
Data Communications And Networks An Engineering Approach

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MCLEAN MARIANA

Data Communications and Networks Cengage Learning

Primarily intended as a text for undergraduate courses in Electronics and Communications Engineering, Computer Science, IT courses, and Computer Applications, this up-to-date and accessible text gives an indepth analysis of data communications and computer networks in an easy-to-read style. Though a new title, it is a completely revised and fully updated version of the author's earlier book *Data Communications*. The rapid strides made

during the last decade in the fields of data communication and networking, and the close link between these two subjects have prompted the author to add several chapters on computer networks in this text. The book gives a masterly analysis of topics ranging from the principles of data transmission to computer networking applications. It also provides standard protocols, thereby enabling to bridge the gap between theory and practice. What's more, it correlates the network protocols to the concepts, which are explained with the help of numerous examples to facilitate students' understanding of the subject. This well-organized text presents

the latest developments in the field and details current topics of interest such as Multicasting, MPLS, IPv6, Gigabit Ethernets, IPSec, SSL, Auto-negotiation, Wireless LANs, Network security, Differentiated services, and ADSL. Besides students, the practicing professionals would find the book to be a valuable resource. The book, in its second edition introduces a full chapter on Quality of Service, highlighting the meaning, parameters and functions required for quality of service. This book is recommended in Kaziranga University, Nagaland, IIT Guwahati, Assam and West Bengal University of Technology (WBUT), West Bengal for B.Tech. Key Features •

The book is self-contained and student friendly. • The sequential organization lends flexibility in designing courses on the subject. • Large number of examples, diagrams and tables illustrate the concepts discussed in the text. • Numerous exercises (with answers), a list of acronyms, and references to protocol standards.

An Engineering Approach
Cengage Learning

This text provides a comprehensive coverage of data communications fundamentals, telephone system operation, local area networks, internetworking, and Internet communications. Each chapter contains numerous examples emphasizing the most important concepts presented. Questions and problems are included at the end of each chapter, and answers to selected problems are provided at the end of the book. Significant material is provided on the following:

- Analog and digital electronic communications systems
- Metallic and optical fiber cable systems
- Digital transmission and multiplexing
- Wireless communications systems, including free-space

- electromagnetic wave preparation
- Wireline, cellular, and PCS telephone theory
- Codes, data formats, error detection and correction, modems, UARTs and USARTs, and serial interfaces
- Data-link protocols, including XMODEM, YMODEM, KERMIT, SDLC, and HDLC
- Transmission formats, LAN topologies, and basic internetworking devices
- IEEE 802 Project including access methodologies, and MAC and LLC sublayers
- IEEE 802.3 Ethernet and DIX Ethernet II IP addressing, subnets, supernetworks, and IP classless and classful addressing hierarchies
- Layer 3 networking protocols, such as ARP, IPv4, and ICMP; and Layer 4 transport protocols, such as UDP and TCP
- Internet Protocol version 6 (IPv6) and Internal Control Management Protocol version 6 (ICMPv6)
- Configuration and domain name protocols, including DHCP and DNS
- Application layer protocols, including Telnet, FTP TFTP, SMTP, POP, and HTTP
- Integrated Services Digital Network and Digital Subscriber Loop
- Broadband WAN access technologies such as X.25, Frame Relay, and ATM

Infrastructure, Networking and Security John Wiley & Sons

This revised edition with new technologies, new applications, and new examples, offers balanced coverage of the technical and managerial aspects of data communications to help understand how networks operate and how to successfully apply them. It features a chapter on wireless LANS, an expansion of the security chapter to include more on security design and new technologies, and more coverage of technology design material on network design including a selection of technologies and best practices for network design.

- Introduction
- Application Layer
- Physical Layer
- Data Link Layer
- Network and Transport Layers
- Local Area Networks
- Wireless Local Area Networks
- Backbone Networks
- Metropolitan and Wide Area Networks
- The Internet
- Network Management
- Network Security
- Network Design

BUSINESS DATA COMMUNICATIONS AND NETWORKING, 8TH ED
Pearson Education

Data Communications and Networks uses a top-down, Internet-focussed

approach to tackle the problem of communication system design. An integrated approach is taken to networks and data communications, with an emphasis that starts from the top level requirements and works downwards, describing how such requirements are fulfilled by lower layers of the transmission chain. While the book contains sufficient detail to provide an excellent foundation, clarity is paramount and care is taken not to swamp the reader with information to the point where the underlying concepts are obscured. The Internet is used as the principle example of a communication system, allowing the reader to follow the system from the application layers, with source coding and security, through the network, with naming and routing algorithms, down to transport and physical aspects of a communication system. Modern techniques such as mobile radio, Voice over IP, and ADSL, are covered, while more traditional aspects such as circuit switching, which still form a significant part of current systems, are not overlooked. By providing a technical

