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KEY=DESIGN - BRYCE KLINE

CONCEPTS FOR DISTRIBUTED SYSTEMS DESIGN

Springer Science & Business Media **This book is written for computer programmers, analysts and scientists, as well as computer science students, as an intro duction to the principles of distributed system design. The emphasis is placed on a clear understanding of the concepts, rather than on details; and the reader will learn about the struc ture of distributed systems, their problems, and approaches to their design and development. The reader should have a basic knowledge of computer systems and be familiar with modular design principles for software development. He should also be aware of present-day remote-access and distributed computer applications. The book consists of three parts which deal with prin ciples of distributed systems, communications architecture and protocols, and formal description techniques. The first part serves as an introduction to the broad meaning of "distributed system". We give examples, try to define terms, and discuss the problems that arise in the context of parallel and distributed processing. The second part presents the typical layered protocol architecture of distributed systems, and discusses problems of compatibility and interworking between heterogeneous computer systems. The principles of the lower layer functions and protocols are explained in some detail, including link layer protocols and network transmission services. The third part deals with specification issues. The role of specifications in the design of distributed systems is explained in general, and formal methods for the specification, analysis and implementation of distributed systems are discussed.**

DISTRIBUTED SYSTEMS

CONCEPTS AND DESIGN

Addison-Wesley Longman **"[This] book aims to provide an understanding of the principles on which the Internet and other distributed systems are based; their architecture, algorithms and design; and how they meet the demands of contemporary distributed applications."--p. xii.**

DISTRIBUTED SYSTEMS

DESIGN CONCEPTS

DESIGNING DISTRIBUTED SYSTEMS

PATTERNS AND PARADIGMS FOR SCALABLE, RELIABLE SERVICES

"O'Reilly Media, Inc." **In the race to compete in today’s fast-moving markets, large enterprises are busy adopting new technologies for creating new products, processes, and business models. But one obstacle on the road to digital transformation is placing too much emphasis on technology, and not enough on the types of processes technology enables. What if different lines of business could build their own services and applications—and decision-making was distributed rather than centralized? This report explores the concept of a digital business platform as a way of empowering individual business sectors to act on data in real time. Much innovation in a digital enterprise will increasingly happen at the edge, whether it involves business users (from marketers to data scientists) or IoT devices. To facilitate the process, your core IT team can provide these sectors with the digital tools they need to innovate quickly. This report explores: Key cultural and organizational changes for developing business capabilities through cross-functional product teams A platform for integrating applications, data sources, business partners, clients, mobile apps, social networks, and IoT devices Creating internal API programs for building innovative edge services in low-code or no-code environments Tools including Integration Platform as a Service, Application Platform as a Service, and Integration Software as a Service The challenge of integrating microservices and serverless architectures Event-driven architectures for processing and reacting to events in real time You’ll also learn about a complete pervasive integration solution as a core component of a digital business platform to serve every audience in your organization.**

DISTRIBUTED SYSTEMS

CONCEPTS AND DESIGN

Addison Wesley Publishing Company **The new edition of this bestselling title on Distributed Systems has been thoroughly revised throughout to reflect the state of the art in this rapidly developing field. It emphasizes the principles used in**

the design and construction of distributed computer systems based on networks of workstations and server computers.

DISTRIBUTED SYSTEMS

CONCEPTS AND DESIGN

Addison-Wesley Longman **Provides a broad and up-to-date account of the principles and practice of distributed system design.**

COMMAND POST/SIGNAL CENTER BUS DISTRIBUTION SYSTEM CONCEPT DESIGN

VALUE PACK

DISTRIBUTED SYSTEMS:CONCEPTS AND DESIGN WITH COMPUTER NETWORKING AND THE INTERNET

Addison-Wesley

DISTRIBUTED OPERATING SYSTEMS

CONCEPTS AND DESIGN

PHI Learning Pvt. Ltd. **The highly praised book in communications networking from IEEE Press, now available in the Eastern Economy Edition.This is a non-mathematical introduction to Distributed Operating Systems explaining the fundamental concepts and design principles of this emerging technology. As a textbook for students and as a self-study text for systems managers and software engineers, this book provides a concise and an informal introduction to the subject.**

ON THE MOVE TO MEANINGFUL INTERNET SYSTEMS 2003: OTM 2003 WORKSHOPS

OTM CONFEDERATED INTERNATIONAL WORKSHOPS, HCI-SWWA, IPW, JTRES, WORM, WMS, AND WRSM 2003, CATANIA, SICILY, ITALY, NOVEMBER 3-7, 2003, PROCEEDINGS

