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Simulation of Local Area Networks - Matthew N. O. Sadiku 2018-01-18
A fast-growing area in the communications industry is the internetworking of an ever-increasing proliferation of computers, particularly via local area networks (LANs). The LAN is a resource-sharing data communications network being used by many offices to interchange information such as electronic mail, word processing, and files among computers and other devices. This unique book shows the user how to establish the performance characteristics of a LAN before putting it to use in a particular type of situation. Simulation of Local Area Networks consists of eight chapters, each with its own extensive list of references. The first chapter provides a brief review of local area networks, and the second chapter gives the analytical models of popular LANs-token-passing bus and ring networks, CSMA/CD LANs, and star networks. Chapter 3 covers general principles of simulation, and Chapter 4 discusses fundamental concepts in probability and statistics relating to simulation modeling. Materials in Chapters 3 and 4 are specifically applied in developing simulation models on token-passing LANs, CSMA/CD LANs, and star LANs in Chapters 5 through 7. The computer code in Chapters 5, 6, and 7 is divided into segments, and a detailed explanation of each segment is provided. The last chapter reviews special-purpose languages such as GPSS, SIMSCRIPT, GASP, SIMULA, SLAM, and RESQ. Helpful criteria for language selection are included. The entire code is put together in the appendixes. This book has two major advantages over existing texts. First, it uses C, a well-developed general-purpose language that is familiar to most analysts. Second, the text specifically applies the simulation principles to local area networks. No other book available shows the systems analyst how to evaluate the performance of existing or proposed systems under different kinds of conditions.
The Impulse Economy - Gary Schwartz 2011-11-01
We live in a world where our mobile devices have become extensions of ourselves. We depend on them for instant connections to entertainment, social media, news, and deals. The phone has become our ticket, loyalty card, and catchall wallet. Networks are faster, phones are smarter, and the mobile shopper is ready to spend money now. What can a business do to maximize the mobile buying power of the new impulse consumer? Gary Schwartz has written a groundbreaking book that outlines the history of the mobile industry and shows just how businesses can build up their mobile platforms to maximize online sales. He'll explain: • How to minimize barriers between the shopper and a sale. • How marketers can connect and, more important, reconnect with loyal shoppers. • The technology available now—and what's coming soon—and how to pick a solution that will deliver results. But like Blink or Freakonomics, this isn't just a book for businesses. It's also an eye-opening look into the ways our economy is changing every second of every day. Gary Schwartz analyzes a phenomenon that's modifying people's actions and challenges our assumptions about our behavior as consumers. Anyone interested in the ways our behavior as shoppers is changing—and what we can do to better harness this opportunity—will find this book to be essential reading.
Network Management and Control - I.T. Frisch 2013-11-11
Three speakers at the Second Workshop on Network Management and Control nostalgically remembered the INTEROP Conference at which SNMP was able to interface even to CD players and toasters. We agreed this was indeed a major step forward in standards, but wondered if anyone noticed whether the toast was burned, let alone, would want to eat it. The assurance of the correct operation of practical systems under difficult environments emerged as the dominant theme of the workshop with growth, interoperability, performance, and scalability as the primary sub-themes. Perhaps this thrust is un surprising, since about half the 100 or so attendees were from industry, with a strong contingency of users. Indeed the technical program co-chairs, Shivendra Panwar of Polytechnic and Walter Johnston of NYNEX, took as their assignment the coverage of real problems and opportunities in industry. Nevertheless we take it as a real indication of progress in the field that the community is beginning to take for granted the availability of standards and even the ability to detect physical, link, and network-level faults and is now expecting diagnostics at higher levels as well as system-wide solutions.
Queueing Modelling Fundamentals - Professor Chee-Hock Ng 2008-04-30
Queueing analysis is a vital tool used in the evaluation of system performance. Applications of queueing analysis cover a wide spectrum from bank automated teller machines to transportation and communications data networks. Fully revised, this second edition of a popular book contains the significant addition of a new chapter on Flow & Congestion Control and a section on Network Calculus among other new sections that have been added to remaining chapters. An introductory text, Queueing Modelling Fundamentals focuses on queueing modelling techniques and applications of data networks, examining the underlying principles of isolated queueing systems. This book introduces the complex queueing theory in simple language/proofs to enable the reader to quickly pick up an overview to queueing theory without utilizing the diverse necessary mathematical tools. It incorporates a rich set of worked examples on its applications to communication networks. Features include: Fully revised and updated edition with significant new chapter on Flow and Congestion Control as-well-as a new section on Network Calculus A comprehensive text which highlights both the theoretical models and their applications through a rich set of worked examples, examples of applications to data networks and performance curves Provides an insight into the underlying queuing principles and features step-by-step derivation of queueing results Written by experienced Professors in the field Queueing Modelling Fundamentals is an introductory text for undergraduate or entry-level post-graduate students who are taking courses on network performance analysis as well as those practicing network administrators who want to understand the essentials of network operations. The detailed step-by-step derivation of queueing results also makes it an excellent text for professional engineers.
Mobile and Wireless Communications - Salma Ait Fares 2010-01-01
Mobile and wireless communications applications have a clear impact on improving the humanity wellbeing. From cell phones to wireless internet to home and office devices, most of the applications are converted from wired into wireless communication. Smart and advanced wireless communication environments represent the future technology and evolutionary development step in homes, hospitals, industrial, vehicular and transportation systems. A very appealing research area in these environments has been the wireless ad hoc, sensor and mesh networks. These networks rely on ultra low powered processing nodes that sense surrounding environment temperature, pressure, humidity, motion or chemical hazards, etc. Moreover, the radio frequency (RF) transceiver nodes of such networks require the design of transmitter and receiver equipped with high performance building blocks including antennas, power and low noise amplifiers, mixers and voltage controlled oscillators. Nowadays, the researchers are facing several challenges to design such building blocks while complying with ultra low power consumption, small area and high performance constraints. CMOS technology represents an excellent candidate to facilitate the integration of the whole transceiver on a single chip. However, several challenges have to be tackled while designing and using nanoscale CMOS technologies and require innovative idea from researchers and circuits designers. While major researchers and applications have been focusing on RF wireless communication, optical wireless communication based system has started to draw some attention from researchers for a terrestrial system as well as for aerial and satellite terminals. This renewed interested in optical wireless communications is driven by several advantages such as no licensing requirements policy, no RF radiation hazards, and no need to dig up roads besides its large bandwidth and low power consumption. This second part of the book, Mobile and Wireless Communications: Key

