

PROPOSED BOOK CONTENTS: Trends in High Performance and Large Scale Computing

Chapter 1: Overview and State of the Art

Dongarra, Jack	Scheduling for Numerical Linear Algebra Library at Scale
Johnston, Bill	The Evolution of Research and Education Networks and their Essential Role in Modern Science

Chapter 2: Petascale Computing

Cappello, Franck	Fault Tolerance for PetaScale Systems: Current Knowledge, Challenges and Opportunities
Vetter, Jeffry	HPC Interconnection Networks – The Key to Exascale Computing

Chapter 3: Algorithms, Programming and Middleware for HPC

Shafarenko, A.	Non-deterministic Coordination using S-Net
Abramson, David	Active Data: Blurring the distinction between data and computation
Robert, Yves	Algorithms and scheduling techniques for clusters and grids
Sakellario, R.	Feedback control for efficient autonomic solutions on the Grid
Bubak, Marian & Sloot, Peter	Building collaborative applications for system-level science

Chapter 4: Grids and Clouds

Baetke, Frank	Grids, Clouds and HPC: Opportunities and Challenges
Algom, Avner	From Grid Computing to Cloud Computing - The evolution of the Grid Marketplace
Talia, Domenico	Using Peer-to-Peer Dynamic Querying in Grid Information Services
Llorente, I.	Cloud Computing for on-Demand Resource Provisioning

Chapter 5: Grid Infrastructures and Deployments

Gentzsch, Wolfgang	e-Science Applications on Grid Infrastructures - The DEISA Example
Streit, A.	Unicore 6 – A European Grid Technology
Cho, K.	Grid and e-Science in Korea
Gurtu, A.	Grid Activity in India
Abramson, David	e-Research & Grid Computing in Australia: From Infrastructure to Research
Öster, Per	European Grid Initiative
Erbacci, Giovanni	An advanced HPC infrastructure in Italy for challenging scientific applications

Chapter 6: Applications

Fox, Geoffry	Parallel Data Mining from Multicore to Cloudy Grids
Catalyürek, Ümit	Processing of Large-Scale Biomedical Images on a Cluster of Multi-Core CPUs and GPUs
David, Tim	A Heterogeneous Computing Model for a Grand Challenge Problem
Grandinetti, Lucio, Beraldi, Patrizia	Grid Computing for Financial Applications