Springer Science & Business Media **This book constitutes the joint refereed proceedings of six international workshops held as part of OTM 2003 in Catania, Sicily, Italy, in November 2003. The 80 revised full workshop papers presented together with various abstracts and summaries were carefully reviewed and selected from a total of 170 submissions. In accordance with the workshops, the papers are organized in topical main sections on industrial issues, human computer interface for the semantic Web and Web applications, Java technologies for real-time and embedded systems, regulatory ontologies and the modelling of complaint regulations, metadata for security, and reliable and secure middleware.**

DESIGNING DATA-INTENSIVE APPLICATIONS

THE BIG IDEAS BEHIND RELIABLE, SCALABLE, AND MAINTAINABLE SYSTEMS

"*O'Reilly Media, Inc.*" **Data is at the center of many challenges in system design today. Difficult issues need to be figured out, such as scalability, consistency, reliability, efficiency, and maintainability. In addition, we have an overwhelming variety of tools, including relational databases, NoSQL datastores, stream or batch processors, and message brokers. What are the right choices for your application? How do you make sense of all these buzzwords? In this practical and comprehensive guide, author Martin Kleppmann helps you navigate this diverse landscape by examining the pros and cons of various technologies for processing and storing data. Software keeps changing, but the fundamental principles remain the same. With this book, software engineers and architects will learn how to apply those ideas in practice, and how to make full use of data in modern applications. Peer under the hood of the systems you already use, and learn how to use and operate them more effectively Make informed decisions by identifying the strengths and weaknesses of different tools Navigate the trade-offs around consistency, scalability, fault tolerance, and complexity Understand the distributed systems research upon which modern databases are built Peek behind the scenes of major online services, and learn from their architectures**

DISTRIBUTED NETWORK SYSTEMS

FROM CONCEPTS TO IMPLEMENTATIONS

Springer Science & Business Media **Both authors have taught the course of “Distributed Systems” for many years in the respective schools. During the teaching, we feel strongly that “Distributed systems” have evolved from traditional “LAN” based distributed systems towards “Internet based” systems. Although there exist many excellent textbooks on this topic, because of the fast development of distributed systems and network programming/protocols, we have difficulty in finding an appropriate textbook for the course of “distributed systems” with orientation to the requirement of the undergraduate level study for today’s distributed technology. Specifically, from - to-date concepts, algorithms, and models to implementations for both distributed system designs and application programming. Thus the philosophy behind this book is to integrate the concepts, algorithm designs and implementations of distributed systems based on network programming. After using several materials of other textbooks and research books, we**

found that many texts treat the distributed systems with separation of concepts, algorithm design and network programming and it is very difficult for students to map the concepts of distributed systems to the algorithm design, prototyping and implementations. This book intends to enable readers, especially postgraduates and senior undergraduate level, to study up-to-date concepts, algorithms and network programming skills for building modern distributed systems. It enables students not only to master the concepts of distributed network system but also to readily use the material introduced into implementation practices.

DISTRIBUTED SHARED MEMORY

CONCEPTS AND SYSTEMS

John Wiley & Sons **The papers present in this text survey both distributed shared memory (DSM) efforts and commercial DSM systems. The book discusses relevant issues that make the concept of DSM one of the most attractive approaches for building large-scale, high-performance multiprocessor systems. The authors provide a general introduction to the DSM field as well as a broad survey of the basic DSM concepts, mechanisms, design issues, and systems. The book concentrates on basic DSM algorithms, their enhancements, and their performance evaluation. In addition, it details implementations that employ DSM solutions at the software and the hardware level. This guide is a research and development reference that provides state-of-the art information that will be useful to architects, designers, and programmers of DSM systems.**