Technologies and Future Applications, covers the recent development in ad hoc and sensor networks, the implementation of state of the art of wireless transceivers building blocks and recent development on optical wireless communication systems. We hope that this book will be useful for students, researchers and practitioners in their research studies.

Stochastic Modeling in Broadband Communications Systems - Ingemar Kaj 2002-01-01

Provides a concise overview of stochastic models and mathematical techniques for solving challenging mathematical and statistical problems and enhances readers' overall understanding of communication systems. The book also presents an excellent introduction to a huge area of interesting problems and models arising from modern developments in broadband channel transmission systems.

You Are Not Your Brain - Jeffrey Schwartz MD 2011-06-09

Two neuroscience experts explain how their 4-Step Method can help break destructive thoughts and actions and change bad habits for good. A leading neuroplasticity researcher and the coauthor of the groundbreaking books Brain Lock and The Mind and the Brain, Jeffrey M. Schwartz has spent his career studying the structure and neuronal firing patterns of the human brain. He pioneered the first mindfulness-based treatment program for people suffering from OCD, teaching patients how to achieve long-term relief from their compulsions. For the past six years, Schwartz has worked with psychiatrist Rebecca Gladding to refine a program that successfully explains how the brain works and why we often feel besieged by bad brain wiring. Just like with the compulsions of OCD patients, they discovered that bad habits, social anxieties, self-deprecating thoughts, and compulsive overindulgence are all rooted in overactive brain circuits. The key to making life changes that you want-to make your brain work for you-is to consciously choose to "starve" these circuits of focused attention, thereby decreasing their influence and strength. As evidenced by the huge success of Schwartz's previous books, as well as Daniel Amen's Change Your Brain, Change Your Life, and Norman Doidge's The Brain That Changes Itself, there is a large audience interested in harnessing the brain's untapped potential, yearning for a step-by-step, scientifically grounded and clinically proven approach. In fact, readers of Brain Lock wrote to the authors in record numbers asking for such a book. In You Are Not Your Brain, Schwartz and Gladding carefully outline their program, showing readers how to identify negative brain impulses, channel them through the power of focused attention, and ultimately lead more fulfilling and empowered lives.

