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## Computer Networking A Top-Down Approach

*Addison-Wesley Longman Computer Networking provides a top-down approach to this study by beginning with applications-level protocols and then working down the protocol stack. Focuses on a specific motivating example of a network-the Internet-as well as introducing students to protocols in a more theoretical context. New short "interlude" on "putting it all together" that follows the coverage of application, transport, network, and datalink layers ties together the various components of the Internet architecture and identifying aspects of the architecture that have made the Internet so successful. A new chapter covers wireless and mobile networking, including in-depth coverage of Wi-Fi, Mobile IP and GSM. Also included is expanded coverage on BGP, wireless security and DNS. This book is designed for readers who need to learn the fundamentals of computer networking. It also has extensive material, on the very latest technology, making it of great interest to networking professionals.*

# Top-Down Network Design

## TOP-DOWN NET DES \_c3

Pearson Education Objectives *The purpose of Top-Down Network Design, Third Edition, is to help you design networks that meet a customer's business and technical goals. Whether your customer is another department within your own company or an external client, this book provides you with tested processes and tools to help you understand traffic flow, protocol behavior, and internetworking technologies. After completing this book, you will be equipped to design enterprise networks that meet a customer's requirements for functionality, capacity, performance, availability, scalability, affordability, security, and manageability.*

Audience *This book is for you if you are an internetworking professional responsible for designing and maintaining medium- to large-sized enterprise networks. If you are a network engineer, architect, or technician who has a working knowledge of network protocols and technologies, this book will provide you with practical advice on applying your knowledge to internetwork design. This book also includes useful information for consultants, systems engineers, and sales engineers who design corporate networks for clients. In the fast-paced presales environment of many systems engineers, it often is difficult to slow down and insist on a top-down, structured systems analysis approach. Wherever possible, this book includes shortcuts and assumptions that can be made to speed up the network design process. Finally, this book is useful for undergraduate and graduate students in computer science and information technology disciplines. Students who have taken one or two courses in networking theory will find Top-Down Network Design, Third Edition, an approachable introduction to the engineering and business issues related to developing real-world networks that solve typical business problems. Changes for the Third Edition*

*Networks have changed in many ways since the second edition was published. Many legacy technologies have disappeared and are no longer covered in the book. In addition, modern networks have become multifaceted, providing support for numerous bandwidth-hungry applications and a variety of devices, ranging from smart phones to tablet PCs to high-end servers. Modern users expect the network to be available all the time, from any device, and to let them securely collaborate with coworkers, friends, and family. Networks today support voice, video, high-definition TV, desktop sharing, virtual meetings, online training, virtual reality, and applications that we can't even imagine that brilliant college students are busily creating in their dorm rooms. As applications rapidly change and put more demand on networks, the need to teach a systematic approach to network design is even more important than ever. With that need in mind, the third edition has been retooled to make it an ideal textbook for college students. The third edition features review questions and design scenarios at the end of each chapter to help students learn top-down network design. To address new demands on modern networks, the third edition of Top-Down Network Design also has updated material on the following topics:*

- Network redundancy*
- Modularity in network designs*
- The Cisco SAFE*

security reference architecture ; The Rapid Spanning Tree Protocol (RSTP) ; Internet Protocol version 6 (IPv6) ; Ethernet scalability options, including 10-Gbps Ethernet and Metro Ethernet ; Network design and management tools

## Delivering Internet Connections over Cable

### Breaking the Access Barrier

John Wiley & Sons *An inside look at high-speed access written for the cable industry. Cable modems have emerged as a leading consumer choice for high-speed Internet access, outpacing alternatives such as digital subscriber lines, but not without raising issues about quality of service and controversy about open access. Providing an objective review of residential broadband and cable television networking, this book will be of great use for professionals who are integrating cable into their networks or service offerings. The authors compare cable access systems to competing technologies and discuss the increasingly difficult issues confronting each. Readers will also find coverage of the hottest areas in the field including high-speed data and packet voice standards, managing the "always-on" connection, and security and privacy risks.*

### Broadband Access

## Wireline and Wireless - Alternatives for Internet Services

John Wiley & Sons *Written by experts in the field, this book provides an overview of all forms of broadband subscriber access networks and technology, including fiber optics, DSL for phone lines, DOCSIS for coax, power line carrier, and wireless. Each technology is described in depth, with a discussion of key concepts, historical development, and industry standards. The book contains comprehensive coverage of all broadband access technologies, with a section each devoted to fiber-based technologies, non-fiber wired technologies, and wireless technologies. The four co-authors' breadth of knowledge is featured in the chapters comparing the relative strengths, weaknesses, and prognosis for the competing technologies. Key Features: Covers the physical and medium access layers (OSI Layer 1 and 2), with emphasis on access transmission technology Compares and contrasts all recent and emerging wired and wireless standards for broadband access in a single reference Illustrates the technology that is currently being deployed by network providers, and also the technology that has recently been or will soon be standardized for deployment in the coming years, including vectoring, wavelength division multiple access, CDMA, OFDMA, and MIMO Contains detailed discussion on the following standards: 10G-*

