A Distributed, Parallel System for Large-Scale Structure Recognition in Gene Expression Data -- Cluster Design in the Earth Sciences Tethys -- A Streaming Implementation of Transform and Quantization in H.264 -- A Parallel Transferable Uniform Multi-Round Algorithm in Heterogeneous Distributed Computing Environment -- Clustering Multicast on Hypercube Network -- Checkpointing and Communication Pattern-Neutral Algorithm for Removing Messages

Logged by Senders -- The Design of a Dynamic Efficient Load Balancing Algorithm on Distributed Networks -- Distributed Resource Allocation for Stream Data Processing -- Network Probabilistic Connectivity: Expectation of a Number of Disconnected Pairs of Nodes -- Parallel LU Factorization of Band Matrices on SMP Systems -- A Tree-Based Distributed Model for BGP Route Processing -- A Novel Scheme for the Parallel Computation of SVDs -- Cache-Optimal Data-Structures for Hierarchical Methods on Adaptively Refined Space-Partitioning Grids -- CStallocator: Call-Site Tracing Based Shared Memory Allocator for False Sharing Reduction in Page-Based DSM Systems -- Performance Evaluation of Storage Formats for Sparse Matrices in Fortran -- Performance Monitoring and Visualization of Grid Scientific Workflows in ASKALON -- Exploring the Capacity of a Modern SMT Architecture to Deliver High Scientific Application Performance -- A Statistical Approach to Traffic Management in Source Routed Loss-Less Networks -- Model-Based Relative Performance Diagnosis of Wavefront Parallel Computations -- Self-optimization of MPI Applications Within an Autonomic Framework -- Discovery of Locality-Improving Refactorings by Reuse Path Analysis -- Integrating TAU with Eclipse: A Performance Analysis System in an Integrated Development Environment -- Scalable Architecture for Allocation of Idle CPUs in a P2P Network -- A Proactive Secret Sharing for Server Assisted Threshold Signatures -- An Efficient ID-Based Bilinear Key Predistribution Scheme for Distributed Sensor Networks -- A Key-Predistribution-Based Weakly Connected Dominating Set for Secure Clustering in DSN -- Pairwise Key Setup and Authentication Utilizing Deployment Information for Secure Sensor Network -- HAND: An Overlay Optimization Algorithm in Peer-to-Peer Systems -- A High Performance Heterogeneous Architecture and Its Optimization Design -- Development and Performance Study of a Zero-Copy File Transfer Mechanism for VIA-Based PC Cluster Systems -- DPCT: Distributed Parity Cache Table for Redundant Parallel File System -- On High Performance Multicast Algorithms for Interconnection Networks -- A Proactive Distributed QoS Control Framework for Cluster Web Site -- Design and Implementation of Zero-Copy Data Path for Efficient File Transmission -- Virtual Hierarchy Synthesis for Hybrid Mobile Ad Hoc Networks -- Design and Analysis of High Performance TCP -- On a NIC's Operating System, Schedulers and High-Performance Networking Applications -- A Microeconomics-Based Fuzzy QoS Unicast Routing Scheme in NGI -- Adaptive Online Management for Congestion Control in QoS Sensitive Multimedia Services -- BGPsep\_D: An Improved Algorithm for Constructing Correct and Scalable IBGP Configurations Based on Vertexes Degree -- DiffServ-Aware MPLS Scheme to Support Policy-Based End-to-End QoS Provision in Beyond 3G Networks -- Effect of Flow Aggregation on the Maximum End-to-End Delay -- Heterogeneous QoS Multicast and Its Improvement on Edge-Based Overlay Networks -- On Multicasting Steiner Trees for Delay and Delay Variation Constraints -- Periodic Message Scheduling on a Switched Ethernet for Hard Real-Time Communication -- Optical Traffic Grooming Based on Network Availability -- Do We Really Need Dynamic Wavelength-Routed Optical Networks? -- Design and Implementation of Middleware and Context Server for Context-Awareness -- Security and Privacy Analysis of RFID Systems Using Model Checking -- ITB: Intrusion-Tolerant Broadcast Protocol in Wireless Sensor Networks -- Authentication for Ubiquitous Multi Domain in Pervasive Computing Using PMI -- Proxy-Based Service Discovery and Network Selection in 6LoWPAN -- A Low-Power Hybrid ARQ Scheme for the RFID System -- Multi-Granularities Counting Bloom Filter -- Dynamic Execution Environments for Ubiquitous