Computer Networks and Systems - Thomas G. Robertazzi 2012-12-06

Intended for a first course in performance evaluation, this is a self-contained treatment covering all aspects of queuing theory. It starts by introducing readers to the terminology and usefulness of queueing theory and continues by considering Markovian queues in equilibrium, Littles law, reversibility, transient analysis, and computation, plus the M/G/1 queuing system. It then moves on to cover networks of queues, and concludes with techniques for numerical solutions, a discussion of the PANACEA technique, discrete time queueing systems and simulation, and stochastic Petri networks. The whole is backed by case studies of distributed queueing networks arising in industrial applications. This third edition includes a new chapter on self-similar traffic, many new problems, and solutions for many exercises.

Network Management and Control - A. Kershenbaum 2013-11-11

Like the 120 volt standard for electricity, the appearance of standards in network management heralds new opportunities for creativity and achievement. As one example, within the framework of these evolving standards, consider a system of local area networks connecting computing equipment from different vendors. A bridge 1qc. k:8 up because of a transient caused by a repeater failure. The result is a massive disconnecHon of virtual circuits. What is the role of the manager and the network management system in solving the problem? How does the vendor implement the solution? How does the user use it? What measurements should be made? How should they be displayed? How much of the diagnosis and correction should be automated? How does the solution change with different hardware and software? In the IEEE Communications Magazine, I recently reported a timely illustration in the area of problems in fault management. At the workshop hotel, "I was waiting for a room assignment at the reception desk, when my attendant left the counter for a moment. Upon returning, he took one look at his screen and whined an accusatory question at everyone in sight, 'Who logged out my terminal?' Who indeed! It wasn't any of us. It was the system.

The Fundamental Role of Teletraffic in the Evolution of Telecommunications Networks - J. Labetoulle 2013-10-22

The International Teletraffic Congress (ITC) is a recognized international organization taking part in the work of the International Telecommunications Union. The congress traditionally deals with the development of teletraffic theory and its applications to the design, planning and operation of telecommunication systems, networks and services. The contents of ITC 14 illustrate the important role of teletraffic in the current period of rapid evolution of telecommunication networks. A large number of papers address the teletraffic issues behind developments in broadband communications and ATM technology. The extension of possiblities for user mobility and personal communications together with the generalization of common channnel signalling and the provision of new intelligent network services are further extremely significant developments whose teletraffic implications are explored in a number of contributions. ITC 14 also addresses traditional teletraffic subjects, proposing enhancements to traffic engineering practices for existing circuit and packet switched telecommunications networks and making valuable original contributions to the fundamental mathematical tools on which teletraffic theory is based. The contents of these Proceedings accurately reflect the extremely wide scope of the ITC, extending from basic mathematical theory to day-to-day traffic engineering practices, and constitute the state of the art in 1994 of one of the fundamental telecommunications sciences.

Basic Concepts for Managing Telecommunications Networks - Lawrence Bernstein 2006-04-11

It is important to understand what came before and how to meld new products with legacy systems. Network managers need to understand the context and origins of the systems they are using. Programmers need an understanding of the reasons behind the interfaces they must satisfy and the relationship of the software they build to the whole network. And finally, sales representatives need to see the context into which their products must fit.

Computational Intelligence in Telecommunications Networks - Witold Pedrycz 2018-10-03

Telecommunications has evolved and grown at an explosive rate in recent years and will undoubtedly continue to do so. As its functions, applications, and technology grow, it becomes increasingly complex and difficult, if not impossible, to meet the demands of a global network using conventional computing technologies. Computational intelligence (CI) is the technology of the future-and the future is now. Computational Intelligence in Telecommunications Networks offers an in-depth look at the rapid progress of CI technology and shows its importance in solving the crucial problems of future telecommunications networks. It covers a broad range of topics, from Call Admission Control, congestion control, and QoS-routing for ATM networks, to network design and management, optical, mobile, and active networks, and Intelligent Mobile Agents. Today's telecommunications professionals need a working knowledge of CI to exploit its potential to overcome emerging challenges. The CI community must become acquainted with those challenges to take advantage of the enormous opportunities the telecommunications field offers. This text meets both those needs, clearly, concisely, and with a depth certain to inspire further theoretical and practical advances.