*EPON, G-PON, XG-PON, VDSL2, DOCSIS 3.0, DOCSIS Protocol over EPON, power line carrier, IEEE 802.11 WLAN/WiFi, UMTS/HSPA, LTE, and LTE-Advanced*

# Telecommunication Transmission Handbook

*Wiley-Interscience* Modern telecommunications and data transmission involve many disciplines and their specializations. Provides the necessary guidance to incorporate the many disciplines involved in transmission and coordinate them into an optimal operational system. The emphasis is on point-to-point transmission systems. Covers broadband radio, line-of-sight microwave, tropospheric scatter, satellite communications, narrow band radio, cable, fiber optic and data, video and facsimile transmission.

# Deadline Scheduling for Real-Time Systems

## EDF and Related Algorithms

*Springer Science & Business Media* Many real-time systems rely on static scheduling algorithms. This includes cyclic scheduling, rate monotonic scheduling and fixed schedules created by off-line scheduling techniques such as dynamic programming, heuristic search, and simulated annealing. However, for many real-time systems, static scheduling algorithms are quite restrictive and inflexible. For example, highly automated agile manufacturing, command, control and communications, and distributed real-time multimedia applications all operate over long lifetimes and in highly non-deterministic environments. Dynamic real-time scheduling algorithms are more appropriate for these systems and are used in such systems. Many of these algorithms are based on earliest deadline first (EDF) policies. There exists a wealth of literature on EDF-based scheduling with many extensions to deal with sophisticated issues such as precedence constraints, resource requirements, system overload, multi-processors, and distributed systems. *Deadline Scheduling for Real-Time Systems: EDF and Related Algorithms* aims at collecting a significant body of knowledge on EDF scheduling for real-time systems, but it does not try to be all-inclusive (the literature is too extensive). The book primarily presents the algorithms and associated analysis, but guidelines, rules, and implementation considerations are also discussed, especially for the more complicated situations where mathematical analysis is difficult. In general, it is very difficult to codify and taxonomize scheduling knowledge because there are many performance metrics, task characteristics, and system configurations. Also, adding to the complexity is the fact that a variety of algorithms have been designed for different combinations of these considerations. In spite of the recent advances there are still gaps in the solution space and there is a need to integrate the available solutions. For example,



*firewalls with or without NAT · Take full advantage of the classic IOS firewall feature set (CBAC) · Implement flexible security policies with the Zone Policy Firewall (ZPF) · Strengthen stateful inspection with antispoofing, TCP normalization, connection limiting, and IP fragmentation handling · Use application-layer inspection capabilities built into Cisco firewalls · Inspect IP voice protocols, including SCCP, H.323, SIP, and MGCP · Utilize identity to provide user-based stateful functionality · Understand how multicast traffic is handled through firewalls · Use firewalls to protect your IPv6 deployments*

*This security book is part of the Cisco Press Networking Technology Series. Security titles from Cisco Press help networking professionals secure critical data and resources, prevent and mitigate network attacks, and build end-to-end, self-defending networks.*

## MPLS and VPN Architectures

*Cisco Systems This revised version of the bestselling first edition provides a self-study complement to the Cisco CCIP training course implementing Cisco MPLS. Extensive case studies guide readers through the design and deployment of real-world MPLS/VPN networks*

*MPLS and VPN Architectures.*

## Ethernet Passive Optical Networks

*McGraw Hill Professional Ethernet Passive Optical Networks is the IEEE's (Institute of Electrical and Electronics Engineers) approved architecture of choice for the next generation of broadband access. Written by an author of the IEEE 802.3ah standard, this is the first book to explain the EPON architecture, analyze its performance, and annotate the standard. For any engineer or graduate student building equipment for broadband access or service provider offering such service, this will serve as the "authorized" guide to EPON.*

## Network Performance Engineering

# A Handbook on Convergent Multi-Service Networks and Next Generation Internet

*Springer Science & Business Media During recent years a great deal of progress has been made in performance modelling and evaluation of the Internet, towards the convergence of multi-service networks of diverging technologies, supported by internetworking and the evolution of diverse access and switching technologies. The 44 chapters presented in this handbook are revised invited works drawn from PhD courses held at recent HETNETs International Working Conferences on Performance Modelling and Evaluation of Heterogeneous Networks. They constitute essential*

