

Smart Grid Infrastructure Networking

Grid Networks Communication Networks for Smart Grids Grid Computing Smart Grid Infrastructure & Networking Networking and Information Technology Research and Development Oracle Exadata Recipes Communication and Networking in Smart Grids Security and Privacy in Smart Grids The Handbook of Computer Networks, Distributed Networks, Network Planning, Control, Management, and New Trends and Applications Network Architectures, Management, and Applications A Networking Approach to Grid Computing Ambient Intelligence, Wireless Networking, and Ubiquitous Computing Applied Cyber Security and the Smart Grid Oracle Database 11g Oracle Real Application Clusters Handbook, 2nd Edition Oracle Database 12c Release 2 Real Application Clusters Handbook: Concepts, Administration, Tuning & Troubleshooting Towards a Network of Atmospheric Cherenkov Detectors VII Grid Computing Grid Computing CERN Courier Encyclopedia of Multimedia Technology and Networking Franco Travostino Kenneth C. Budka Nikolaos P. Preve Krzysztof Iniewski National Science and Technology Council (U.S.). Interagency Working Group on Information Technology Research and Development John Clarke Yang Xiao Yang Xiao Hossein Bidgoli Daniel Minoli Athanasios Vasilakos Eric D. Knapp K Gopalakrishnan K. Gopalakrishnan Bernard Degrange Fran Berman European Organization for Nuclear Research Margherita Pagani Grid Networks Communication Networks for Smart Grids Grid Computing Smart Grid Infrastructure & Networking Networking and Information Technology Research and Development Oracle Exadata Recipes Communication and Networking in Smart Grids Security and Privacy in Smart Grids The Handbook of Computer Networks, Distributed Networks, Network Planning, Control, Management, and New Trends and Applications Network Architectures, Management, and Applications A Networking Approach to Grid Computing Ambient Intelligence, Wireless Networking, and Ubiquitous Computing Applied Cyber Security and the Smart Grid Oracle Database 11g Oracle Real Application Clusters Handbook, 2nd Edition Oracle Database 12c Release 2 Real Application Clusters Handbook: Concepts, Administration, Tuning & Troubleshooting Towards a Network of Atmospheric Cherenkov Detectors VII Grid Computing Grid Computing CERN Courier Encyclopedia of Multimedia Technology and Networking Franco Travostino Kenneth C. Budka Nikolaos P.

Preve Krzysztof Iniewski National Science and Technology Council (U.S.). Interagency Working Group on Information Technology Research and Development John Clarke Yang Xiao Yang Xiao Hossein Bidgoli Daniel Minoli Athanasios Vasilakos Eric D. Knapp K Gopalakrishnan K. Gopalakrishnan Bernard Degrange Fran Berman European Organization for Nuclear Research Margherita Pagani

a book that bridges the gap between the communities of network and grid experts grid networks describes the convergence of advanced networking technologies and grid technologies with special focus on their symbiotic relationship and the resulting new opportunities grid technology is applicable to many implementations computational grids data grids service grids and instrumentation grids the authors cover a breadth of topics including recent research featuring both theoretical concepts and empirical results beginning with an overview of grid technologies an analysis of distinguishing use cases and architectural attributes and emerging standards travostino et al discuss new directions in multiple networking technologies that are enabling enhanced capabilities for grids an appendix also provides an overview of experimental research test beds and prototype implementations these topics will enable network experts to design networks to best match grid requirements while grid experts will learn how to effectively utilize network resources grid networks enabling grids with advanced communication technology bridges the gap between the communities of network and grid experts covers new network requirements posed by the grid and the paradigm shifts prompted by grid applications discusses basic architectural concepts and directions related to the integration of grid and networking technologies especially those that elevate network resources to first class entities within grid environments details new directions in networking technologies for the grid including network infrastructure management service provisioning high performance data transport performance monitoring reliability and network assisted service frameworks provides an overview of advanced research testbeds and innovative early implementations of emerging architecture and technology many communities will find this book an invaluable resource including engineers and product managers research scientists within academia industry and government agencies advanced students and faculty in distributed systems courses network and systems architects cios administrators of advanced networks application developers and providers of next generation distributed services

this book presents an application centric approach to the development of smart grid communication architecture the coverage includes in depth reviews of such cutting edge applications as advanced metering infrastructure distribution automation demand response and synchrophasors features examines a range of exciting utility applications made possible through smart grid evolution describes the core

edge network architecture for smart grids introducing the concept of wans and fans explains how the network design paradigm for smart grids differs from that for more established data networks and discusses network security in smart grids provides an overview of communication network technologies for wans and fans covering opgw plc and lte and mpls technology investigates secure data centric data management and data analytics for smart grids discusses the transformation of a network from conventional modes of utility operation to an integrated network based on the smart grid architecture framework

this book presents research from many of the major projects involved in the emerging global grid infrastructure with a particular focus on the practical advantages and applications of grid computing including real case studies the book provides an in depth study of grid technology for a wide range of different needs topics examines a remote instrumentation infrastructure and a methodology to support e science applications on e infrastructures describes the gems storage system and pipeline workflows for optimizing end to end performance in wide area networks investigates semantic grid system architecture social grid agents and monitoring platforms designed for large scale distributed systems explores job control using service level agreements introduces the composable services architecture for dynamic service provisioning and the semantically driven communication middleware platform phoenix discusses the phylogrid application and a numerical simulation performed using grid computing