Broadband Integrated Networks - Mischa Schwartz 1996

Concentrates on quantitative methods such as modelling and performance analysis

Computer Networking: A Top-Down Approach Featuring the Internet, 3/e - James F. Kurose 2005

Telecommunications and Networking - Udo W. Pooch 2018-05-04

As the dividing line between traditional computing science and telecommunications quickly becomes blurred or disappears in today's rapidly changing environment, there is an increasing need for computer professionals to possess knowledge of telecommunications principles. Telecommunications and Networking presents a comprehensive overview of the interaction and relationship between telecommunications and data processing. The book's early chapters cover basic telecommunications vocabulary, common nomenclature, telecommunications fundamentals, as well as the important relationships among coding, error detection and correction, and noise. Later chapters discuss such topics as switching, timing, topological structures, routing algorithms, and teleprocessing. Other topics covered in detail include specific concerns inherent to computer communications, such as protocols, error detection and correction, network monitoring and security, and system validation. System designers and programmers can no longer be effective simply by understanding the tradeoffs between hardware and software.

Telecommunications and Networking provides both computing professionals and students the fundamental computer communications concepts necessary to function in today's computer industry.

Neural Networks in Telecommunications - Ben Yuhas 2012-12-06

Neural Networks in Telecommunications consists of a carefully edited collection of chapters that provides an overview of a wide range of telecommunications tasks being addressed with neural networks. These tasks range from the design and control of the underlying transport network to the filtering, interpretation and manipulation of the transported media. The chapters focus on specific applications, describe specific solutions and demonstrate the benefits that neural networks can provide. By doing this, the authors demonstrate that neural networks should be another tool in the telecommunications engineer's toolbox. Neural networks offer the computational power of nonlinear techniques, while providing a natural path to efficient massively-parallel hardware implementations. In addition, the ability of neural networks to learn allows them to be used on problems where straightforward heuristic or rule-based solutions do not exist. Together these capabilities mean that neural networks offer unique solutions to problems in telecommunications. For engineers and managers in telecommunications, Neural Networks in Telecommunications provides a single point of access to the work being done by leading researchers in this field, and furnishes an in-depth description of neural network applications.

Mobile Wireless Communications - Mischa Schwartz 2005

Publisher Description

Neural Networks in Telecommunications - Nirwan Ansari

Analyzing Social Media Networks with NodeXL - Derek Hansen 2010-09-14

Analyzing Social Media Networks with NodeXL offers backgrounds in information studies, computer science, and sociology. This book is divided into three parts: analyzing social media, NodeXL tutorial, and social-media network analysis case studies. Part I provides background in the history and concepts of social media and social networks. Also included here is social network analysis, which flows from measuring, to mapping, and modeling collections of connections. The next part focuses on the detailed operation of the free and open-source NodeXL extension of Microsoft Excel, which is used in all exercises throughout this book. In the final part, each chapter presents one form of social media, such as e-mail, Twitter, Facebook, Flickr, and Youtube. In addition, there are descriptions of each system, the nature of networks when people interact, and types of analysis for identifying people, documents, groups, and events. Walks you through NodeXL, while explaining the theory and development behind each step, providing takeaways that can apply to any SNA Demonstrates how visual analytics research can be applied to SNA tools for the mass market Includes case studies from researchers who use NodeXL on popular networks like email, Facebook, Twitter, and wikis Download companion materials and resources at https://nodexl.codeplex.com/documentation

Digital Communication - Edward A. Lee 2012-12-06

This book concerns digital communication. Specifically, we treat the transport of bit streams from one geographical location to another over various physical media, such as wire pairs, coaxial cable, optical fiber, and radio waves. Further, we cover the mul tiplexing, multiple access, and synchronization issues relevant to constructing com munication networks that simultaneously transport bit streams from many users. The material in this book is thus directly relevant to the design of a multitude of digital communication systems, including for example local and metropolitan area data net works, voice and video telephony systems, the integrated services digital network (ISDN), computer communication systems, voiceband data modems, and satellite communication systems. We extract the common principles underlying these and other applications and present them in a unified framework. This book is intended for designers and would-be designers of digital communication systems. To limit the scope to manageable proportions we have had to be selective in the topics covered and in the depth of coverage. In the case of advanced information, coding, and detection theory, for example, we have not tried to duplicate the in-depth coverage of many advanced textbooks, but rather have tried to cover those aspects directly relevant to the design of digital communication systems.