MARINE DESIGN XIII

PROCEEDINGS OF THE 13TH INTERNATIONAL MARINE DESIGN CONFERENCE (IMDC 2018), JUNE 10-14, 2018, HELSINKI, FINLAND

CRC Press **Marine Design XIII collects the contributions to the 13th International Marine Design Conference (IMDC 2018, Espoo, Finland, 10-14 June 2018). The aim of this IMDC series of conferences is to promote all aspects of marine design as an engineering discipline. The focus is on key design challenges and opportunities in the area of current maritime technologies and markets, with special emphasis on: • Challenges in merging ship design and marine applications of experience-based industrial design • Digitalisation as technological enabler for stronger link between efficient design, operations and maintenance in future • Emerging technologies and their impact on future designs • Cruise ship and icebreaker designs including fleet compositions to meet new market demands To reflect on the conference focus, Marine Design XIII covers the following research topic series: •State of art ship design principles - education, design methodology, structural design, hydrodynamic design; •Cutting edge ship designs and operations - ship concept design, risk and safety, arctic design, autonomous ships; •Energy efficiency and propulsions - energy efficiency, hull form design, propulsion equipment design; •Wider marine designs and practices - navy ships, offshore and wind farms and production. Marine Design XIII contains 2 state-of-the-art reports on design methodologies and cruise ships design, and 4 keynote papers on new directions for vessel design practices and tools, digital maritime traffic, naval ship designs, and new tanker design for arctic. Marine Design XIII will be of interest to academics and professionals in maritime technologies and marine design.**

DISTRIBUTED SYSTEMS

CONCEPTS AND DESIGN

Addison Wesley Longman **The chapters in this new edition have been revised and updated. New material includes coverage of large-scale applications, fault modelling and fault tolerance, models of system execution, object orientation and distributed multimedia systems.**

REACTOR TECHNOLOGY

EXPERT SYSTEMS, SIX-VOLUME SET

THE TECHNOLOGY OF KNOWLEDGE MANAGEMENT AND DECISION MAKING FOR THE 21ST CENTURY

Elsevier **This six-volume set presents cutting-edge advances and applications of expert systems. Because expert systems combine the expertise of engineers, computer scientists, and computer programmers, each group will benefit from buying this important reference work. An "expert system" is a knowledge-based computer system that emulates the decision-making ability of a human expert. The primary role of the expert system is to perform appropriate functions under the close supervision of the human, whose work is supported by that expert system. In the reverse, this same expert system can monitor and double check the human in the performance of a task. Human-computer interaction in our highly complex world requires the development of a wide array of expert systems. Key Features * Expert systems techniques and applications are presented for a diverse array of topics including: * Experimental design and decision support * The integration of machine learning with knowledge acquisition for the design of expert systems * Process planning in design and manufacturing systems and process control applications * Knowledge discovery in large-scale knowledge bases * Robotic systems * Geograhphic information systems * Image analysis, recognition and interpretation * Cellular automata methods for pattern recognition * Real-time fault tolerant control systems * CAD-based vision systems in pattern matching processes * Financial systems * Agricultural applications * Medical diagnosis**

DATABASE AND EXPERT SYSTEMS APPLICATIONS

10TH INTERNATIONAL CONFERENCE, DEXA'99, FLORENCE, ITALY, AUGUST 30 - SEPTEMBER 3, 1999, PROCEEDINGS

Springer **The Database and Expert Systems Applications (DEXA) conferences bring together researchers and practitioners from all over the world to exchange ideas, experiences and opinions in a friendly and stimulating environment. The papers are at once a record of what has been achieved and the first steps towards shaping the future of information systems. DEXA covers a broad field, and all aspects of database, knowledge base and related technologies and their applications are represented. Once again there were a good number of submissions: 241 papers were submitted and of these the programme committee selected 103 to be presented. DEXA’99 took place in Florence and was the tenth conference in the series, following events in Vienna, Berlin, Valencia, Prague, Athens, London, Zurich, Toulouse and Vienna. The decade has seen many developments in the areas covered by DEXA, developments in which DEXA has played its part. I would like to express thanks to all the institutions which have actively supported and made possible this conference, namely: • University of Florence, Italy • IDG CNR, Italy • FAW – University of Linz, Austria • Austrian Computer Society • DEXA Association In addition, we must thank all the people who have contributed their time and effort to make the conference possible. Special thanks go to Maria Schweikert (Technical University of Vienna), M. Neubauer and G. Wagner (FAW, University of Linz). We must also thank all the members of the programme committee, whose careful reviews are important to the quality of the conference.**