a complete guide to smart grid networking and communications for energy engineers with contributions from more than 30 experts smart grid infrastructure networking describes cutting edge technologies for connecting the electrical power infrastructure to modern computerized communications networks the book offers essential information on standardization applications protocols automation architecture and management key topics such as bidirectional communication automation renewable energy integration wireless sensor networks and more are discussed in this practical comprehensive resource coverage includes demand side energy management the modernization of distribution automation featuring intelligent fdir and volt var optimization advanced asset management wide area early warning systems the integration of renewable energy sources into smart grids the microgrid in the electric system transformation enhancing the integration of renewables in radial distribution networks through smart links voltage based control of dg units and active loads in smart microgrids electric vehicles in a smart grid environment low voltage dc grid powered led lighting system with smart ambient sensor control for energy conservation in green building multiple distributed smart microgrids with a self autonomous energy

harvesting wireless sensor network wireless sensor networks for consumer applications in the smart grid zigbee based wireless monitoring and control system for smart grids

oracle exadata recipes takes an example based problem solution approach in showing how to size install configure manage monitor optimize and migrate oracle database workloads on and to the oracle exadata database machine whether you re an oracle database administrator unix linux administrator storage administrator network administrator or oracle developer oracle exadata recipes provides effective and proven solutions to accomplish a wide variety of tasks on the exadata database machine you can feel confident using the reliable solutions that are demonstrated in this book in your enterprise exadata environment managing oracle exadata is unlike managing a traditional oracle database oracle s exadata database machine is a pre configured engineered system comprised of hardware and software built to deliver extreme performance for oracle database workloads exadata delivers extreme performance by offering an optimally balanced hardware infrastructure with fast components at each layer of the engineered technology stack as well as a unique set of oracle software features designed to leverage the high performing hardware infrastructure by reducing i o demands let oracle exadata recipes help you translate your existing oracle database knowledge into the exciting new growth area that is oracle exadata helps extend your oracle database skillset to the fast growing exadata platform presents information on managing exadata in a helpful example based format clearly explains unique exadata software and hardware features what you ll learn install and configure exadata manage your exadata hardware infrastructure monitor and troubleshoot performance issues manage smart scan and cell offload processing take advantage of hybrid columnar compression deploy smart flash cache and smart flash logging ensure the health of your exadata environment who this book is for oracle exadata recipes is for oracle database administrators unix linux administrators storage administrators backup administrators network administrators and oracle developers who want to quickly learn to develop effective and proven solutions without reading through a lengthy manual scrubbing for techniques readers in a hurry will appreciate the recipe format that sets up solutions to common tasks as the centerpiece of the book table of contents exadata hardware exadata software how oracle works on exadata workload qualification sizing exadata preparing for exadata administration and diagnostics utilities backup and recovery storage administration network administration patching and upgrades security monitoring exadata storage cells host and database performance monitoring smart scan and cell offload hybrid columnar compression i o resource management and instance caging smart flash cache and smart flash logging storage indexes post installation monitoring tasks post install database tasks

appropriate for researchers practitioners and students alike communication and networking in smart grids presents state of the art approaches and novel technologies for communication networks in smart grids it explains how contemporary grid networks are developed and deployed and presents a collection of cutting edge advances to help improve cu

presenting the work of prominent researchers working on smart grids and related fields around the world security and privacy in smart grids identifies state of the art approaches and novel technologies for smart grid communication and security it investigates the fundamental aspects and applications of smart grid security and privacy and reports on the latest advances in the range of related areas making it an ideal reference for students researchers and engineers in these fields the book explains grid security development and deployment and introduces novel approaches for securing today s smart grids supplying an overview of recommendations for a technical smart grid infrastructure the book describes how to minimize power consumption and utility expenditure in data centers it also details the challenges of cybersecurity for smart grid communication infrastructures covers the regulations and standards relevant to smart grid security explains how to conduct vulnerability assessments for substation automation systems considers smart grid automation scada system security and smart grid security in the last mile the book s chapters work together to provide you with a framework for implementing effective security through this growing system numerous figures illustrations graphs and charts are included to aid in comprehension with coverage that includes direct attacks smart meters and attacks via networks this versatile reference presents actionable suggestions you can put to use immediately to prevent such attacks

the handbook of computer networks is the third set of reference books from leading author and professor of management information systems at california state university bakersfield hossein bidgoli the handbook of computer networks is designed to arm researchers practitioners students and managers with in depth understanding of this important and fast growing field in its broadest scope and in an applied and functional framework each volume incorporates state of the art core information and networking topics practical applications and coverage of the emerging issues in the computer networking and data communications fields

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

ambient intelligence ami is the next wave in computing and communications technology nano sized sensors and computers wireless networks and intelligent software are being integrated to create ami environments this forward looking volume also covers such latest ami developments as smart dust smart personal object technology and context aware computing

many people think of the smart grid as a power distribution group built on advanced smart metering but that's just one aspect of a much larger and more complex system the smart grid requires new technologies throughout energy generation transmission and distribution and even the homes and businesses being served by the grid this also represents new information paths between these new systems and services all of which represents risk requiring a more thorough approach to where and how cyber security controls are implemented this insight provides a detailed architecture of the entire smart grid with recommended cyber security measures for everything from the supply chain to the consumer discover the potential of the smart grid learn in depth about its systems see its vulnerabilities and how best to protect it

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this comprehensive guide has been fully updated to cover the latest features and tools of oracle real application clusters 12c through clear instruction and detailed examples oracle database 12c real application clusters handbook concepts administration tuning and troubleshooting teaches how to build configure and maintain a dynamic enterprise computing infrastructure this thoroughly revised edition covers best uses for the latest tools and features all from the practical standpoint of a working dba you will discover how to prepare hardware configure the software optimize data integrity and integrate seamless failover protection brand new flex and large cluster technologies are explained in full detail and readers will get complete solutions for securing data and continuing business operations in the event of hardware failure presents all the new information needed to effectively use oracle real application clusters 12c considered the most radical overhaul ever offers detailed coverage of troubleshooting performance tuning and application development

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

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