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Soggetti	Software engineering Computer architecture Computer organization Computer hardware Computer science—Mathematics Computers Software Engineering/Programming and Operating Systems Computer System Implementation Computer Systems Organization and Communication Networks Computer Hardware Discrete Mathematics in Computer Science Theory of Computation
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Nota di contenuto	<p>Fourth International Workshop on High-Level Parallel Programming Models and Supportive Environments (HIPS'99) -- Efficient program partitioning based on compiler controlled communication -- SCI-VM: A flexible base for transparent shared memory programming models on clusters of PCs -- Flexible collective operations for distributed object groups -- SCALA: A framework for performance evaluation of scalable computing -- Recursive individually distributed object -- The MuSE system: A flexible combination of on-stack execution and work-stealing -- Pangaea: An automatic distribution front-end for Java -- Concurrent language support for interoperable applications -- On the distributed implementation of aggregate data structures by program transformation -- Implementing a non-strict functional programming language on a threaded architecture -- Second workshop on bio-inspired solutions to parallel processing problems (BioSP3) -- The biological basis of the immune system as a model for intelligent agents -- A formal definition of the phenomenon of collective intelligence and its IQ measure -- Implementation of data flow logical operations via self-assembly of DNA -- A parallel hybrid evolutionary metaheuristic for the period vehicle routing problem -- Distributed scheduling with decomposed optimization criterion: Genetic programming approach -- A parallel genetic algorithm for task mapping on parallel machines -- Evolution-based scheduling of fault-tolerant programs on multiple processors -- A genetic-based fault-tolerant routing strategy for multiprocessor networks -- Regularity considerations in instance-based locality optimization -- Parallel ant colonies for combinatorial optimization problems -- An analysis of synchronous and asynchronous parallel distributed genetic algorithms with structured and panmictic Islands -- GA-based parallel image registration on parallel clusters -- Implementation of a parallel genetic algorithm on a cluster of workstations: The Travelling Salesman Problem, a case study -- Structural biology metaphors applied to the design of a distributed object system -- Proceedings of the Seventh International Workshop on Parallel and Distributed Real-time Systems -- Building an adaptive multimedia system using the utility model -- Evaluation of real-time fiber communications for parallel collective operations -- The case for prediction-based best-effort real-time systems -- Dynamic real-time channel establishment in multiple access bus networks -- A similarity-based protocol for concurrency control in mobile distributed real-time database systems -- From task scheduling in single processor environments to message scheduling in a PROFIBUS fieldbus network -- An adaptive, distributed airborne tracking system -- Non-preemptive scheduling of real-time threads on multi-level-context architectures -- QoS control and adaptation in distributed multimedia systems -- Dependability evaluation of fault tolerant distributed industrial control systems -- An approach for measuring IP security performance in a distributed environment -- An environment for generating applications involving remote manipulation of parallel machines -- Real-time image processing on a local plane SIMD array -- Metrics for the evaluation of multicast communications -- Distributing periodic workload uniformly across time to achieve better service quality -- A dynamic fault-tolerant mesh architecture -- Evaluation of a hybrid real-time bus scheduling mechanism for CAN -- System support for migratory continuous media applications in distributed real-time environments --</p>