*introductory material preparing the reader for further research and development in the field of performance modelling, analysis and engineering of heterogeneous networks and of next and future generation Internets. The handbook aims to unify relevant material already known but dispersed in the literature, introduce the readers to unfamiliar and unexposed research areas and, generally, illustrate the diversity of research found in the high growth field of convergent heterogeneous networks and the Internet. The chapters have been broadly classified into 12 parts covering the following topics: Measurement Techniques; Traffic Modelling and Engineering; Queueing Systems and Networks; Analytic Methodologies; Simulation Techniques; Performance Evaluation Studies; Mobile, Wireless and Ad Hoc Networks, Optical Networks; QoS Metrics and Algorithms; All IP Convergence and Networking; Network Management and Services; and Overlay Networks.*

## Nyquist AD Converters, Sensor Interfaces, and Robustness

## Advances in Analog Circuit Design, 2012

Springer Science & Business Media *This book is based on the 18 presentations during the 21st workshop on Advances in Analog Circuit Design. Expert designers provide readers with information about a variety of topics at the frontier of analog circuit design, including Nyquist analog-to-digital converters, capacitive sensor interfaces, reliability, variability, and connectivity. This book serves as a valuable reference to the state-of-the-art, for anyone involved in analog circuit research and development.*

## CompTIA Network+ N10-007 Cert Guide

Pearson IT Certification *This is the eBook version of the print title. Note that only the Amazon Kindle version or the Premium Edition eBook and Practice Test available on the Pearson IT Certification web site come with the unique access code that allows you to use the practice test software that accompanies this book. All other eBook versions do not provide access to the practice test software that accompanies the print book. Access to the companion web site is available through product registration at Pearson IT Certification; or see instructions in back pages of your eBook. Learn, prepare, and practice for CompTIA Network+ N10-007 exam success with this CompTIA approved Cert Guide from Pearson IT Certification, a leader in IT Certification learning and a CompTIA Authorized Platinum Partner. Master CompTIA Network+ N10-007 exam topics Assess your knowledge with chapter-ending quizzes*

Review key concepts with exam preparation tasks Practice with realistic exam questions Learn from more than 60 minutes of video mentoring CompTIA Network+ N10-007 Cert Guide is a best-of-breed exam study guide. Best-selling author and expert instructor Anthony Sequeira shares preparation hints and test-taking tips, helping you identify areas of weakness and improve both your conceptual knowledge and hands-on skills. Material is presented in a concise manner, focusing on increasing your understanding and retention of exam topics. The book presents you with an organized test preparation routine through the use of proven series elements and techniques. Exam topic lists make referencing easy. Chapter-ending Exam Preparation Tasks help you drill on key concepts you must know thoroughly. Review questions help you assess your knowledge, and a final preparation chapter guides you through tools and resources to help you craft your final study plan. The companion website contains a host of tools to help you prepare for the exam, including: The powerful Pearson Test Prep practice test software, complete with hundreds of exam-realistic questions. The assessment engine offers you a wealth of customization options and reporting features, laying out a complete assessment of your knowledge to help you focus your study where it is needed most. More than 60 minutes of personal video mentoring 40 performance-based exercises to help you prepare for the performance-based questions on the exam The CompTIA Network+ N10-007 Hands-on Lab Simulator Lite software, complete with meaningful exercises that help you hone your hands-on skills An interactive Exam Essentials appendix that quickly recaps all major chapter topics for easy reference A key terms glossary flash card application Memory table review exercises and answers A study planner to help you organize and optimize your study time A 10% exam discount voucher (a \$27 value!) Well-regarded for its level of detail, assessment features, and challenging review questions and exercises, this CompTIA approved study guide helps you master the concepts and techniques that will enable you to succeed on the exam the first time. The CompTIA approved study guide helps you master all the topics on the Network+ exam, including: Computer networks and the OSI model Network components Ethernet IP addressing Routing traffic Wide Area Networks (WANs) Wireless Technologies Network performance Command-line utilities Network management Network policies and best practices Network security Troubleshooting Pearson Test Prep system requirements: Online: Browsers: Chrome version 40 and above; Firefox version 35 and above; Safari version 7; Internet Explorer 10, 11; Microsoft Edge; Opera. Devices: Desktop and laptop computers, tablets running on Android and iOS, smartphones with a minimum screen size of 4.7". Internet access required. Offline: Windows 10, Windows 8.1, Windows 7; Microsoft .NET Framework 4.5 Client; Pentium-class 1 GHz processor (or equivalent); 512 MB RAM; 650 MB disk space plus 50 MB for each downloaded practice exam; access to the Internet to register and download exam databases Lab Simulator Minimum System Requirements: Windows: Microsoft Windows 10, Windows 8.1, Windows 7 with SP1; Intel Pentium III or faster; 512 MB RAM (1GB recommended); 1.5 GB hard disk space; 32-bit color depth at 1024x768 resolution Mac: Apple macOS 10.13, 10.12, 10.11, 10.10; Intel Core Duo 1.83 Ghz or faster; 512 MB RAM (1 GB recommended); 1.5 GB hard disk space; 32-bit color depth at 1024x768 resolution Other applications installed during installation: Adobe AIR 3.8; Captive JRE 6

