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Altri autori (Persone)	D'HollanderErik H
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Nota di contenuto	Title Page; Preface; Reviewers; Contents; Chapter 1. Supercomputing and the Exascale Challenge; The K Computer and Beyond; Exascale Computing & Beyond: Meeting the Challenges; Chapter 2. The Energy Challenge; Achieving the 20MW Target: Mobilizing the HPC Community to Accelerate Energy Efficient Computing; Palette: A Cache Leakage Energy Saving Technique for Green Computing; Chapter 3. Scalable Computing; Scalable Dense Linear Algebra on Heterogeneous Hardware; Achieving Scalability in the Presence of Asynchrony for Exascale Computing; Chapter 4. Architectural Concepts The Role of Non-Strict Fine-Grain SynchronizationOn the Role of Co-Design in High Performance Computing; Chapter 5. Programming Heterogeneous Architectures; Uniform High-Level Programming of Many-Core and Multi-GPU Systems; Performance and Programming Environment of a Combined GPU/FPGA Desktop; High Performance Sequence Mining Using Pairwise Statistical Significance; Subject Index; Author Index
Sommario/riassunto	The US, Europe, Japan and China are racing to develop the next generation of supercomputers - exascale machines capable of 10 to the 18th power calculations a second - by 2020. But the barriers are

daunting: the challenge is to change the paradigm of high-performance computing. The 2012 biennial high performance workshop, held in Cetraro, Italy in June 2012, focused on the challenges facing the computing research community to reach exascale performance in the next decade. This book presents papers from this workshop, arranged into four major topics: energy, scalability, new architectural concep