DESIGNING EMBEDDED HARDWARE

"*O'Reilly Media, Inc.*" **Intelligent readers who want to build their own embedded computer systems-- installed in everything from cell phones to cars to handheld organizers to refrigerators-- will find this book to be the most in-depth, practical, and up-to-date guide on the market. Designing Embedded Hardware carefully steers between the practical and philosophical aspects, so developers can both create their own devices and gadgets and customize and extend off-the-shelf systems. There are hundreds of books to choose from if you need to learn programming, but only a few are available if you want to learn to create hardware. Designing Embedded Hardware provides software and hardware engineers with no prior experience in embedded systems with the necessary conceptual and design building blocks to understand the architectures of embedded systems. Written to provide the depth of coverage and real-world examples developers need, Designing Embedded Hardware also provides a road-map to the pitfalls and traps to avoid in designing embedded systems. Designing Embedded Hardware covers such essential topics as: The principles of developing computer hardware Core hardware designs Assembly language concepts Parallel I/O Analog-digital conversion Timers (internal and external) UART Serial Peripheral Interface Inter-Integrated Circuit Bus Controller Area Network (CAN) Data Converter Interface (DCI) Low-power operation This invaluable and eminently useful book gives you the practical tools and skills to develop, build, and program your own application-specific computers.**

POWER SYSTEM

S. Chand Publishing **It is gratifying to note that the book has very widespread acceptance by faculty and students throughout the country.n the revised edition some new topics have been added.Additional solved examples have also been added.The data of transmission system in India has been updated.**

ROBOTIC SYSTEMS: CONCEPTS, METHODOLOGIES, TOOLS, AND APPLICATIONS

CONCEPTS, METHODOLOGIES, TOOLS, AND APPLICATIONS

IGI Global **Through expanded intelligence, the use of robotics has fundamentally transformed a variety of fields, including manufacturing, aerospace, medicine, social services, and agriculture. Continued research on robotic design is critical to solving various dynamic obstacles individuals, enterprises, and humanity at large face on a daily basis. Robotic Systems: Concepts, Methodologies, Tools, and Applications is a vital reference source that delves into the current issues, methodologies, and trends relating to advanced robotic technology in the modern world. Highlighting a range of topics such as mechatronics, cybernetics, and human-computer interaction, this multi-volume book is ideally designed for robotics engineers, mechanical engineers, robotics technicians, operators, software engineers, designers, programmers, industry professionals, researchers, students, academicians, and computer practitioners seeking current research on developing innovative ideas for intelligent and autonomous robotics systems.**

UNIVERSITY OF MICHIGAN OFFICIAL PUBLICATION

UM Libraries

DISTRIBUTION OF ELECTRICAL POWER

Dr. Hidaia Mahmood Alassouli **This book includes my lecture notes for electrical power distribution book. The fundamentals of electrical power distribution are applied to various distribution system layouts and the function of common distribution system substations and equipment. The book introduces the design procedures and protection methods for power distribution systems of consumer installations. Circuit simulation and practical laboratories are utilised to reinforce concepts. The book is divided to different learning outcomes • CLO 1- Discuss the fundamental concepts related to electrical distribution systems. • CLO 2- Explain the role of distribution substations and related**

equipment. • CLO 3- Outline standard methods for power distribution to consumer installations. • CLO 4- Apply short-circuit and over-load protection principles for electrical installations a) CLO1- Discuss the fundamental concepts related to electrical distribution systems. • Principle of operation of transformers. • Explain the role of the distribution system in a power system, common distribution system layouts, and common voltages, voltage drops and regulation levels from transmission to distribution. • Discuss demand, power quality issues, calculate factors affecting design, and interpret the load curve profile for load demand. • Explain how tariff is calculated and charged consumers b) CLO2- Explain the role of distribution substations and related equipment. • Explain the function of the distribution substation in view of distribution system layout • Explain the use of transmission, grid, primary and distribution substations a power system. • Explain the use of various types of bus-bar configurations in distribution substations. • Discuss the use of cabling, transformers, circuit breakers, switches, reclosers, and sectionalisers in a distribution system. c) CLO3- Outline standard methods for power distribution to consumer installations. • Discuss commonly used methods for low voltage power supply systems (TN, TN-C, TN-C-S and TT). • Discuss the main features of a one-line, electrical installation diagram and related symbols. • Discuss electrical color codes and factors affecting cable installations. • Design an electrical feeder by (1) selecting the design current, (2) selecting the overload current protection, (3) determining the applicable correction factors, (4) selecting the current-carrying capacity of cable and cable sizing, and (5) calculating the allowable voltage drop in feeder d) CLO4- Apply short-circuit and over-load protection principles for electrical installations. • Explain the meaning of overload and over-current and methods of protection • Discuss the nature of electric shock, need for earthing, earth loop impedance, and principle of protective multiple earthing. • Explain the principles of fuse/MCB selection in relation to feeder protection under overload and short circuit fault conditions. • Explain the operation of earth leakage circuit breakers (ELCB) and residual current device (RCD).

