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Titolo	Scientific Computing in Object-Oriented Parallel Environments [[electronic resource]] : First International Conference, ISCOPE '97, Marina del Rey, California, December 8-11, 1997. Proceedings / / edited by Yutaka Ishikawa, Rodney R. Oldehoeft, John V.W. Reynders, Marydell Tholburn
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Collana	Lecture Notes in Computer Science, , 0302-9743 ; ; 1343
Disciplina	502/.855275
Soggetti	Computer programming Architecture, Computer Software engineering Computer mathematics Computer science—Mathematics Programming Techniques Computer System Implementation Software Engineering/Programming and Operating Systems Computational Mathematics and Numerical Analysis Mathematics of Computing
Lingua di pubblicazione	Inglese
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Nota di contenuto	Runtime support for multi-tier programming of block-structured applications on SMP clusters -- Automatic run-time code generation in C++ -- A comparison of performance-enhancing strategies for parallel numerical object-oriented frameworks -- Design and performance improvement of a real-world, object-oriented C++ solver with STL -- Evaluating high level parallel programming support for irregular applications in ICC++ -- Processing sparse vectors during compile time in C++ -- Will C++ be faster than Fortran? -- The design and evolution of the MPI-2 C++ interface -- Efficient extensible synchronization in Sather -- Experiences with an object-oriented

parallel language: The CORRELATE project -- Towards a parallel C++ programming language based on commodity object-oriented technologies -- A compile-time meta-level architecture supporting class specific optimization -- An object-oriented approach to the implementation of a high-level data parallel language -- A framework for parallel adaptive finite element methods and its template based implementation in C++ -- Parallel array class implementation using C++ STL adaptors -- A multithreaded Java framework for solving linear elliptic partial differential equations in 3D -- Automatic binding of native scientific libraries to Java -- JAPE: The Java parallel environment -- An architecture in Java for mobile computation -- The extensible Java preprocessor kit and a tiny data-parallel Java -- Numerical solution of PDEs on parallel computers utilizing sequential simulators -- The trio-unitaire project: A parallel CFD 3-dimensional code -- Overture: An object-oriented framework for solving partial differential equations -- Optimization of data-parallel field expressions in the POOMA framework -- MC++ and a transport physics framework -- The role of abstraction in high-performance computing -- Design of a data class for parallel scientific computing -- Describing objects in parallel ECEM image reconstruction -- Flow in porous media using NAO finite difference classes -- An object-oriented programming suite for electrostatic effects in biological molecules An experience report on the MEAD project -- A portable, object-based parallel library and layered framework for real-time radar signal processing -- Aspect-oriented programming of sparse matrix code -- Client/server architecture in the ADAMS parallel object-oriented database system -- Pattern-based object-oriented parallel programming -- The IceT environment for parallel and distributed computing -- A general resource reservation framework for scientific computing.

Sommario/riassunto

This book constitutes the refereed proceedings of the First International Conference on Scientific Computing in Object-Oriented Parallel Environments, ISCOPE '97, held in Marina del Rey, California, in December 1997. The volume presents 36 revised papers carefully selected for inclusion in the book. The papers address run-time performance optimization at several levels, new language programming paradigms, applications of Java-based technology, direct applications in various areas, object-oriented libraries, and new ideas and approaches to parallel scientific computing. All in all, this is an up-to-date presentation of the state-of-the-art in the application of object-oriented methods in scientific and engineering applications.
