1. Record Nr. UNINA9910739436203321

Titolo	Facing the multicore-challenge III : apects of new paradigms and technologies in parallel computing / / Rainer Keller, David Kramer, Jan-Philipp Weiss (eds.)
Pubbl/distr/stampa	Berlin ; ; New York, : Springer, c2013
ISBN	3-642-35892-6
Edizione	[1st ed. 2013.]
Descrizione fisica	1 online resource (X, 146 p. 61 illus.)
Collana	Lecture notes in computer science, , 0302-9743 ; ; 7686 LNCS sublibrary. SL 1, Theoretical computer science and general issues
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Disciplina	004.1
Soggetti	Parallel programming (Computer science) Parallel computers Computer architecture Graphics processing units Computer interfaces
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"Proceedings of the Third Conference ... held in Stuttgart, Germany, September 19-21, 2012"--Pref.
Nota di bibliografia	Includes bibliographical references and index.
Sommario/riassunto	This state-of-the-art survey features topics related to the impact of multicore, manycore, and coprocessor technologies in science and large-scale applications in an interdisciplinary environment. The papers included in this survey cover research in mathematical modeling, design of parallel algorithms, aspects of microprocessor architecture, parallel programming languages, hardware-aware computing, heterogeneous platforms, manycore technologies, performance tuning, and requirements for large-scale applications. The contributions presented in this volume are an outcome of an inspiring conference conceived and organized by the editors at the University of Applied Sciences (HfT) in Stuttgart, Germany, in September 2012. The 10 revised full papers selected from 21 submissions are presented together with the twelve poster abstracts and focus on combination of

new aspects of microprocessor technologies, parallel applications, numerical simulation, and software development; thus they clearly show the potential of emerging technologies in the area of multicore and manycore processors that are paving the way towards personal supercomputing and very likely towards exascale computing.