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Soggetti	Programming languages (Electronic computers) Computer networks Computer arithmetic and logic units Computer programming Data structures (Computer science) Computers Programming Languages, Compilers, Interpreters Computer Communication Networks Arithmetic and Logic Structures Programming Techniques Data Structures Computation by Abstract Devices
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Nota di contenuto	Search Space Properties for Mapping Coarse-Grain Pipelined FPGA Applications -- Adapting Convergent Scheduling Using Machine-Learning -- TFP: Time-Sensitive, Flow-Specific Profiling at Runtime -- A Hierarchical Model of Reference Affinity -- Cache Optimization for Coarse Grain Task Parallel Processing Using Inter-Array Padding -- Compiler-Assisted Cache Replacement: Problem Formulation and Performance Evaluation -- Memory-Constrained Data Locality

Optimization for Tensor Contractions -- Compositional Development of Parallel Programs -- Supporting High-Level Abstractions through XML Technology -- Applications of HPJava -- Programming for Locality and Parallelism with Hierarchically Tiled Arrays -- Co-array Fortran Performance and Potential: An NPB Experimental Study -- Evaluating the Impact of Programming Language Features on the Performance of Parallel Applications on Cluster Architectures -- Putting Polyhedral Loop Transformations to Work -- Index-Association Based Dependence Analysis and its Application in Automatic Parallelization -- Improving the Performance of Morton Layout by Array Alignment and Loop Unrolling -- Spatial Views: Space-Aware Programming for Networks of Embedded Systems -- Operation Reuse on Handheld Devices -- Memory Redundancy Elimination to Improve Application Energy Efficiency -- Adaptive MPI -- MPJava: High-Performance Message Passing in Java Using Java.nio -- Polynomial-Time Algorithms for Enforcing Sequential Consistency in SPMD Programs with Arrays -- C 3: A System for Automating Application-Level Checkpointing of MPI Programs -- The Power of Belady's Algorithm in Register Allocation for Long Basic Blocks -- Load Elimination in the Presence of Side Effects, Concurrency and Precise Exceptions -- To Inline or Not to Inline? Enhanced Inlining Decisions -- A Preliminary Study on the Vectorization of Multimedia Applications for Multimedia Extensions -- A Data Cache with Dynamic Mapping -- Compiler-Based Code Partitioning for Intelligent Embedded Disk Processing -- Much Ado about Almost Nothing: Compilation for Nanocontrollers -- Increasing the Accuracy of Shape and Safety Analysis of Pointer-Based Codes -- Slice-Hoisting for Array-Size Inference in MATLAB -- Efficient Execution of Multi-query Data Analysis Batches Using Compiler Optimization Strategies -- Semantic-Driven Parallelization of Loops Operating on User-Defined Containers -- Cetus -- An Extensible Compiler Infrastructure for Source-to-Source Transformation.

Sommario/riassunto

This book constitutes the thoroughly refereed post-proceedings of the 16th International Workshop on Languages and Compilers for Parallel Computing, LCPC 2003, held in College Station, Texas, USA, in October 2003. The 35 revised full papers presented were selected from 48 submissions during two rounds of reviewing and improvement upon presentation at the workshop. The papers are organized in topical sections on adaptive optimization, data locality, parallel languages, high-level transformations, embedded systems, distributed systems software, low-level transformations, compiling for novel architectures, and optimization infrastructure.