introduction and including application examples, this text will have significant appeal to final year students, postgraduates and professionals with a science or engineering background wishing to gain a basic understanding of the key concepts behind data communications engineering. *A Research Perspective* Tata McGraw-Hill Education This fully revised and updated book, now in its Fourth Edition, continues to provide a comprehensive coverage of data communications and computer networks in an easy to understand style. The text places as much emphasis on the application of the concepts as on the concepts themselves. While the theoretical part is intended to offer a solid foundation of the basics so as to equip the student for further study, the stress on the applications is meant to acquaint the student with the realistic status of data communications and computer networks as of now. Audience Intended primarily as a textbook for the students of computer science and engineering, electronics and communication

engineering, master of computer applications (MCA), and those offering IT courses, this book would also be useful for practising professionals. **NEW TO THIS EDITION** • Three new chapters on: o Network Architecture and OSI Model o Wireless Communication Technologies o Web Security • Appendix on Binary and Hexadecimal Numbering Key features • Illustrates the application of the principles through highly simplified block diagrams. • Contains a comprehensive glossary which gives simple and accurate descriptions of various terms. • Provides Questions and Answers at the end of the book which facilitate quick revision of the concept. *Practical Data Communications for Instrumentation and Control* Simon & Schuster Books For Young Readers Instrumentation and control systems are highly reliant on data communications, so a working knowledge of the latest communications technologies and the essential protocols is essential for anyone designing, specifying or using instrumentation and control systems. This book is the only title on the market designed

specifically for this audience. This is a comprehensive treatment of industrial data communication systems. Commencing with a thorough discussion of the popular RS-232, RS-422 and RS-485 standards it then moves on to industrial protocols, industrial networks and the communication requirements for the 'smart' instrumentation which is becoming de rigeur in industry today. The book also provides a solid grounding in the various Fieldbus and DeviceNet standards on the market today. This book provides you with the knowledge to analyse, specify and debug data communications systems in the instrumentation and control environment.

*The essential guide to communications technologies and protocols for engineers designing, specifying or using instrumentation and control systems *Provides the knowledge required to analyze, specify and debug data communication systems, introducing the latest digital technologies

*Coverage includes RS-232, RS422 and RS-485 standards, industrial networks and protocols, smart

instrumentation, FieldBus and DeviceNet standards
Data Communications and Networking

McGraw-Hill College
 This timely revision of an all-time best-seller in the field features the clarity and scope of a Stallings classic. This comprehensive volume provides the most up-to-date coverage of the essential topics in data communications, networking, Internet technology and protocols, and standards - all in a convenient modular format. Features updated coverage of multimedia, Gigabit and 10 Gbps Ethernet, WiFi/IEEE 802.11 wireless LANs, security, and much more. Ideal for professional reference or self-study. For Product Development personnel, Programmers, Systems Engineers, Network Designers and others involved in the design of data communications and networking products.

Data and Computer Communications Prentice Hall
 This is a thorough introduction to the concepts underlying networking technology, from physical carrier media to protocol suites (for example, TCP/IP). The author includes historical

material to show the logic behind the development of a given mechanism, and also includes comprehensive discussions of increasingly important material, such as B-ISDN (Broadband Integrated Services Digital Network) and ATM (Asynchronous Transmission Mode).

Data Communications & Network Elsevier

Intended primarily as a textbook for the students of computer science and engineering, electronics and communication engineering, master of computer applications (MCA), and those offering IT courses, the book provides a comprehensive coverage of the subject. Basic elements of communication such as data, signal and channel alongwith their characteristics such as bandwidth, bit internal and bit rate have been explained. Contents related to guided and unguided transmission media, Bluetooth wireless technology, developed for Personal Area Network (PAN) and issues related to routing covering popular routing algorithms namely RIP, OSPF and BGP, have been introduced in the book. Various aspects of data link control alongwith

their application in HDLC network and techniques such as encoding, multiplexing and encryption/decryption are presented in detail. Characteristics and implementation of PSTN, SONET, ATM, LAN, PACKET RADIO network, Cellular telephone network and Satellite network have also been explained. Different aspects of IEEE 802.11 WLAN and congestion control protocols have also been discussed in the book. Key Features • Each chapter is divided into section and subsection to provide flexibility in curriculum design. • The text contains numerous solved examples, and illustrations to bring clarity to the subject and enhance its understanding. • Review questions given at the end of each chapter, are meant to enable the teacher to test student's grasping of the subject.

