

The Grid Core Technologies

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Distributed Power Resources - Ruisheng Li 2019-06-14

Distributed Power Resources: Operation and Control of Connecting to the Grid presents research and development, lists relevant technologies, and draws on experience to tackle practical problems in the operation and control of distributed power. Key problems are identified and interrogated, as are requirements and application methods, associated power conversion tactics, operational control protections, and maintenance technologies. The title gives experimental verification of the technologies involved in several demonstration projects, including an active multi-resource distribution grid, and a high-density distributed resources connecting ac/dc hybrid power grid. The book considers the development of distributed photovoltaic power, wind power, and electric vehicle energy storage. It discusses the characteristics of distributed resources and the key requirements and core technologies for plug-and-play applications. Considers the state-of-the-art in distributed power resources and their connection to the grid Leverages practical experience and experimental data to solve problems of operation and control Provides analysis of plug-and-play applications for distributed power supplies Presents relevant technology and practical experience to industry Explores potential new technologies in distributed power resources

Grids, Clouds and Virtualization - Massimo Cafaro 2010-09-14

Research into grid computing has been driven by the need to solve large-

scale, increasingly complex problems for scientific applications. Yet the applications of grid computing for business and casual users did not begin to emerge until the development of the concept of cloud computing, fueled by advances in virtualization techniques, coupled with the increased availability of ever-greater Internet bandwidth. The appeal of this new paradigm is mainly based on its simplicity, and the affordable price for seamless access to both computational and storage resources. This timely text/reference introduces the fundamental principles and techniques underlying grids, clouds and virtualization technologies, as well as reviewing the latest research and expected future developments in the field. Readers are guided through the key topics by internationally recognized experts, enabling them to develop their understanding of an area likely to play an ever more significant role in coming years. Topics and features: presents contributions from an international selection of experts in the field; provides a thorough introduction and overview of existing technologies in grids, clouds and virtualization, including a brief history of the field; examines the basic requirements for performance isolation of virtual machines on multi-core servers, analyzing a selection of system virtualization technologies; examines both business and scientific applications of grids and clouds, including their use in the life sciences and for high-performance computing; explores cloud building technologies, architectures for enhancing grid infrastructures with cloud computing, and cloud performance; discusses energy aware grids and

clouds, workflows on grids and clouds, and cloud and grid programming models. This useful text will enable interested readers to familiarize themselves with the key topics of grids, clouds and virtualization, and to contribute to new advances in the field. Researchers, undergraduate and graduate students, system designers and programmers, and IT policy makers will all benefit from the material covered.

Software Engineering in Intelligent Systems - Radek Silhavy

2015-04-25

This volume is based on the research papers presented in the 4th Computer Science On-line Conference. The volume *Software Engineering in Intelligent Systems* presents new approaches and methods to real-world problems, and in particular, exploratory research that describes novel approaches in the field of Software Engineering. Particular emphasis is laid on modern trends in selected fields of interest. New algorithms or methods in a variety of fields are also presented. The Computer Science On-line Conference (CSOC 2015) is intended to provide an international forum for discussions on the latest high-quality research results in all areas related to Computer Science. The addressed topics are the theoretical aspects and applications of Computer Science, Artificial Intelligences, Cybernetics, Automation Control Theory and Software Engineering.

Distributed Power Resources - Ruisheng Li 2019-06-15

Distributed renewable energy has proliferated in recent years, and the connection of distributed power resources to the grid is accelerating. As a result, enhancing the permeability of distributed power supplies, and improving distribution network capacity for distributed power supplies, have become important research topics. *Distributed Power Resources* presents research and development, lists relevant technologies, and draws on experience to tackle practical problems in the operation and control of distributed power. Key problems are identified and interrogated. Requirements and application methods, associated power conversion, operational control protection and maintenance technologies are explored. The title gives experimental verification of technologies involved in several demonstration projects, including an active multi-

resource distribution grid, and a high-density distributed resources connecting ac/dc hybrid power grid. The book considers the development of distributed photovoltaic power, wind power, and electric vehicle energy storage. It discusses the characteristics of distributed resources, and the key requirements and core technologies for plug-and-play applications. Considers the state-of-the-art in distributed power resources and their connection to the grid Leverages practical experience and experimental data to solve problems of operation and control Provides analysis of plug-and-play applications for distributed power supplies Presents relevant technology and practical experience to industry Explores potential new technologies in distributed power resources

A Networking Approach to Grid Computing - Daniel Minoli 2004-11-19

Explores practical advantages of Grid Computing and what is needed by an organization to migrate to this new computing paradigm This self-contained reference makes both the concepts and applications of grid computing clear and understandable to even non-technical managers Explains the underlying networking mechanism and answers such questions critical to the business enterprise as "What is grid computing?" "How widespread is its present/potential penetration?" "Is it ready for prime time?" "Are there firm standards?" "Is it secure?" "How do we bill this new product?" and "How can we deploy it (at a macro level)?"