Computing Service -- A Dynamic Trust Model Based on Naive Bayes Classifier for Ubiquitous Environments -- Context-Role Based Access Control for Context-Aware Application -- Context Communication for Providing Context-Aware Application's Independency -- A Heterogeneous Embedded MPSoC for Multimedia Applications -- Generated Implementation of a WLAN Protocol Stack -- A New Address Mapping Scheme for High Parallelism MEMS-Based Storage Devices -- Practice and Experience of an Embedded Processor Core Modeling -- QoS Support for Video Transmission in High-Speed Interconnects -- Discrete Broadcasting Protocols for Video-on-Demand -- Multistage Authentication Scheme for Mobile Ad-Hoc Network Using Clustering Mechanism -- Fast and Memory-Efficient NN Search in Wireless Data Broadcast -- A New Proposal of TCP for IEEE 802.11 Wireless Networks -- Gradient-Based Autoconfiguration for Hybrid Mobile Ad Hoc Networks -- Model-Aided Data Collecting for Wireless Sensor Networks -- Low Latency and Cost Effective Handoff Based on PBF Scheme in Hierarchical Mobile IPv6 -- Distributed Classification of Textual Documents on the Grid -- Towards Job Accounting in Existing Resource Schedulers: Weaknesses and Improvements -- Mapping Heavy Communication Workflows onto Grid Resources Within an SLA Context -- The SLA-Compatible Fault Management Model for Differentiated Fault Recovery -- Towards SLA-Supported Resource Management -- Reliable Orchestration of Resources Using WS-Agreement -- Dynamically Scheduling Divisible Load for Grid Computing -- Computational Efficiency and Practical Implications for a Client Grid -- Developing a Consistent Data Sharing Service over Grid Computing Environments -- Analysis of Interoperability Issues Between EGEE and VEGA Grid Infrastructures -- Temporal Storage Space for Grids -- e-AIRS: An e-Science Collaboration Portal for Aerospace Applications -- A Parallel Plug-In Programming Paradigm -- Hybrid MPI-Thread Implementation on a Cluster of SMP Nodes of a Parallel Simulator for the Propagation of Powdery Mildew in a Vineyard -- Exploring Unexpected Behavior in MPI -- Zone-Oriented Byzantine Agreement on Zone-Based Wireless Ad-Hoc Network -- Priority-Enabled Optimization of Resource Utilization in Fault-Tolerant Optical Transport Networks -- SHIELD: A Fault-Tolerant MPI for an Infiniband Cluster -- Priority-Based Event Message Scheduling in Distributed Virtual Environment -- inVRs -- A Framework for Building Interactive Networked Virtual Reality Systems -- JaDiMa: Java Applications Distributed Management on Grid Platforms -- Reducing Data Replication Overhead in DHT Based Peer-to-Peer System -- Improving Resiliency Using Capacity-Aware Multicast Tree in P2P-Based Streaming Environments.

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## Sommario/riassunto

Welcome to the proceedings of the 2006 International Conference on High- Performance Computing and Communications (HPCC 2006), which was held in Munich, Germany, September 13–15, 2006. This year's conference marks the second edition of the HPCC conference series, and we are honored to serve as the Chairmen of this event with the guidance of the HPCC Steering Chairs, Beniamino Di Martino and Laurence T. Yang. With the rapid growth in computing and communication technology, the past decade has witnessed a proliferation of powerful parallel and distributed systems and an ever-increasing demand for the practice of high-performance computing and communication (HPCC). HPCC has moved into the mainstream of computing and has become a key technology in future research and development activities in many academic and industrial branches, especially when the solution of large and complex problems must cope with very tight time constraints. The HPCC 2006 conference provides a forum for engineers and scientists in academia,

industry, and government to address all resulting profound challenges and to present and discuss their new ideas, research results, applications, and experience on all aspects of HPCC. There was a very large number of paper submissions (328), not only from Europe, but also from Asia and the Pacific, and North and South America. This number of submissions represents a substantial increase of contributions compared to the first year of HPCC, which clearly underlines the importance of this domain.

All submissions were reviewed by at least three Program Committee members or external reviewers. It was extremely difficult to select the presentations for the conference because there were so many excellent and interesting submissions.

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