Dynamic application structuring on heterogeneous, distributed systems -- Improving support for multimedia system experimentation and deployment -- Run-time systems for parallel programming -- Efficient communications in multithreaded runtime systems -- Application performance of a linux cluster using converse -- An efficient and transparent thread migration scheme in the PM2 runtime system -- Communication-intensive parallel applications and non-dedicated clusters of workstations -- A framework for adaptive storage input/output on computational grids -- ARMC1: A portable remote memory copy library for distributed array libraries and compiler runtime systems -- Multicast-based runtime system for highly efficient causally consistent software-only DSM -- Adaptive DSM-runtime behavior via speculative data distribution -- 6th reconfigurable architectures workshop -- DEFACTO: A design environment for adaptive computing technology -- A web-based multiuser operating system for reconfigurable computing -- Interconnect synthesis for reconfigurable multi-FPGA architectures -- Hardwired-clusters partial-crossbar: A hierarchical routing architecture for multi-FPGA systems -- Integrated block-processing and design-space exploration in temporal partitioning for RTR architectures -- Improved scaling simulation of the general reconfigurable mesh -- Bit summation on the reconfigurable mesh -- Scalable hardware-algorithms for binary prefix sums -- Configuration sequencing with self configurable binary multipliers -- Domain specific mapping for solving graph problems on reconfigurable devices -- MorphoSys: a reconfigurable processor targeted to high performance image application -- An efficient implementation method of fractal image compression on dynamically reconfigurable architecture -- Plastic cell architecture: A dynamically reconfigurable hardware-based computer -- Leonardo and discipulus simplex: -- Reusable internal hardware templates -- An on-line arithmetic-based reconfigurable neuroprocessor -- The re-configurable delay-insensitive Flysig architecture -- Digital signal processing with general purpose microprocessors, DSP and reconfigurable logic -- Solving satisfiability problems on FPGAs using experimental unit propagation heuristic -- FPGA implementation of modular exponentiation -- Workshop on Java for Parallel and Distributed Computing -- More efficient object serialization -- A customizable implementation of RMI for high performance computing -- mpiJava: An object-oriented java interface to MPI -- An adaptive, fault-tolerant implementation of BSP for Java-based volunteer computing systems -- High performance computing for the masses -- Process networks as a high-level notation for metacomputing -- Developing parallel applications using the JavaPorts environment -- 3rd workshop on Optics and Computer Science Message from the Program Chairs -- Permutation routing in all-optical product networks -- NWCACHE: Optimizing disk accesses via an optical network/write cache hybrid -- NetCache: A network/cache hybrid for multiprocessors -- A multi-wavelength optical content-addressable parallel processor (MW-OCAPP) for high-speed parallel relational database processing: Architectural concepts and preliminary experimental system -- Optimal scheduling algorithms in WDM optical passive star networks -- OTIS-Based multi-hop multi-OPS lightwave networks -- Solving graph theory problems using reconfigurable pipelined optical buses -- High speed, high capacity based interconnects using optical slab waveguides -- A new architecture for multihop optical networks -- Pipelined versus non-pipelined traffic scheduling in unidirectional WDM rings -- Irregular '99 Sixth International Workshop on Solving Irregularly Structured Problems in Parallel -- Self-Avoiding walks over adaptive unstructured grids -- A

graph based method for generating the fiedler vector of irregular problems -- Hybridizing nested dissection and halo approximate minimum degree for efficient sparse matrix ordering -- ParaPART: Parallel mesh partitioning tool for distributed systems -- Sparse computations with Pei -- Optimizing irregular HPF applications using halos -- From EARTH to HTMT: An evolution of a multiheaded architecture model -- Irregular parallel algorithms in Java -- A simple framework to calculate the reaching definition of array references and its use in subscript array analysis -- Dynamic process composition and communication patterns in irregularly structured applications -- Scalable parallelization of harmonic balance simulation -- A range minima parallel algorithm for coarse grained multicomputers -- Deterministic branch-and-bound on distributed memory machines -- 2nd Workshop on Personal Computer Based Networks of Workstations (PC-NOW'99) -- Performance results for a reliable low-latency cluster communication protocol -- Coscheduling through synchronized scheduling servers—A prototype and experiments -- High-performance knowledge extraction from data on PC-based networks of workstations -- Addressing communication latency issues on clusters for fine grained asynchronous applications—A case study -- Low cost databases for NOW -- Implementation and evaluation of MPI on an SMP cluster -- Fourth International Workshop on Formal Methods for Parallel Programming: Theory and Applications FMPPTA'99 April 16 1998 -- From a specification to an equivalence proof in object-oriented parallelism -- Examples of program composition illustrating the use of universal properties -- A formal framework for specifying and verifying time warp optimizations -- Verifying end-to-end protocols using induction with CSP/FDR -- Mechanical verification of a garbage collector -- A structured approach to parallel programming: Methodology and models -- BSP in CSP: Easy as ABC -- 4th International Workshop on Embedded HPC Systems and Applications (EHPC'99) -- A distributed system reference architecture for adaptive QoS and resource management -- Transparent real-time monitoring in MPI -- DynBench: A dynamic benchmark suite for distributed real-time systems -- Reflections on the creation of a real-time parallel benchmark suite -- Tailor-made operating systems for embedded parallel applications -- Fiber-optic interconnection networks for signal processing applications -- Reconfigurable parallel sorting and load balancing: HeteroSo.

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### Sommario/riassunto

This book constitutes the refereed proceedings of 11 IPPS/SPDP '98 Workshops held in conjunction with the 13th International Parallel Processing Symposium and the 10th Symposium on Parallel and Distributed Processing in San Juan, Puerto Rico, USA in April 1999. The 126 revised papers presented were carefully selected from a wealth of papers submitted. The papers are organised in topical sections on biologically inspired solutions to parallel processing problems: High-Level Parallel Programming Models and Supportive Environments; Biologically Inspired Solutions to Parallel Processing; Parallel and Distributed Real-Time Systems; Run-Time Systems for Parallel Programming; Reconfigurable Architectures; Java for Parallel and Distributed Computing; Optics and Computer Science; Solving Irregularly Structured Problems in Parallel; Personal Computer Based Workstation Networks; Formal Methods for Parallel Programming; Embedded HPC Systems and Applications.

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