InfoWorld - 2002-04-15

InfoWorld is targeted to Senior IT professionals. Content is segmented into Channels and Topic Centers. InfoWorld also celebrates people, companies, and projects.

Grid Computing - Barry Wilkinson 2009-09-28

Designed for senior undergraduate and first-year graduate students, *Grid Computing: Techniques and Applications* shows professors how to teach this subject in a practical way. Extensively classroom-tested, it covers job submission and scheduling, Grid security, Grid computing services and software tools, graphical user interfaces, workflow editors, and Grid-enabling applications. The book begins with an introduction that discusses the use of a Grid computing Web-based portal. It then

examines the underlying action of job submission using a command-line interface and the use of a job scheduler. After describing both general Internet security techniques and specific security mechanisms developed for Grid computing, the author focuses on Web services technologies and how they are adopted for Grid computing. He also discusses the advantages of using a graphical user interface over a command-line interface and presents a graphical workflow editor that enables users to compose sequences of computational tasks visually using a simple drag-and-drop interface. The final chapter explains how to deploy applications on a Grid. The Grid computing platform offers much more than simply running an application at a remote site. It also enables multiple, geographically distributed computers to collectively obtain increased speed and fault tolerance. Illustrating this kind of resource discovery, this practical text encompasses the varied and interconnected aspects of Grid computing, including how to design a system infrastructure and Grid portal. Supplemental Web Resources The author's Web site offers various instructional resources, including slides and links to software for programming assignments. Many of these assignments do not require access to a Grid platform. Instead, the author provides step-by-step instructions for installing open-source software to deploy and test Web and Grid services, a Grid computing workflow editor to design and test workflows, and a Grid computing portal to deploy portlets.

Advanced Technologies for Future Transmission Grids - Gianluigi Migliavacca 2012-12-04

The re-engineering of power transmission systems is crucial to meeting the objectives of such regulators as the European Union. In addition to its market, organisational and regulatory aspects, this re-engineering will also involve technical issues dealing with the progressive integration of innovative transmission technologies in the daily operation of transmission system operators. In this context, *Advanced Technologies for Future Transmission Grids* provides an overview of the most promising technologies, likely to be of help to planners of transmission grids in responding to the challenges of the future: security of supply; integration of renewable generation; and creation of integrated energy

markets (using the European case as an example). These issues have increased importance because of administrative complication and the fragmentation of public opinion expressed on the build up of new infrastructure. For each technology discussed, the focus is on the technical-economic perspective rather than on purely technological points of view. A transmission-system-operator-targeted Technology Roadmap is presented for the integration of promising innovative power transmission technologies within power systems of the mid-long term. Although the primary focus of this text is in the sphere of the European energy market, the lessons learned can be generalized to the energy markets of other regions.

Handbook of Research on Grid Technologies and Utility Computing: Concepts for Managing Large-Scale Applications - Udoh, Emmanuel 2009-05-31

"This book provides a compendium of terms, definitions, and explanations of concepts, issues, and trends in grid technology"-- Provided by publisher.

Technology, Manufacturing and Grid Connection of Photovoltaic Solar Cells - Guangyu Wang 2018-02-16

A unique guide to the most important technical aspects of photovoltaic power generation with comprehensive analysis and author industry-experience Unique from other books in the area in that it explains profound theories in simple language, introduces widely used production equipment and processes for industry professionals, and explains the complete PV industry chain from material to power generation Has originated from the author's practical industry experience, enabling the use of up-to-date information during this time of new development in the Chinese PV industry Content includes approximately 255 illustrations and 46 tables to help clarify complex theories.

Evolving Developments in Grid and Cloud Computing: Advancing Research - Udoh, Emmanuel 2012-01-31

"This book contains investigations of grid and cloud evolution, workflow management, and the impact new computing systems have on education and industry"--Provided by publisher.

