



High-Performance Computing : Paradigm and Infrastructure

Laurence T. Yang, Minyi Guo

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High-Performance Computing : Paradigm and Infrastructure Laurence T. Yang, Minyi Guo The state of the art of high-performance computing

Prominent researchers from around the world have gathered to present the state-of-the-art techniques and innovations in high-performance computing (HPC), including:

- * Programming models for parallel computing: graph-oriented programming (GOP), OpenMP, the stages and transformation (SAT) approach, the bulk-synchronous parallel (BSP) model, Message Passing Interface (MPI), and Cilk
- * Architectural and system support, featuring the code tiling compiler technique, the MigThread application-level migration and checkpointing package, the new prefetching scheme of atomicity, a new "receiver makes right" data conversion method, and lessons learned from applying reconfigurable computing to HPC
- * Scheduling and resource management issues with heterogeneous systems, bus saturation effects on SMPs, genetic algorithms for distributed computing, and novel task-scheduling algorithms
- * Clusters and grid computing: design requirements, grid middleware, distributed virtual machines, data grid services and performance-boosting techniques, security issues, and open issues
- * Peer-to-peer computing (P2P) including the proposed search mechanism of hybrid periodical flooding (HPF) and routing protocols for improved routing performance
- * Wireless and mobile computing, featuring discussions of implementing the Gateway Location Register (GLR) concept in 3G cellular networks, maximizing network longevity, and comparisons of QoS-aware scatternet scheduling algorithms
- * High-performance applications including partitioners, running Bag-of-Tasks applications on grids, using low-cost clusters to meet high-demand applications, and advanced convergent architectures and protocols

High-Performance Computing: Paradigm and Infrastructure is an invaluable compendium for engineers, IT professionals, and researchers and students of computer science and applied mathematics.



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Exactly why? Because this High-Performance Computing: Paradigm and Infrastructure is an unordinary book that the inside of the book waiting for you to snap that but latter it will distress you with the secret the idea inside. Reading this book close to it was fantastic author who write the book in such amazing way makes the content on the inside easier to understand, entertaining way but still convey the meaning completely. So , it is good for you because of not hesitating having this ever again or you going to regret it. This excellent book will give you a lot of advantages than the other book have got such as help improving your skill and your critical thinking way. So , still want to delay having that book? If I have been you I will go to the e-book store hurriedly.

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