1. Record Nr. UNINA9910143467203321

Titolo	Parallel Computation : 4th International ACPC Conference Including Special Tracks on Parallel Numerics (ParNum'99) and Parallel Computing in Image Processing, Video Processing, and Multimedia Salzburg, Austria, February 16-18, 1999, Proceedings / / edited by Peter Zinterhof, Marian Vajtersic, Andreas Uhl
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 1999
ISBN	3-540-49164-3
Edizione	[1st ed. 1999.]
Descrizione fisica	1 online resource (DCXXVIII, 612 p.)
Collana	Lecture Notes in Computer Science, , 1611-3349 ; ; 1557
Disciplina	004.35
Soggetti	Computer systems Algorithms Computer programming Computer science - Mathematics Computer vision Numerical analysis Computer System Implementation Programming Techniques Mathematics of Computing Computer Vision Numerical Analysis
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Parallel Numerics -- Teraflops Computing: A Challenge to Parallel Numerics? -- Non-standard Parallel Solution Strategies for Distributed Sparse Linear Systems -- Parallel Numerics -- Optimal Tridiagonal Solvers on Mesh Interconnection Networks -- Parallel Pivots LU Algorithm on the Cray T3E -- Experiments with Parallel One - Sided and Two - Sided Algorithms for SVD -- Combined Systolic Array for Matrix Portrait Computation -- Parallel Numerics -- A Class of Explicit Two-Step Runge-Kutta Methods with Enlarged Stability Regions for

Parallel Computers -- A Parallel Strongly Implicit Algorithm for Solving of Diffusion Equations -- A Parallel Algorithm for Lagrange Interpolation on k-ary n-Cubes -- Parallel Numerics -- Parallel Quasi-Monte Carlo Integration Using (t,s)-Sequences -- Parallel Random Number Generation: Long-Range Correlations Among Multiple Processors -- A Monte-Carlo Method with Inherent Parallelism for Numerical Solving Partial Differential Equations with Boundary Conditions -- Parallel Numerics -- Blocking Techniques in Numerical Software -- HPF and Numerical Libraries -- paradeis: An Object Library for Parallel Sparse Array Computation -- Parallel Numerics -- Performance Analysis and Derived Parallelization Strategy for a SCF Program at the Hartree Fock Level -- Computational Issues in Optimizing Ophthalmic Lens -- Parallel Finite Element Modeling of Solidification Processes -- Parallel Computing in Image Processing, Video Processing, and Multimedia -- Architectural Approaches for Multimedia Processing -- On Parallel Reconfigurable Architectures for Image Processing -- Parallel Computing in Image Processing, Video Processing, and Multimedia -- Parallel Multiresolution Image Segmentation with Watershed Transformation -- Solving Irregular Inter-processor Data Dependency in Image Understanding Tasks -- A New Parallelism Management Scheme for Multiprocessor Systems -- Parallel Computing in Image Processing, Video Processing, and Multimedia -- A Flexible VLSI Parallel Processing System for Block-Matching Motion Estimation in Low Bit-Rate Video Coding Applications -- Hierarchical Block Matching Motion Estimation on a Hypercube Multiprocessor -- Classification Based Speed-Up Methods for Fractal Image Compression on Multicomputers -- Accurate Motion Estimation in Image Sequences: Massive vs. Distributed Parallelism -- Parallel Computing in Image Processing, Video Processing, and Multimedia -- A Real-Time Distributed Video Image Processing System on PC-Cluster -- Modeling and Scheduling for MPEG-4 Based Video Encoder Using a Cluster of Workstations -- Fractal Video Compression on Shared Memory Systems -- The Split-Proxy Approach: A New Architecture for Parallel Video Servers § -- Parallel Computing in Image Processing, Video Processing, and Multimedia -- A Wavelet Toolbox for Large Scale Image Processing -- Hardware and Software Aspects for 3-D Wavelet Decomposition on Shared Memory MIMD Computers -- On the Parallel Implementation of the Fast Wavelet Packet Transform on MIMD Distributed Memory Environments -- Algorithms and Programming Paradigms for 2-D Wavelet Packet Decomposition on Multicomputers and Multiprocessors -- Real-Time Layered Video Compression Using SIMD Computation -- Parallel Computing in Image Processing, Video Processing, and Multimedia -- Parallelisation of a Satellite Signal Processing Code - Strategies and Tools -- MMIPPS - A Software Package for Multitemporal and Multispectral Image Processing on Parallel Systems -- Parallel Matching of Synthetic Aperture Radar Images -- General Aspects of Parallel Computation -- Parallel Decomposition of Distance-HereditaryGraphs -- Asynchronous Parallel Construction of Recursive Tree Hierarchies -- The Locality Property in Topological Irregular Graph Hierarchies -- General Aspects of Parallel Computation -- Geometry-Aided Rectilinear Partitioning of Unstructured Meshes -- Reducing Cache Conflicts by a Parametrized Memory Mapping -- Optimizing I/O for Irregular Applications on Distributed-Memory Machines -- General Aspects of Parallel Computation -- Cellular Multiprocessor Arrays with Adaptive Resource Utilization -- NOPE: A Nondeterministic Program Evaluator -- Visual-MCM: Visualising Execution Histories on Multiple Memory Consistency Models -- General Aspects of Parallel Computation -- High