Data Driven e-Science - Simon C. Lin 2011-02-04

ISGC 2010, The International Symposium on Grid Computing was held at Academia Sinica, Taipei, Taiwan, March, 2010. The 2010 symposium brought together prestigious scientists and engineers worldwide to exchange ideas, present challenges/solutions and to discuss new topics in the field of Grid Computing. *Data Driven e-Science: Use Cases and Successful Applications of Distributed Computing Infrastructures (ISGC 2010)*, an edited volume, introduces the latest achievements in grid technology for Biomedicine Life Sciences, Middleware, Security, Networking, Digital Library, Cloud Computing and more. This book provides Grid developers and end users with invaluable information for developing grid technology and applications. The last section of this book presents future development in the field of Grid Computing. This book is designed for a professional audience composed of grid users, developers and researchers working in the field of grid computing. Advanced-level students focused on computer science and engineering will also find this book valuable as a reference or secondary text book.

Production Grids in Asia - Simon C. Lin 2009-10-16

Production Grids in Asia: Applications, Developments and Global Ties, an edited volume, is based on ISGC (International Symposium on Grid Computing), one of the most prestigious annual events in Asia. It brings together scientists and engineers worldwide to exchange ideas, present challenges/solutions, and introduce future development in the field of Grid Computing. ISGC 2008 was held at Academia Sinica, Taipei, Taiwan in April 2008. The edited proceedings present international projects in Grid operation, Grid Middleware and e-Science applications. Leading Grid projects from Asia-Pacific are also covered. *Production Grids in Asia: Applications, Developments and Global Ties* is designed for a professional audience composed of industry researchers and practitioners within the Grid community. This volume is also suitable for advanced-level students in computer science.

Smart Grid Handbook, 3 Volume Set - 2016-08-01

Comprehensive, cross-disciplinary coverage of Smart Grid issues from global expert researchers and practitioners. This definitive reference

meets the need for a large scale, high quality work reference in Smart Grid engineering which is pivotal in the development of a low-carbon energy infrastructure. Including a total of 83 articles across 3 volumes *The Smart Grid Handbook* is organized in to 6 sections: Vision and Drivers, Transmission, Distribution, Smart Meters and Customers, Information and Communications Technology, and Socio-Economic Issues. Key features: Written by a team representing smart grid R&D, technology deployment, standards, industry practice, and socio-economic aspects. Vision and Drivers covers the vision, definitions, evolution, and global development of the smart grid as well as new technologies and standards. The Transmission section discusses industry practice, operational experience, standards, cyber security, and grid codes. The Distribution section introduces distribution systems and the system configurations in different countries and different load areas served by the grid. The Smart Meters and Customers section assesses how smart meters enable the customers to interact with the power grid. Socio-economic issues and information and communications technology requirements are covered in dedicated articles. *The Smart Grid Handbook* will meet the need for a high quality reference work to support advanced study and research in the field of electrical power generation, transmission and distribution. It will be an essential reference for regulators and government officials, testing laboratories and certification organizations, and engineers and researchers in Smart Grid-related industries.

Smart Grid Telecommunications - Alberto Sendin 2021-09-08

SMART GRID TELECOMMUNICATIONS Discover the foundations and main applications of telecommunications to smart grids In *Smart Grid Telecommunications*, renowned researchers and authors Drs. Alberto Sendin, Javier Matanza, and Ramon Ferrús deliver a focused treatment of the fundamentals and main applications of telecommunication technologies in smart grids. Aimed at engineers and professionals who work with power systems, the book explains what smart grids are and where telecommunications are needed to solve their various challenges. Power engineers will benefit from explanations of the main concepts of

telecommunications and how they are applied to the different domains of a smart grid. Telecommunication engineers will gain an understanding of smart grid applications and services and will learn from the explanations of how telecommunications need to be adapted to work with them. The authors offer a simplified vision of smart grids with rigorous coverage of the latest advances in the field, while avoiding some of the technical complexities that can hinder understanding in this area. The book offers: Discussions of why telecommunications are necessary in smart grids and the various telecommunication services and systems relevant for them An exploration of foundational telecommunication concepts ranging from system-level aspects, such as network topologies, multi-layer architectures and protocol stacks, to communications channel transmission- and reception-level aspects Examinations of telecommunication-related smart grid services and systems, including SCADA, protection and teleprotection, smart metering, substation and distribution automation, synchrophasors, distributed energy resources, electric vehicles, and microgrids A treatment of wireline and wireless telecommunication technologies, like DWDM, Ethernet, IP, MPLS, PONs, PLC, BPL, 3GPP cellular 4G and 5G technologies, Zigbee, Wi-SUN, LoRaWAN, and Sigfox, addressing their architectures, characteristics, and limitations Ideal for engineers working in power systems or telecommunications as network architects, operations managers, planners, or in regulation-related activities, Smart Grid Telecommunications is also an invaluable resource for telecommunication network and smart grid architects.

