1. Record Nr. UNISALENTO991003249509707536

Titolo	The grid [electronic resource] : blueprint for a new computing infrastructure / edited by Ian Foster, Carl Kesselman
Pubbl/distr/stampa	Amsterdam ; Boston : Morgan Kaufmann, c2004
ISBN	9781558609334 1558609334
Edizione	[2nd ed.]
Descrizione fisica	xxvii, 748 p. : ill. ; 24 cm.
Collana	The Elsevier series in grid computing
Altri autori (Persone)	Foster, Ian, 1959- Kesselman, Carl
Disciplina	004/.36
Soggetti	Computational grids (Computer systems) Computersystemen Electronic books.
Lingua di pubblicazione	Inglese
Formato	Risorsa elettronica
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references (p. [675]-721) and index.
Nota di contenuto	Preface to the Second Edition -- Part I: Perspectives -- Chapter 1 Grids in Context -- Chapter 2 The Scientific Imperative -- Chapter 3 The Industrial Imperative -- Part II: Framework -- Chapter 4 Concepts and Architecture -- Part III: Applications -- Chapter 5 Predictive Maintenance: Distributed Aircraft Engine Diagnostics -- Chapter 6 Distributed Telepresence: The NEESgrid Earthquake Engineering Collaboratory -- Chapter 7 Scientific Data Federation: The World Wide Telescope -- Chapter 8 Medical Data Federation: The Biomedical Informatics Research Network -- Chapter 9 Knowledge Integration: In silico Experiments in Bioinformatics -- Chapter 10 Distributed Data Analysis: Federated Computing for High Energy Physics -- Chapter 11 Massively Distributed Computing: Virtual Screening on a Desktop Grid -- Chapter 12 Enterprise Resource Management: Applications in Research and Industry -- Chapter 13 Interactivity with Scalability: Infrastructure for Multiplayer Games -- Chapter 14 Service Virtualization: Infrastructure and Applications -- Chapter 15 Group-Oriented Collaboration: The Access Grid Collaboration System -- Chapter 16 Collaborative Science: Astrophysics Requirements and Experiences -- Part IV: Architecture -- Chapter 17 The Open Grid

Services Architecture -- Chapter 18 Resource and Service Management -- Chapter 19 Building Reliable Clients and Services -- Chapter 20 Instrumentation and Monitoring -- Chapter 21 Security for Virtual Organizations: Federating Trust and Policy Domains -- Part V Data and Knowledge -- Chapter 22 Data Access, Integration and Management -- Chapter 23 Enhancing Services and Applications with Knowledge and Semantics -- Part VI: Tools -- Chapter 24 Application-Level tools -- Chapter 25 Languages, Compilers, and Runtime System -- Chapter 26 Application Tuning and Adaptation -- Part VII: Infrastructure -- Chapter 27 Production Deployment: Experiences and Recommendations -- Chapter 28 Computing Elements -- Chapter 29 Peer-to-Peer Technologies -- Chapter 30 Network Infrastructure -- Chapter 31 Bibliography.

Sommario/riassunto

The Grid is an emerging infrastructure that will fundamentally change the way we think about-and use-computing. The word Grid is used by analogy with the electric power grid, which provides pervasive access to electricity and has had a dramatic impact on human capabilities and society. Many believe that by allowing all components of our information technology infrastructure-computational capabilities, databases, sensors, and people-to be shared flexibly as true collaborative tools the Grid will have a similar transforming effect, allowing new classes of applications to emerge. -From the Preface In 1998, Ian Foster and Carl Kesselman introduced a whole new concept in computing with the first edition of this book. Today there is a broader and deeper understanding of the nature of the opportunities offered by Grid computing and the technologies needed to realize those opportunities. In Grid 2, the editors reveal the revolutionary impact of large-scale resource sharing and virtualization within science and industry, the intimate relationships between organization and resource sharing structures and the new technologies required to enable secure, reliable, and efficient resource sharing on large scale. Foster and Kesselman have once again assembled a team of experts to present an up-to-date view of Grids that reports on real experiences and explains the available technologies and new technologies emerging from labs, companies and standards bodies. Grid 2, like its predecessor, serves as a manifesto, design blueprint, user guide and research agenda for future Grid systems. *30 chapters including more than a dozen completely new chapters. *Web access to 13 unchanged chapters from the first edition. *Three personal essays by influential thinkers on the significance of Grids from the perspectives of infrastructure, industry, and science. *A foundational overview of the central Grid concepts and architectural principles. *Twelve application vignettes showcase working Grids in science, engineering, industry, and commerce. *Detailed discussions of core architecture and services, data and knowledge management, and higher-level tools. *Focused presentations on production Grid deployment, computing platforms, peer-to-peer technologies, and network infrastructures. *Extensive bibliography and glossary.