Performance Implementation of MPI for Myrinet -- Parallel Cluster Computing with IEEE1394–1995 -- Simulating Load Balancing on Heterogeneous Workstation Clusters -- General Aspects of Parallel Computation -- Global Virtual Time Approximation for Split Queue Time Warp -- MPI-parallelized Radiance on SGI CoW and SMP -- Parallel Sub-collection Join Query Algorithms for a High Performance Object-Oriented Database Architecture -- General Aspects of Parallel Computation -- An Evaluation of Parallel Computing in PC Clusters with Fast Ethernet -- Parallel MPEG-2 Encoder on ATM and Ethernet-Connected Workstations -- Block and Partitioned Neville Elimination -- An Object-Oriented DataBase for Movies-on-Demand: Two Approaches § -- Parallel Tree Algorithms for N-body Simulations -- Parallel Numerical Algorithms for Distributed Memory Machines -- Dynamic Scheduling on a Network Heterogeneous Computer System -- Interaction between PVM Parameters and Communication Performances on ATM Networks -- How To Share a Divisible Load in a Hypercube -- Overlapped Four-Step FFT Computation -- Design of Parallel Processing System for Facial ImageRetrieval -- Inter-procedural Analysis for Parallelization of Java Programs -- Fast Recursive Computation of Local Axial Moments by Using Primitive Kernel Functions -- Speed Up Estimation for a Parallel Method for Systems of Linear Ordinary Differential Equations -- Efficient Parallel Algorithms for Dense Cholesky Factorization.

Sommario/riassunto

TheAustrianCenterforParallelComputation(ACPC)isacooperativeresearch organization founded in 1989 to promote research and education in the eld of Software for Parallel Computer Systems. The areas in which the ACPC is active include algorithms, languages, c- pilers, programmingenvironments,andapplicationsforparallelandhigh-perf- mance computing systems. The partners of ACPC run researchprojects in these elds, use a common pool of hardware equipment, and oer a joint curriculum in ParallelComputationfor graduateand postgraduatestudents. Moreover,s- eral national and international workshops and conferences have been organized within the framework of the ACPC.
TheseproceedingsconcerntheFourthInternationalConferenceoftheACPC (ACPC'99), held on February 16{18 in Salzburg, Austria. This conference is a merge of two established international conference/workshop series devoted to parallel processing: the ACPC conferences which were held previously in Salzburg, Gmunden, and Klagenfurt (all Austria) and the Parallel Numerics (ParNum) workshops which were organized in Smolenice (Slovakia), Sorrento (Italy), Gozd Martuljek (Slovenia), and Zakopane (Poland). We invited 20 researchers to participate on the program committee. The conference attracted authors from 22 countries around the worldwho submitted 75 papers, out of which 50 were selected for presentation at the conference. Additionally, a poster session was organized featuring work in progress. Four distinguished researcherspresented invited papers with topics related to the two specialtracksonParallelNumericsandParallelComputinginImageProcessin g, Video Processing, and Multimedia.