Systems Modeling and Simulation - Koji Koyamada 2007-07-05

The Asia Simulation Conference 2006 (JSST 2006) was aimed at exploring challenges in methodologies for modeling, control and computation in simulation, and their applications in social, economic, and financial fields as well as established scientific and engineering solutions. The conference was held in Tokyo from October 30 to November 1, 2006, and included keynote speeches presented by technology and industry leaders, technical sessions, organized sessions, poster sessions, and vendor exhibits. It was the seventh annual inter-

national conference on system simulation and scientific computing, which is organized by the Japan Society for Simulation Technology (JSST), the Chinese Association for System Simulation (CASS), and the Korea Society for Simulation (KSS). For the conference, all submitted papers were refereed by the international technical program committee, each paper receiving at least two independent reviews. After careful reviews by the committee, 65 papers from 143 submissions were selected for oral presentation. This volume includes the keynote speakers' papers along with the papers presented at the oral sessions and the organized sessions. As a result, we are publishing 87 papers for the conference in this volume. In addition to the scientific tracts presented, the conference featured keynote presentations by five invited speakers. We are grateful to them for accepting our invitation and for their presentations. We also would like to express our gratitude to all contributors, reviewers, technical program committee members, and organizing committee members who made the conference very successful.

Information and Software Technologies - Tomas Skersys 2013-11-13

This book constitutes the refereed proceedings of the 18th International Conference on Information and Software Technologies, ICIST 2012, held in Kaunas, Lithuania, in September 2012. The 40 revised full papers presented were carefully reviewed and selected from 81 submissions. The papers are organized in topical sections on artificial intelligence and knowledge engineering, business process modelling, analysis and design, formal analysis and design methods, information and software systems engineering, information technology applications and computer networks, information technology in teaching and learning, ontology, conceptual modelling and databases, requirements engineering and business rules.

Grid and Cloud Computing - Katarina Stanoevska 2009-11-04

In today's dynamic business environment, IT departments are under permanent pressure to meet two divergent requirements: to reduce costs and to support business agility with higher flexibility and responsiveness of the IT infrastructure. Grid and Cloud Computing enable a new

approach towards IT. They enable increased scalability and more efficient use of IT based on virtualization of heterogeneous and distributed IT resources. This book provides a thorough understanding of the fundamentals of Grids and Clouds and of how companies can benefit from them. A wide array of topics is covered, e.g. business models and legal aspects. The applicability of Grids and Clouds in companies is illustrated with four cases of real business experiments. The experiments illustrate the technical solutions and the organizational and IT governance challenges that arise with the introduction of Grids and Clouds. Practical guidelines on how to successfully introduce Grids and Clouds in companies are provided.

Handbook of Research on Computational Grid Technologies for Life Sciences, Biomedicine, and Healthcare - Cannataro, Mario 2009-05-31

"This book provides methodologies and developments of grid technologies applied in different fields of life sciences"--Provided by publisher.

Healthgrid Research, Innovation and Business Case - Tony Solomonides 2009-06-18

The principal objective of HealthGrid conference and HealthGrid Association is the exchange and debate of ideas, technologies, solutions and requirements that interest the grid and the life-science communities. This work reflects the anticipated move towards real applications, and discusses accessibility, core technologies and data integration.

The Grid 2 - Ian Foster 2004

"The Grid" is an emerging infrastructure that will fundamentally change the way people think about and use computing. The editors reveal the revolutionary impact of large-scale resource sharing and virtualization within science and industry, and the intimate relationships between organization and resource sharing structures.