RECOMMENDATIONS FROM VALUE ENGINEERING STUDIES ON WASTEWATER TREATMENT WORKS

CONCEPTS FOR DISTRIBUTED SYSTEMS DESIGN

UNDERGRADUATE ANNOUNCEMENT

FOURTH-GENERATION LANGUAGES

SYSTEMS DESIGN FOR REMOTE HEALTHCARE

Springer Science & Business Media **This book provides a multidisciplinary overview of the design and implementation of systems for remote patient monitoring and healthcare. Readers are guided step-by-step through the components of such a system and shown how they could be integrated in a coherent framework for deployment in practice. The authors explain planning from subsystem design to complete integration and deployment, given particular application constraints. Readers will benefit from descriptions of the clinical requirements underpinning the entire application scenario, physiological parameter sensing techniques, information processing approaches and overall, application dependent system integration. Each chapter ends with a discussion of practical design challenges and two case studies are included to provide practical examples and design methods for two remote healthcare systems with different needs.**

IPV6 FOR ENTERPRISE NETWORKS

Pearson Education **IPv6 for Enterprise Networks The practical guide to deploying IPv6 in campus, WAN/branch, data center, and virtualized environments Shannon McFarland, CCIE® No. 5245 Muninder Sambi, CCIE No. 13915 Nikhil Sharma, CCIE No. 21273 Sanjay Hooda, CCIE No. 11737 IPv6 for Enterprise Networks brings together all the information you need to successfully deploy IPv6 in any campus, WAN/branch, data center, or virtualized environment. Four leading Cisco IPv6 experts present a practical approach to organizing and executing your large-scale IPv6 implementation. They show how IPv6 affects existing network designs, describe common IPv4/IPv6 coexistence mechanisms, guide you in planning, and present validated configuration examples for building labs, pilots, and production networks. The authors first review some of the drivers behind the acceleration of IPv6 deployment in the enterprise. Next, they introduce powerful new IPv6 services for routing, QoS, multicast, and management, comparing them with familiar IPv4 features and behavior. Finally, they translate IPv6 concepts into usable configurations. Up-to-date and practical, IPv6 for Enterprise Networks is an indispensable resource for every network engineer, architect, manager, and consultant who must evaluate, plan, migrate to, or manage IPv6 networks. Shannon McFarland, CCIE No. 5245, is a Corporate Consulting Engineer for Cisco serving as a technical consultant for enterprise IPv6 deployment and data center design with a focus on application deployment and virtual desktop infrastructure. For more than 16 years, he has worked on large-scale enterprise campus, WAN/branch, and data center network design and optimization. For more than a decade, he has spoken at IPv6 events worldwide, including Cisco Live. Muninder Sambi, CCIE No. 13915, is a Product Line Manager for Cisco Catalyst 4500/4900 series platform, is a core member of the Cisco IPv6 development council, and a key participant in IETF’s IPv6 areas of focus. Nikhil Sharma, CCIE No. 21273, is a Technical Marketing Engineer at Cisco Systems where he is responsible for defining new features for both hardware and software for the Catalyst 4500 product line. Sanjay Hooda, CCIE No. 11737, a Technical Leader at Cisco, works with embedded systems, and helps to define new product architectures. His current areas of focus include high availability and messaging in large-scale distributed switching systems. n Identify how IPv6 affects enterprises n Understand IPv6 services and the IPv6 features that make them possible n Review the most common tranisition mechanisms including dual-stack (IPv4/IPv6) networks, IPv6 over IPv4 tunnels, and IPv6 over MPLS n Create IPv6 network designs that reflect**

proven principles of modularity, hierarchy, and resiliency n Select the best implementation options for your organization n Build IPv6 lab environments n Configure IPv6 step-by-step in campus, WAN/branch, and data center networks n Integrate production-quality IPv6 services into IPv4 networks n Implement virtualized IPv6 networks n Deploy IPv6 for remote access n Manage IPv6 networks efficiently and cost-effectively This book is part of the Networking Technology Series from Cisco Press®, which offers networking professionals valuable information for constructing efficient networks, understanding new technologies, and building successful careers.