The Wealth of Networks - Yochai Benkler 2006-01-01

Describes how patterns of information, knowledge, and cultural production are changing. The author shows that the way information and knowledge are made available can either limit or enlarge the ways people create and express themselves. He describes the range of legal and policy choices that confront.

Fundamentals of Telecommunication Networks - Tarek N. Saadawi 1994-09-28

This book focuses on the fundamental techniques, concepts, and mechanisms used in the design, development, and operation of telecommunication networks. Topics covered include Data Communication Fundamentals, Network Protocols Architecture and the ISO Reference Model, Local Area Network Protocols and Technology, Integrated Services Digital Network (ISDN), Broadband ISDN, and more.

Annotated Bibliography of the Literature on Resource Sharing Computer Networks - Helen M. Wood 1976

Computer Networks and Inventive Communication Technologies - S. Smys 2021-06-02

This book is a collection of peer-reviewed best selected research papers presented at 3rd International Conference on Computer Networks and Inventive Communication Technologies (ICCNCT 2020). The book covers new results in theory, methodology, and applications of computer networks and data communications. It includes original papers on computer networks, network protocols and wireless networks, data communication technologies, and network security. The proceedings of this conference is a valuable resource, dealing with both the important core and the specialized issues in the areas of next generation wireless network design, control, and management, as well as in the areas of protection, assurance, and trust in information security practice. It is a reference for researchers, instructors, students, scientists, engineers, managers, and industry practitioners for advance work in the area.

The Multimedia Internet - Stephen Weinstein 2007-02-15

Here is a thorough, not-overly-complex introduction to the three technical foundations for multimedia applications across the Internet: communications (principles, technologies and networking); compressive encoding of digital media; and Internet protocol and services. All the contributing systems elements are explained through descriptive text and numerous illustrative figures; the result is a book well-suited toward non-specialists, preferably with technical background, who need well-composed tutorial introductions to the three foundation areas. The text discusses the latest advances in digital audio and video encoding, optical and wireless communications technologies, high-speed access networks, and IP-based media streaming, all crucial enablers of the multimedia Internet.

Internationalizing the Internet - Byung-Keun Kim 2005-01-01

"This compelling book focuses on the global formation of the Internet system. It contests the common belief that the Internet's adoption was inevitable and instead examines the social and economic processes that allowed it to prevail over competing standards and methods for achieving a global information infrastructure." "Researchers and academics involved with science and technology policy, industrial and corporate change, and the information society will welcome this insightful, original and highly pertinent book. It will also be of value for anyone with an interest in how the backbone of the digital economy was formed."--BOOK JACKET.

The Network - Scott Woolley 2016-04-26

The astonishing story of America’s airwaves, the two friends—one a media mogul, the other a famous inventor—who made them available to us, and the government which figured out how to put a price on air. This is the origin story of the airwaves—the foundational technology of the communications age—as told through the forty-year friendship of an entrepreneurial industrialist and a brilliant inventor. David Sarnoff, the head of RCA and equal parts Steve Jobs, Jack Welch, and William Randolph Hearst, was the greatest supporter of his friend Edwin Armstrong, developer of the first amplifier, the modern radio transmitter, and FM radio. Sarnoff was convinced that Armstrong’s inventions had the power to change the way societies communicated with each other forever. He would become a visionary captain of the media industry, even predicting the advent of the Internet. In the mid-1930s, however, when Armstrong suspected Sarnoff of orchestrating a cadre of government officials to seize control of the FM airwaves, he committed suicide. Sarnoff had a very different view of who his friend’s enemies were. Many corrupt politicians and corporations saw in Armstrong’s inventions the opportunity to commodify our most ubiquitous natural resource—the air. This early alliance between high tech and business set the precedent for countless legal and industrial battles over broadband and licensing bandwidth, many of which continue to influence policy and debate today.

