1. Record Nr. UNINA9910484233103321

Titolo	Parallel Computing Technologies : 12th International Conference, PaCT 2013, St. Petersburg, Russia, September 30-October 4, 2013, Proceedings / / edited by Victor Malyshkin
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2013
ISBN	3-642-39958-4
Edizione	[1st ed. 2013.]
Descrizione fisica	1 online resource (XVI, 444 p. 183 illus.)
Collana	Theoretical Computer Science and General Issues, , 2512-2029 ; ; 7979
Disciplina	004.35
Soggetti	Software engineering Algorithms Numerical analysis Computer simulation Computers Computer engineering Computer networks Software Engineering Numerical Analysis Computer Modelling Hardware Performance and Reliability Computer Engineering and Networks
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Keynotes -- Bi-Objective Optimization for Scheduling in Parallel Computing Systems -- Robust Computing Systems -- Parallel Computing Methods and Algorithms -- Strassen's Communication-Avoiding Parallel Matrix Multiplication Algorithm for All-Port 2D Torus Networks Classical and Quantum Parallelism in the Quantum Fingerprinting Method -- Timed Resource Driven Automata Nets for Distributed Real-Time Systems Modelling -- Parallelization Properties of Preconditioners for the Conjugate Gradient Methods -- Transitive Closure of a Union of Dependence Relations for Parameterized

Perfectly-Nested Loops -- Cliff-Edge Consensus: Agreeing on the Precipice -- Hybrid Multi-GPU Solver Based on Schur Complement Method -- Formal Verification of Programs in the Pifagor Language -- Characterization and Understanding Machine-Specific Interconnects -- Multi-core Implementation of Decomposition-based Packet Classification Algorithms -- Slot Selection Algorithms in Distributed Computing with Non-dedicated and Heterogeneous Resources -- Parallel Programming Tools -- Determination of Dependence of Performance from Specifications of Separate Components of the Hybrid Personal Computing System Based on GPU-Processors -- Design of Distributed Parallel Computing Using by MapReduce/MPI Technology -- PowerVisor: A Toolset for Visualizing Energy Consumption and Heat Dissipation Processes in Modern Processor Architectures -- SVM Regression Parameters Optimization Using Parallel Global Search Algorithm -- Secure and Unfailing Services -- FuPerMod: a Framework for Optimal Data Partitioning for Parallel Scientific Applications on Dedicated Heterogeneous HPC Platforms -- DISBench: Benchmark for Memory Performance Evaluation of Multicore Multiprocessors -- Fast and Scalable, Lock-free k-FIFO Queues -- Development of Basic Approach and Software Package for Effective Parallel Computing of Continuum Mechanics Problems on Hybrid Architecture Systems -- On-line parallelizable task scheduling on parallel processors -- Organizingof Parallel Processing User-Friendly Dataflow-Oriented Environment for User Tasks Execution on Cluster -- SeloGPU: A Selective O®-loading framework for High Performance GPGPU Execution -- Efficient Domain Decomposition of Dissipative Particle Dynamics via Choice of Pseudorandom Number Generator -- SkelCL: Enhancing OpenCL for High-Level Programming of Multi-GPU Systems -- Cellular Automata -- Cellular Automata Model of Some Organisms Population in Lake Baikal -- 3-D Cellular Automata Model of Fluid Permeation through Porous Material -- Temporal-impulse description of complex images based on cellular automata -- 3D Heart Modeling With Cellular Automata, Mass-Spring System and CUDA -- Towards the Introduction of Parallelism in the MakkSim Pedestrian Simulator -- CA Agents for All-to-All Communication are Faster in the Triangulate Grid -- Parallel Implementation of Totalistic Cellular Automata Model of Stable Patterns Formation -- cupSODA: a CUDA-powered Simulator of Mass-Action Kinetics -- Reconstructing Images with Nature Inspired Algorithms -- Analysis and Application of the Pedestrian Permeation Through the Crowd via Cellular Automata -- An Isotropic Optimum-Time FSSP Algorithm for Two-Dimensional Cellular Automata -- Application -- MathCloud: Publication and Reuse of Scientific Applications as RESTful-Web Services -- Enhanced Differential Evolution Entirely Parallel Method for Biomedical Applications -- TCP TIPS: TCP Variant with Proactive Congestion Avoidance -- The Unified Algorithmic Platform for Solving Complex Problems of Computational Geometry -- Rigid Body Molecular Dynamics within the Domain Decomposition framework of DL POLY 4 -- OPTNOC: An Optimized 3D Network-on-Chip Design for Fast Memory Access.

Sommario/riassunto

This book constitutes the proceedings of the 12th International Conference on Parallel Computing Technologies, PaCT 2013, held in St. Petersburg, Russia, during September 30-October 4, 2013. The 41 full papers presented together with 2 invited papers were carefully reviewed and selected from 83 submissions. The papers are organized in topical sections on all technological aspects of the applications of parallel computer systems High level parallel programming languages and systems, methods and tools for parallel solution of large-scale problems, languages, environments and software tools supporting

parallel processing, operating systems, scheduling, mapping, load balancing, general architectural concepts, cellular automata, performance measurement and analysis tools, teaching parallel processing, software for grid and cloud computing, scalable computing, fragmentation and aggregation of algorithms and programs as well as programs assembling and reuse.