Introduction to Grid Computing - Frederic Magoules 2019-08-30

A Thorough Overview of the Next Generation in Computing Poised to follow in the footsteps of the Internet, grid computing is on the verge of becoming more robust and accessible to the public in the near future. Focusing on this novel, yet already powerful, technology, Introduction to

Grid Computing explores state-of-the-art grid projects, core grid technologies, and applications of the grid. After comparing the grid with other distributed systems, the book covers two important aspects of a grid system: scheduling of jobs and resource discovery and monitoring in grid. It then discusses existing and emerging security technologies, such as WS-Security and OGSA security, as well as the functions of grid middleware at a conceptual level. The authors also describe famous grid projects, demonstrate the pricing of European options through the use of the Monte Carlo method on grids, and highlight different parallelization possibilities on the grid. Taking a tutorial approach, this concise book provides a complete introduction to the components of the grid architecture and applications of grid computing. It expertly shows how grid computing can be used in various areas, from computational mechanics to risk management in financial institutions.

Grid-Scale Energy Storage Systems and Applications - Fu-Bao Wu 2019-06-11

Grid-Scale Energy Storage Systems and Applications provides a timely introduction to state-of-the-art technologies and important demonstration projects in this rapidly developing field. Written with a view to real-world applications, the authors describe storage technologies and then cover operation and control, system integration and battery management, and other topics important in the design of these storage systems. The rapidly-developing area of electrochemical energy storage technology and its implementation in the power grid is covered in particular detail. Examples of Chinese pilot projects in new energy grids and micro grids are also included. Drawing on significant Chinese results in this area, but also including data from abroad, this will be a valuable reference on the development of grid-scale energy storage for engineers and scientists in power and energy transmission and researchers in academia. Addresses not only the available energy storage technologies, but also topics significant for storage system designers, such as technology management, operation and control, system integration and economic assessment. Draws on the wealth of Chinese research into energy storage and describes important Chinese energy storage demonstration projects

Provides practical examples of the application of energy storage technologies that can be used by engineers as references when designing new systems

The Grid - Maozhen Li 2005-11-01

Find out which technologies enable the Grid and how to employ them successfully! This invaluable text provides a complete, clear, systematic, and practical understanding of the technologies that enable the Grid. The authors outline all the components necessary to create a Grid infrastructure that enables support for a range of wide-area distributed applications. The Grid: Core Technologies takes a pragmatic approach with numerous practical examples of software in context. It describes the middleware components of the Grid step-by-step, and gives hands-on advice on designing and building a Grid environment with the Globus Toolkit, as well as writing applications. The Grid: Core Technologies: Provides a solid and up-to-date introduction to the technologies that underpin the Grid. Contains a systematic explanation of the Grid, including its infrastructure, basic services, job management, user interaction, and applications. Explains in detail OGSA (Open Grid Services Architecture), Web Services technologies (SOAP, WSDL, UDDI), and Grid Monitoring. Covers Web portal-based tools such as the Java CoG, GridPort, GridSphere, and JSR 168 Portlets. Tackles hot topics such as WSRF (Web Services Resource Framework), the Semantic Grid, the Grid Security Infrastructure, and Workflow systems. Offers practical examples to enhance the understanding and use of Grid components and the associated tools. This rich resource will be essential reading for researchers and postgraduate students in computing and engineering departments, IT professionals in distributed computing, as well as Grid end users such as physicists, statisticians, biologists and chemists. Quantitative Quality of Service for Grid Computing: Applications for Heterogeneity, Large-Scale Distribution, and Dynamic Environments - Wang, Lizhe 2009-05-31

"This book provides research into parallel & distributed computing, high performance computing, and Grid computing"--Provided by publisher.

Handbook of Research on P2P and Grid Systems for Service-

Oriented Computing: Models, Methodologies and Applications - Antonopoulos, Nick 2010-01-31

Addresses the need for peer-to-peer computing and grid paradigms in delivering efficient service-oriented computing.

Proceedings of 2021 China-Europe International Conference on Pipelines and Trenchless Technology - Xianbin Liu 2022-11-12

This book is a compilation of selected papers from the 2021 China-Europe International Conference on Pipelines and Trenchless Technology. The international academic conference is organized to • further promote the cause of trenchless works in China • ensure the quality of engineering construction • introduce advanced technology, equipment, and materials • promote the exchange and learning of trenchless technology • enhance the level of trenchless technology in China • improve the international influence of trenchless academics in China • promote the standardization and localization of trenchless technology in China • and lead the healthy development of the industry. . *Recent Developments in Intelligent Computing, Communication and Devices* - Srikanta Patnaik 2018-08-22