DOMAIN-DRIVEN DESIGN

TACKLING COMPLEXITY IN THE HEART OF SOFTWARE

Addison-Wesley Professional **Describes ways to incorporate domain modeling into software development.**

ADVANCES IN AUTOMOTIVE PRODUCTION TECHNOLOGY – THEORY AND APPLICATION

STUTTGART CONFERENCE ON AUTOMOTIVE PRODUCTION (SCAP2020)

Springer Nature **This volume of the series ARENA2036 compiles the outcomes of the first Stuttgart Conference on Automotive Production (SCAP2020). It contains peer-reviewed contributions from a theoretical as well as practical vantage point and is topically structured according to the following four sections: It discusses (I) Novel Approaches for Efficient Production and Assembly Planning, (II) Smart Production Systems and Data Services, (III) Advances in Manufacturing Processes and Materials, and (IV) New Concepts for Autonomous, Collaborative Intralogistics. Given the restrictive circumstances of 2020, the conference was held as a fully digital event divided into two parts. It opened with a pre-week, allowing everyone to peruse the scientific contributions at their own pace, followed by a two-day live event that enabled experts from the sciences and the industry to engage in various discussions. The conference has proven itself as an insightful forum that allowed for an expertly exchange regarding the pivotal Advances in Automotive Production and Technology.**

DISTRIBUTED ALGORITHMS

Elsevier **In Distributed Algorithms, Nancy Lynch provides a blueprint for designing, implementing, and analyzing distributed algorithms. She directs her book at a wide audience, including students, programmers, system designers, and researchers. Distributed Algorithms contains the most significant algorithms and impossibility results in the area, all in a simple automata-theoretic setting. The algorithms are proved correct, and their complexity is analyzed according to precisely defined complexity measures. The problems covered include resource allocation, communication, consensus among distributed processes, data consistency, deadlock detection, leader election, global snapshots, and many others. The material is organized according to the system model—first by the timing model and then by the interprocess communication mechanism. The material on system models is isolated in separate chapters for easy reference. The presentation is completely rigorous, yet is intuitive enough for immediate comprehension. This book familiarizes readers with important problems, algorithms, and impossibility results in the area: readers can then recognize the problems when they arise in practice, apply the algorithms to solve them, and use the impossibility results to determine whether problems are unsolvable. The book also provides readers with the basic mathematical tools for designing new algorithms and proving new impossibility results. In addition, it teaches readers how to reason carefully about distributed algorithms—to model them formally, devise precise specifications for their required behavior, prove their correctness, and evaluate their performance with realistic measures.**

THE MASSACHUSETTS REGISTER

DISTRIBUTED GENERATION SYSTEMS

DESIGN, OPERATION AND GRID INTEGRATION

Butterworth-Heinemann **Distributed Generation Systems: Design, Operation and Grid Integration closes the information gap between recent research on distributed generation and industrial plants, and provides solutions to their practical problems and limitations. It provides a clear picture of operation principles of distributed generation units, not only focusing on the power system perspective but targeting a specific need of the research community. This book is a useful reference for practitioners, featuring worked examples and figures on principal types of distributed generation with an emphasis on real-world examples, simulations, and illustrations. The book uses practical exercises relating to the concepts of operating and integrating DG units to distribution networks, and helps engineers accurately design systems and reduce maintenance costs. Provides examples and datasheets of principal systems and commercial data in MATLAB Presents guidance for accurate system designs and maintenance costs Identifies trouble shooting references for engineers Closes the information gap between recent research on distributed generation and industrial plants**

POWER SYSTEM HARMONICS AND PASSIVE FILTER DESIGNS

John Wiley & Sons **As new technologies are created and advances are made with the ongoing research efforts, power system harmonics has become a subject of great interest. The author presents these nuances with real-life case studies, comprehensive models of power system components for harmonics, and EMTP simulations. Comprehensive coverage of power system harmonics Presents new harmonic mitigation technologies In-depth analysis of the effects of**

harmonics Foreword written by Dr. Jean Mahseredijan, world renowned authority on simulations of electromagnetic transients and harmonics