Business Data Communications Cengage Learning

Thoroughly updated for currency, this book offers a clear presentation of data communications and network fundamentals. Featuring a wide array of applications, the book fully explains concepts and supports them with

case studies or descriptions of specific software and other products. Students learn the protocols of analog and digital signals, data compression, data integrity, data security, local area networks, asynchronous transfer mode (ATM), and much more. The third edition includes important information on the latest developments of the Internet.

DATA COMMUNICATIONS AND COMPUTER NETWORKS

McGraw-Hill Science, Engineering & Mathematics

Data Communications and Networking provides a thorough introduction to the concepts that underlie networking technology. This book is unusual because it is an extensive and comprehensive introduction to networking that does not require its readers to have a lot of mathematical background.

Fundamentals of Data Communication Networks

John Wiley & Sons

This book is designed and developed assuming little or no technical background on part of the reader. The book therefore first introduces the philosophy of data communications covering signal propagation and

information encoding. It then proceeds to cover various technologies, OSI model, protocols, network architectures, internetworking concepts and TCP/IP. All this makes the book ideally suited for the first course on Data Communications and Networks.

Data Communications and Networking Prentice Hall

Balancing the most technical concepts with practical everyday issues, DATABASE COMMUNICATIONS AND COMPUTER NETWORKS, 8e provides thorough coverage of the basic features, operations, and limitations of different types of computer networks--making it the ideal resource for future business managers, computer programmers, system designers, as well as home computer users. Offering a comprehensive introduction to computer networks and data communications, the book includes coverage of the language of computer networks as well as the effects of data communications on business and society. It provides full coverage of wireless technologies, industry convergence, compression techniques, network security, LAN technologies, VoIP, and

error detection and correction. The Eighth Edition also offers up-to-the-minute coverage of near field communications, updated USB interface, lightning interface, and IEEE 802.11 ac and ad wireless standards, firewall updates, router security problems, the Internet of Things, cloud computing, zero-client workstations, and Internet domain names. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Data Communications and Networks

Elsevier Business Data Communications and Networking, 14th Edition presents a classroom-tested approach to the subject, combining foundational concepts, practical exercises, and real-world case studies. The text provides a balanced, well-rounded presentation of data communications while highlighting its importance to nearly every aspect of modern business. This fully-updated new edition helps students understand how networks work and what is required to build and manage scalable, mobile, and secure networks.

Clear, student-friendly chapters introduce, explain, and summarize fundamental concepts and applications such as server architecture, network and transport layers, network design processes and tools, wired and wireless networking, and network security and management. An array of pedagogical features teaches students how to select the appropriate technologies necessary to build and manage networks that meet organizational needs, maximize competitive advantage, and protect networks and data from cybersecurity threats. Discussions of real-world management and technical issues, from improving device performance to assessing and controlling costs, provide students with insight into the daily networking operations of actual businesses.

Understanding Data Communications and Networks

PHI Learning Pvt. Ltd. This book provides a clear and easy to follow treatment of communications and networking. It is written specifically for undergraduates who have no previous experience in the field. The author takes

a step-by-step approach, with many examples and exercises designed to give the reader experience and increase confidence by using and designing communications systems. Written by a lecturer with many years' experience teaching undergraduate programmes, the text takes the reader through the essentials of networking and provides a comprehensive, reliable and thorough treatment of the subject. The book is also accessible for business professionals. *An Introduction* IGI Global Introduces aspects on security threats and their countermeasures in both fixed and wireless networks, advising on how countermeasures can provide secure communication infrastructures. Enables the reader to understand the risks of inappropriate network security, what mechanisms and protocols can be deployed to counter these risks, and how these mechanisms and protocols work. *Data Communication and Networking: A Practical Approach* John Wiley & Sons
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 Data
 Communications and Networks
 An Engineering Approach
 John Wiley & Sons
Practical Industrial Data Communications
 John Wiley & Sons
 Introduction, datacommunications, information theory, introduction to local area networks. Internet protocols ...
[Introduction to Data Communications and Networking](#)
 Course Technology Ptr
 Data communications and computer networks are becoming increasingly more important--today's business world could not function without either.
 DATABASE
 COMMUNICATIONS AND COMPUTER NETWORKS offers a balance between technical and practical aspects of data communication. Business managers, computer programmers, system designers, and home computer users alike need a through understanding of the basic features, operations, and limitations of different types of computer networks. DATA COMMUNICATIONS AND COMPUTER NETWORKS introduces concepts that help the reader achieve an in-depth understanding of the often complex topic of data communications and computer networks by balancing the more technical aspects and the everyday practical aspects. The sixth edition retains many of the elements that made the fifth edition so popular, including readability and coverage of the most current technologies. This book offers full coverage of wireless technologies, industry convergence, compression techniques, network security, LAN technologies, VoIP, and expanded coverage of error detection and correction. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.