This book offers a collection of high-quality, peer-reviewed research papers presented at the International Conference on Intelligent Computing, Communication and Devices (ICCD 2017), discussing all dimensions of intelligent sciences – intelligent computing, intelligent communication, and intelligent devices. Intelligent computing addresses areas such as intelligent and distributed computing, intelligent grid and cloud computing, internet of things, soft computing and engineering applications, data mining and knowledge discovery, semantic and web technology, hybrid systems, agent computing, bioinformatics, and recommendation systems. Intelligent communication is concerned with communication and network technologies, such as mobile broadband and all optical networks that are the key to groundbreaking inventions of intelligent communication technologies. It includes communication hardware, software and networked intelligence, mobile technologies, machine-to-machine communication networks, speech and natural language processing, routing techniques and network analytics, wireless

ad hoc and sensor networks, communications and information security, signal, image and video processing, network management, and traffic engineering. Lastly, intelligent devices are any equipment, instruments, or machines that have their own computing capability. As computing technology becomes more advanced and less expensive, it can be incorporated an increasing number of devices of all kinds. This area covers such as embedded systems, radiofrequency identification (RFID), radiofrequency microelectromechanical system (RF MEMS), very-large-scale integration (VLSI) design and electronic devices, analog and mixed-signal integrated circuit (IC) design and testing, microelectromechanical system (MEMS) and microsystems, solar cells and photonics, nanodevices, single electron and spintronics devices, space electronics, and intelligent robotics.

Semantic Grid: Model, Methodology, and Applications - Zhaohui Wu
2008-11-16

Semantic Grid: Model, Methodology, and Applications introduces to the science, core technologies, and killer applications. First, scientific issues of semantic grid systems are covered, followed by two basic technical issues, data-level semantic mapping, and service-level semantic interoperating. Two killer applications are then introduced to show how to build a semantic grid for specific application domains. Although this book is organized in a step by step manner, each chapter is independent. Detailed application scenarios are also presented. In 1990, Prof. Wu invented the first KB-system tool, ZIPE, based on C on a SUN platform. He proposed the first coupling knowledge representing model, Couplingua, which embodies Rule, Frame, Semantic Network and Nerve Cell Network, and supports symbol computing and data processing computing. His current focus is on semantic web, grid & ubiquitous computing, and their applications in the life sciences.

The Grid - Maozhen Li 2005-05-06

Find out which technologies enable the Grid and how to employ them successfully! This invaluable text provides a complete, clear, systematic, and practical understanding of the technologies that enable the Grid. The authors outline all the components necessary to create a Grid

infrastructure that enables support for a range of wide-area distributed applications. The Grid: Core Technologies takes a pragmatic approach with numerous practical examples of software in context. It describes the middleware components of the Grid step-by-step, and gives hands-on advice on designing and building a Grid environment with the Globus Toolkit, as well as writing applications. The Grid: Core Technologies: Provides a solid and up-to-date introduction to the technologies that underpin the Grid. Contains a systematic explanation of the Grid, including its infrastructure, basic services, job management, user interaction, and applications. Explains in detail OGSA (Open Grid Services Architecture), Web Services technologies (SOAP, WSDL, UDDI), and Grid Monitoring. Covers Web portal-based tools such as the Java CoG, GridPort, GridSphere, and JSR 168 Portlets. Tackles hot topics such as WSRF (Web Services Resource Framework), the Semantic Grid, the Grid Security Infrastructure, and Workflow systems. Offers practical examples to enhance the understanding and use of Grid components and the associated tools. This rich resource will be essential reading for researchers and postgraduate students in computing and engineering departments, IT professionals in distributed computing, as well as Grid end users such as physicists, statisticians, biologists and chemists.

Introduction to Grid Computing - Bart Jacob 2005-01-01

"The State of Technological Innovation Related to the Electric Grid" - United States. Congress. Senate. Committee on Energy and Natural Resources 2015

Healthgrid Applications and Core Technologies - Tony Solomonides 2010

This book presents the proceedings of HealthGrid 2010, the latest in the annual open forum for the integration of grid technologies, e science and e health methods and their application in biomedicine and healthcare. Previous conferences have highlighted the need to involve all actors, such as physicians, scientists and technologists, and have served to demonstrate the usefulness of grids to potential application domains, at

least at the prototype level. More recently, cloud computing seems set to make an impact as a paradigm more readily acceptable in the practice of healthcare informatics, whilst grids may remain the infrastructure of choice for researchers. Included in this volume are the 19 papers selected after review from 42 original submissions for full presentation at the 2010 conference. Additional papers, presented as posters at the conference, are reproduced here in shorter form. The book has four sections: section one contains four papers under the broad heading of 'Socio Economic Aspects and Accessibility', section two: 'Future of Grids, Core Technologies & Data Integration', consists of nine papers and section three comprises a further six papers covering 'Applications'. Section four includes the 'Poster Extended Abstracts'. Of interest to grid middleware and healthgrid application developers, ethicists, security experts and policy makers as well as all users of biomedical and health informatics, this book provides an overview of current trends and developments in this increasingly important field of healthcare.