Telecommunication Networks - John Edward Flood 1997
This book discusses the structure and performance of networks in the context of the services they provide. Chapters are devoted to public and private networks, ISDN, intelligent networks, mobile radio networks and broadband networks.
Telecosm - George Gilder 2000-10-17
The computer age is over. After a cataclysmic global run of thirty years, it has given birth to the age of the telecosm -- the world enabled and defined by new communications technology. Chips and software will continue to make great contributions to our lives, but the action is elsewhere. To seek the key to great wealth and to understand the bewildering ways that high tech is restructuring our lives, look not to chip speed but to communication power, or bandwidth. Bandwidth is exploding, and its abundance is the most important social and economic fact of our time. George Gilder is one of the great technological visionaries, and "the man who put the 's' in 'telecosm'" (Telephony magazine). He is equally famous for understanding and predicting the nuts and bolts of complex technologies, and for putting it all together in a soaring view of why things change, and what it means for our daily lives. His track record of futurist predictions is one of the best, often proving to be right even when initially opposed by mighty corporations and governments. He foresaw the power of fiber and wireless optics, the decline of the telephone regime, and the explosion of handheld computers, among many trends. His list of favored companies outpaced even the soaring Nasdaq in 1999 by more than double. His long-awaited Telecosm is a bible of the new age of communications. Equal parts science story, business history, social analysis, and prediction, it is the one book you need to make sense of the titanic changes underway in our lives. Whether you surf the net constantly or not at all, whether you live on your cell phone or hate it for its invasion of private life, you need this book. It has been less than two decades since the introduction of the IBM personal computer, and yet the enormous changes wrought in our lives by the computer will pale beside the changes of the telecosm. Gilder explains why computers will "empty out," with their components migrating to the net; why hundreds of low-flying satellites will enable hand-held computers and communicators to become ubiquitous; why television will die; why newspapers and magazines will revive; why advertising will become less obnoxious; and why companies will never be able to waste your time again. Along the way you will meet the movers and shakers who have made the telecosm possible. From Charles Townes and Gordon Gould, who invented the laser, to the story of JDS Uniphase, "the Intel of the Telecosm," to the birthing of fiberless optics pioneer TeraBeam, here are the inventors and entrepreneurs who will be hailed as the next Edison or Gates. From hardware to software to chips to storage, here are the technologies that will soon be as basic as the air we breathe.
NBS Special Publication - 1968

