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Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Invited Speakers -- The SPMD Model: Past, Present and Future -- Building a Foundation for the Next PVM: Petascale Virtual Machines -- Challenges and Successes in Achieving the Potential of MPI -- Programming High Performance Applications in Grid Environments -- NPACI Rocks Clusters: Tools for Easily Deploying and Maintaining Manageable High-Performance Linux Clusters -- Clusters for Data-Intensive Applications in the Grid -- A Comparative Analysis of PVM/MPI and Computational Grids -- Implementation, Evaluation and

Performance of PVM/MPI -- MPI-2 One-Sided Communications on a Giganet SMP Cluster -- Effective Communication and File-I/O Bandwidth Benchmarks -- Performance of PENTRAN™ 3-D Parallel Particle Transport Code on the IBM SP2 and PCTRAN Cluster -- Layering SHMEM on Top of MPI -- Support for MPI at the Network Interface Level -- The Implementation of One-Sided Communications for WMPI II -- Assessment of PVM Suitability to Testbed Client-Agent-Server Applications -- Extensions and Improvements on PVM/MPI -- TH-MPI: OS Kernel Integrated Fault Tolerant MPI -- CPPvm - C++ and PVM -- Persistent and Non-persistent Data Objects on Top of PVM and MPI -- System Area Network Extensions to the Parallel Virtual Machine -- Adding Dynamic Coscheduling Support to PVM -- A Model to Integrate Message Passing and Shared Memory Programming -- An Architecture for a Multi-threaded Harness Kernel -- Parallel IO Support for Meta-computing Applications: MPI_Connect IO Applied to PACX-MPI -- Tools for PVM and MPI -- TOPPER: A Tool for Optimizing the Performance of Parallel Applications -- Programming Parallel Applications with LAMGAC in a LAN-WLAN Environment -- A Dynamic Load Balancing Architecture for PDES Using PVM on Clusters -- Dynamic Partitioning of the Divide-and-Conquer Scheme with Migration in PVM Environment -- Using Monitoring Techniques to Support the Cooperation of Software Components -- An Integrated Record&Replay Mechanism for Nondeterministic Message Passing Programs -- Fast and Scalable Real-Time Monitoring System for Beowulf Clusters -- Dynamic Process Management in KSIX Cluster Middleware -- Adaptive Execution of Pipelines -- MemTo: A Memory Monitoring Tool for a Linux Cluster -- A Community Databank for Performance Tracefiles -- Review of Performance Analysis Tools for MPI Parallel Programs -- Algorithms Using Message Passing -- PVM Computation of the Transitive Closure: The Dependency Graph Approach -- Parallizing 1-Dimensional Estuarine Model -- A Parallel ADI and Steepest Descent Methods -- Distributed Numerical Markov Chain Analysis -- A Parallel Algorithm for Connected Components on Distributed Memory Machines -- Biharmonic Many Body Calculations for Fast Evaluation of Radial Basis Function Interpolants in Cluster Environments -- Heterogeneous Networks of Workstations and the Parallel Matrix Multiplication -- Collecting Remote Data in Irregular Problems with Hierarchical Representation of the Domain -- Parallel Image Matching on PC Cluster -- Computing Partial Data Cubes for Parallel Data Warehousing Applications -- PDES: A Case Study Using the Switch Time Warp -- Application of MPI in Displacement Based Multilevel Structural Optimization -- Algorithms in Science and Engineering -- Parallelization of Characteristics Solvers for 3D Neutron Transport -- Using a Network of Workstations to Enhance Database Query Processing Performance -- Towards a Portable, Fast Parallel AP3M-SPH Code: HYDRA_MPI -- Efficient Mapping for Message-Passing Applications Using the TTIG Model: A Case Study in Image Processing -- Text Searching on a Heterogeneous Cluster of Workstations -- Simulation of Forest Fire Propagation on Parallel & Distributed PVM Platforms -- A Data and Task Parallel Image Processing Environment -- Evaluating the DIPORSI Framework: Distributed Processing of Remotely Sensed Imagery -- Scalable Unix Commands for Parallel Processors: A High-Performance Implementation -- Low-Cost Parallel Text Retrieval Using PC-Cluster -- Parallelization of Finite Element Package by MPI Library.

Sommario/riassunto

Parallel Virtual Machine (PVM) and Message Passing Interface (MPI) are the most frequently used tools for programming according to the message passing paradigm, which is considered one of the best ways

to develop parallel appli- tions. This volume comprises 50 revised contributions presented at the Eighth - ropean PVM/MPI Users' Group Meeting, which was held on Santorini (Thera), Greece,23–26September2001.TheconferencewasorganizedbytheDepartment of Informatics and Telecommunications, University of Athens, Greece. This conference has been previously held in Balatofured, ¨ Hungary (2000), Barcelona, Spain (1999), Liverpool, UK (1998), and Krakow, Poland (1997). The ?rst three conferences were devoted to PVM and were held at the TU Munich, Germany (1996), the ENS Lyon, France (1995), and the University of Rome (1994). This conference has become a forum for users and developers of PVM, MPI, and other message passing environments. Interaction between these groups has proved to be very useful for developing new ideas in parallel computing and for applying some of those already existent to new practical ?elds. The main topics of the meeting were evaluation and performance of PVM and MPI, extensions and improvements to PVM and MPI, algorithms using the message passing paradigm, andapplicationsinscienceandengineeringbasedonmessagepassing. The conference included one tutorial on MPI and 9 invited talks on advances in MPI, cluster computing, network computing, Grid computing, and parallel programming and programming systems. These proceedings contain papers on the 46 oral presentations together with 4 poster presentations.