[Advances in Grid Computing - EGC 2005](#) - P.M.A. Sloot 2005-07-11

We are proud to present to you the proceedings of the European Grid Conference 2005, held at the Science Park Amsterdam during February 14 -16.

Grid Computing - Fran Berman 2003-04-18

Grid computing is applying the resources of many computers in a network to a single problem at the same time Grid computing appears to be a promising trend for three reasons: (1) Its ability to make more cost-effective use of a given amount of computer resources, (2) As a way to solve problems that can't be approached without an enormous amount of computing power (3) Because it suggests that the resources of many computers can be cooperatively and perhaps synergistically harnessed and managed as a collaboration toward a common objective. A number of corporations, professional groups, university consortiums, and other groups have developed or are developing frameworks and software for managing grid computing projects. The European Community (EU) is sponsoring a project for a grid for high-energy physics, earth observation, and biology applications. In the United States, the National

Technology Grid is prototyping a computational grid for infrastructure and an access grid for people. Sun Microsystems offers Grid Engine software. Described as a distributed resource management tool, Grid Engine allows engineers at companies like Sony and Synopsys to pool the computer cycles on up to 80 workstations at a time. * "the Grid" is a very hot topic generating broad interest from research and industry (e.g. IBM, Platform, Avaki, Entropia, Sun, HP) * Grid architecture enables very popular e-Science projects like the Genome project which demand global interaction and networking * In recent surveys over 50% of Chief Information Officers are expected to use Grid technology this year Grid Computing: * Features contributions from the major players in the field * Covers all aspects of grid technology from motivation to applications * Provides an extensive state-of-the-art guide in grid computing This is essential reading for researchers in Computing and Engineering, physicists, statisticians, engineers and mathematicians and IT policy makers.

Advances in Grid Computing - Zoran Constantinescu 2011-02-28

This book approaches the grid computing with a perspective on the latest achievements in the field, providing an insight into the current research trends and advances, and presenting a large range of innovative research papers. The topics covered in this book include resource and data management, grid architectures and development, and grid-enabled applications. New ideas employing heuristic methods from swarm intelligence or genetic algorithm and quantum encryption are considered in order to explain two main aspects of grid computing: resource management and data management. The book addresses also some aspects of grid computing that regard architecture and development, and includes a diverse range of applications for grid computing, including possible human grid computing system, simulation of the fusion reaction, ubiquitous healthcare service provisioning and complex water systems.

Grid and Cloud Computing: Concepts, Methodologies, Tools and Applications - Management Association, Information Resources 2012-04-30

"This reference presents a vital compendium of research detailing the

latest case studies, architectures, frameworks, methodologies, and research on Grid and Cloud Computing"--

User Centered Design for Medical Visualization - Dong, Feng
2008-05-30

"This book features a comprehensive review of advances in medical visualization and human-computer interaction. It investigates the human roles during a visualization process, specifically motivation-based design, user-based design, and perception-and-cognitive-based design. It also provides real-world examples and insight into the analytical and architectural aspects of user centered design"--Provided by publisher.

Healthgrid Research, Innovation, and Business Case - Tony Solomonides
2009

The principal objective of HealthGrid conference and HealthGrid

Association is the exchange and debate of ideas, technologies, solutions and requirements that interest the grid and the life-science communities. This work reflects the anticipated move towards real applications, and discusses accessibility, core technologies and data integration.

AsiaSim 2007 - Jin Woo Park 2007-12-21

This book is made up of selected papers from the Asia Simulation Conference 2007, held in Seoul, Korea, in October of 2007. The 42 revised full papers presented were carefully reviewed and selected from 120 submissions. After the conference, the papers went through another round of revision. The papers are organized in topical sections on a host of subjects. These include, among others, sections on numerical simulation, general application, and agent-based simulation.