Roadside Networks for Vehicular Communications: Architectures, Applications, and Test Fields - Daher, Robil 2012-10-31
"This book attempts to close the gap between science and technology in the field of roadside backbones for VCNs"--Provided by publisher.
High-Capacity Local and Metropolitan Area Networks - Guy Pujolle 2012-12-06
The main objective of this workshop was to review and discuss the state of the art and the latest advances· in the area of 1-10 Gbit/s throughput for local and metropolitan area networks. The first generation of local area networks had throughputs in the range 1-20 Mbit/s. Well-known examples of this first generation networks are the Ethernet and the Token Ring. The second generation of networks allowed throughputs in the range 100-200 Mbit/s. Representatives of this generation are the FDDI double ring and the DQDB (IEEE 802.6) networks. The third generation networks will have throughputs in the range 1-10 Gbit/s. The rapid development and deployment of fiber optics worldwide, as well as the projected emergence of a market for broadband services, have given rise to the development of broadband ISDN standards. Currently, the Asynchronous Transfer Mode (ATM) appears to be a viable solution to broadband networks. The possibility of all-optical networks in the future is being examined. This would allow the tapping of approximately 50 terahertz or so available in the lightwave range of the frequency spectrum. It is envisaged that using such a high-speed network it will be feasible to distribute high-quality video to the home, to carry out rapid retrieval of radiological and other scientific images, and to enable multi-media conferencing between various parties.
Protocols and Architectures for Wireless Sensor Networks - Holger Karl 2007-10-08
Learn all you need to know about wireless sensor networks! Protocols and Architectures for Wireless Sensor Networks provides a thorough description of the nuts and bolts of wireless sensor networks. The authors give an overview of the state-of-the-art, putting all the individual solutions into perspective with one and other. Numerous practical examples, case studies and illustrations demonstrate the theory, techniques and results presented. The clear chapter structure, listing learning objectives, outline and summarizing key points, help guide the reader expertly through the material. Protocols and Architectures for Wireless Sensor Networks: Covers architecture and communications protocols in detail with practical implementation examples and case studies. Provides an understanding of mutual relationships and dependencies between different protocols and architectural decisions. Offers an in-depth investigation of relevant protocol mechanisms. Shows which protocols are suitable for which tasks within a wireless sensor network and in which circumstances they perform efficiently. Features an extensive website with the bibliography, PowerPoint slides, additional exercises and worked solutions. This text provides academic researchers, graduate students in computer science, computer engineering, and electrical engineering, as well as practitioners in industry and research engineers with an understanding of the specific design challenges and solutions for wireless sensor networks. Check out www.wiley.com/go/wsn for accompanying course material! "I am deeply impressed by the book of Karl & Willig. It is by far the most complete source for wireless sensor networks...The book covers almost all topics related to sensor networks, gives an amazing number of references, and, thus, is the perfect source for students, teachers, and researchers. Throughout the book the reader will find high quality text, figures, formulas, comparisons etc. - all you need for a sound basis to start sensor network research." Prof. Jochen Schiller, Institute of Computer Science, Freie Universität Berlin
Data and Computer Communications - Gurdeep S. Hura 2001-03-28
The protocols and standards for networking are numerous and complex. Multivendor internetworking, crucial to present day users, requires a grasp of these protocols and standards. Data and Computer Communications: Networking and Internetworking, a comprehensive text/reference, brings clarity to all of the complex issues involved in networking activity, providing excellent instruction for students and an indispensable reference for practitioners. This systematic work answers a vast array of questions about overall network architecture, design, protocols, and deployment issues. It offers a practical, thorough treatment of the applied concepts of data and computer communication systems, including signaling basics, transmission of digital signals, and layered architecture. The book features in-depth discussions of integrated digital networks, integrated services digital networks, and high-speed networks, including currently evolving technologies, such as ATM switching, and their applications in multimedia technology. It also presents the state-of-the-art in Internet technology, its services, and implementations. The balance of old and new networking technologies presents an appealing set of topics for both undergraduate students and computer and networking professionals. This book presents all seven layers of OSI-based networks in great detail, covering services, functions, design issues, interfacing, and protocols. With its introduction to the basic concepts and practical aspects of the field, Data and Computer Communications: Networking and Internetworking helps you keep up with the rapidly growing and dominating computer networking technology.
Information Logistics. Decentralized Approaches of Information Allocation in Information Exchange Networks - Sven Grolik 2012-02-24
The use of modern planning and optimization systems for process synchronization in value networks requires the optimal information exchange between the entities involved. The central focus of Sven Grolik's study is the development of efficient mechanisms for the coordination of information allocation by the example of interconnected transportation marketplaces. Unlike traditional information allocation algorithms, the algorithms developed in his analysis are based on update mechanisms which maintain a weak consistency of replicated information in the network. Sven Grolik shows that these algorithms enable savings concerning the update costs as well as increase the performance within the network, but at the same time guarantee compliance with quality of service levels concerning the currency of information. The focus of this work is the development of decentralized, online algorithms which make a logically distributed computation possible on the basis of local information. The development of these innovative algorithms is based on

approaches of multi-agent system theory as well as distributed simulated annealing techniques.

Principles of Computer Networks and Communications - M. Barry Dumas 2009

Principles of Computer Networks and Communications provides a blend of foundation material and historical context that follows a developmental approach to understanding network and communications technology. Following a discourse that keeps the business student's needs squarely in mind, M. Barry Dumas and Morris Schwartz create a text that allows the student to develop a comprehension of the subject matter and an overall appreciation for the telecommunications field.

Telecommunication Networks - Mischa Schwartz 1987

Here is the first book to present a unified discussion of protocols that treats both voice and data networks. It emphasizes quantitative performance education of telecommunication network systems. Of interest to electrical engineers and computer science professionals working with networks, data communication and distributed systems.

New Concepts in Multi-User Communication - J.K. Skwirzynski 1981-10-31

Private Telecommunication Networks - Bruce R. Elbert 1989

Digitalization of long-distance networks / integration of voice and data / satellite communication / network monitoring and control / network management / investment and annual cost / system architecture.

Multidimensional Queueing Models in Telecommunication Networks - Agassi Melikov 2014-08-09

The increasing complexity of telecommunication networks requires us to develop adequate mathematical models. We must find their characteristics, optimize them subject to chosen criteria, and develop the corresponding control algorithms. Multidimensional queueing models are used to design and optimize modern and next-generation networks (NGN). The central problem of the related mathematical theory is to apply multidimensional and large-size queueing models to improve efficiency. In this book new methods are successively developed and applied to solve related problems. The book is recommended for researchers engaged with the mathematical theory of telecommunications traffic.