DISTRIBUTED SYSTEMS

Createspace Independent Publishing Platform **For this third edition of -Distributed Systems, - the material has been thoroughly revised and extended, integrating principles and paradigms into nine chapters: 1. Introduction 2. Architectures 3. Processes 4. Communication 5. Naming 6. Coordination 7. Replication 8. Fault tolerance 9. Security A separation has been made between basic material and more specific subjects. The latter have been organized into boxed sections, which may be skipped on first reading. To assist in understanding the more algorithmic parts, example programs in Python have been included. The examples in the book leave out many details for readability, but the complete code is available through the book's Website, hosted at www.distributed-systems.net. A personalized digital copy of the book is available for free, as well as a printed version through Amazon.com.**

REAL-TIME SIMULATION TECHNOLOGIES: PRINCIPLES, METHODOLOGIES, AND APPLICATIONS

CRC Press **Real-Time Simulation Technologies: Principles, Methodologies, and Applications is an edited compilation of work that explores fundamental concepts and basic techniques of real-time simulation for complex and diverse systems across a broad spectrum. Useful for both new entrants and experienced experts in the field, this book integrates coverage of detailed theory, acclaimed methodological approaches, entrenched technologies, and high-value applications of real-time simulation—all from the unique perspectives of renowned international contributors. Because it offers an accurate and otherwise unattainable assessment of how a system will behave over a particular time frame, real-time simulation is increasingly critical to the optimization of dynamic processes and adaptive systems in a variety of enterprises. These range in scope from the maintenance of the national power grid, to space exploration, to the development of virtual reality programs and cyber-physical systems. This book outlines how, for these and other undertakings, engineers must assimilate real-time data with computational tools for rapid decision making under uncertainty. Clarifying the central concepts behind real-time simulation tools and techniques, this one-of-a-kind resource: Discusses the state of the art, important challenges, and high-impact developments in simulation technologies Provides a basis for the study of real-time simulation as a fundamental and foundational technology Helps readers develop and refine principles that are applicable across a wide variety of application domains As science moves toward more advanced technologies, unconventional design approaches, and unproven regions of the design space, simulation tools are increasingly critical to successful design and operation of technical systems in a growing number of application domains. This must-have resource presents detailed coverage of real-time simulation for system design, parallel and distributed simulations, industry tools, and a large set of applications.**

SYSTEM IMPLEMENTATION PLAN AIRPORT SURVEILLANCE RADAR (ASR) REPLACEMENT PROGRAM

THE VALUE AND IMPACTS OF ALTERNATIVE FUEL DISTRIBUTION CONCEPTS

ASSESSING THE ARMY'S FUTURE NEEDS FOR TEMPORARY FUEL PIPELINES

Rand Corporation **This document describes a study done for the U.S. Army Combined Arms Support Command (CASCOM) to assess future needs for temporary petroleum pipeline structure. At the time this work was begun, the Army was weighing further development of a new pipeline capability, the Rapidly Installed Fuel Transfer System (RIFTS), and also conducting its normal cycle of future force structure planning. This project reviewed historical uses of temporary pipelines and surveyed future scenarios in order to develop a broad list of potential pipeline requirements. Next, against this list of likely requirements, the performance of several fuel distribution options-including existing and planned pipeline units and equipment, new pipeline options, and the use of trucks-was assessed across a variety of performance dimensions. The analytic results pointed to no clearly best choice. Instead, the preferred course of action is very sensitive to the decisionmaker's assessment of the environment and weighting among the importance of the different performance dimensions. A decision-support table to help the decisionmaker with this assessment is provided along with supplementary recommendations on near-term investment of reset funds and the reallocation of personnel within existing petroleum pipeline unit designs. The findings in this document should be of interest to those engaged with future Army logistics support force structure requirements.**

GUIDE TO RELIABLE DISTRIBUTED SYSTEMS

BUILDING HIGH-ASSURANCE APPLICATIONS AND CLOUD-HOSTED SERVICES

Springer Science & Business Media **This book describes the key concepts, principles and implementation options for creating high-assurance cloud computing solutions. The guide starts with a broad technical overview and basic introduction to cloud computing, looking at the overall architecture of the cloud, client systems, the modern Internet and cloud computing data centers. It then delves into the core challenges of showing how reliability and fault-tolerance can be abstracted, how the resulting questions can be solved, and how the solutions can be leveraged to create a wide range of practical cloud applications. The author’s style is practical, and the guide should be readily understandable without any special background. Concrete examples are often drawn from real-world settings to illustrate key insights. Appendices show how the most important reliability models can be formalized, describe the API of the Isis2 platform, and offer more than 80 problems at varying levels of difficulty.**