# Broadband Communications Networks

## Recent Advances and Lessons from Practice

*BoD – Books on Demand* Nowadays, the Internet plays a vital role in our lives. It is currently one of the most effective media that is shifting to reach into all areas in today's society. While we move into the next decade, the future of many emerging technologies (IoT, cloud solutions, automation and AI, big data, 5G and mobile technologies, smart cities, etc.) is highly dependent on Internet connectivity and broadband communications. The demand for mobile and faster Internet connectivity is on the rise as the voice, video, and data continue to converge to speed up business operations and to improve every aspect of human life. As a result, the broadband communication networks that connect everything on the Internet are now considered a complete ecosystem routing all Internet traffic and delivering Internet data faster and more flexibly than ever before. This book gives an insight into the latest research and practical aspects of the broadband communication networks in support of many emerging paradigms/applications of global Internet from the traditional architecture to the incorporation of smart applications. This book includes a preface and introduction by the editors, followed by 20 chapters written by leading international researchers, arranged in three parts. This book is recommended for researchers and professionals in the field and may be used as a reference book on broadband communication networks as well as on practical uses of wired/wireless broadband communications. It is also a concise guide for students and readers interested in studying Internet connectivity, mobile/optical broadband networks and concepts/applications of telecommunications engineering.

## Networking Fundamentals

### Wide, Local and Personal Area Communications

*John Wiley & Sons* Focusing on the physical layer, *Networking Fundamentals* provides essential information on networking technologies that are used in both wired and wireless networks designed for local area networks (LANs) and wide-area networks (WANs). The book starts with an overview of telecommunications followed by four parts, each including several chapters. Part I explains the principles of design and analysis of information networks at the lowest layers. It concentrates on the

characteristics of the transmission media, applied transmission and coding, and medium access control. Parts II and III are devoted to detailed descriptions of important WANs and LANs respectively with Part II describing the wired Ethernet and Internet as well as cellular networks while Part III covers popular wired LANs and wireless LANs (WLANs), as well as wireless personal area network (WPAN) technologies. Part IV concludes by examining security, localization and sensor networking. The partitioned structure of the book allows flexibility in teaching the material, encouraging the reader to grasp the more simple concepts and to build on these foundations when moving onto more complex information. *Networking Fundamentals* contains numerous illustrations, case studies and tables to supplement the text, as well as exercises with solutions at the end of each chapter. There is also a companion website with password protected solutions manual for instructors along with other useful resources. Provides a unique holistic approach covering wireless communication technologies, wired technologies and networking. One of the first textbooks to integrate all aspects of information networks while placing an emphasis on the physical layer and systems engineering aspects. Contains numerous illustrations, case studies and tables to supplement the text, as well as exercises with solutions at the end of each chapter. Companion website with password protected solutions manual and other useful resources.

## Computer Networks

Appropriate for Computer Networking or Introduction to Networking courses at both the undergraduate and graduate level in Computer Science, Electrical Engineering, CIS, MIS, and Business Departments. Tanenbaum takes a structured approach to explaining how networks work from the inside out. He starts with an explanation of the physical layer of networking, computer hardware and transmission systems; then works his way up to network applications. Tanenbaum's in-depth application coverage includes email; the domain name system; the World Wide Web (both client- and server-side); and multimedia (including voice over IP, Internet radio video on demand, video conferencing, and streaming media).

## The Essential Guide to Telecommunications

Prentice Hall "Annabel Dodd has cogently untangled the wires and switches and technobabble of the telecommunications revolution and explained how the introduction of the word 'digital' into our legislative and regulatory lexicon will affect consumers, companies and society into the next millennium." – United States Senator Edward J. Markey of Massachusetts; Member, U.S. Senate Subcommittee on Communications, Technology, Innovation, and the Internet "Annabel Dodd has a unique knack for explaining complex technologies in understandable ways. This latest revision of her book covers the rapid changes in the fields of broadband, cellular, and streaming technologies; newly developing 5G networks; and the constant changes happening in both wired and wireless networks. This book is a

*must-read for anyone who wants to understand the rapidly evolving world of telecommunications in the 21st century!" – David Mash, Retired Senior Vice President for Innovation, Strategy, and Technology, Berklee College of Music*

*Completely updated for current trends and technologies, The Essential Guide to Telecommunications, Sixth Edition, is the world's top-selling, accessible guide to the fast-changing global telecommunications industry. Writing in easy-to-understand language, Dodd demystifies today's most significant technologies, standards, architectures, and trends. She introduces leading providers worldwide, explains where they fit in the marketplace, and reveals their key strategies. New topics covered in this edition include: LTE Advanced and 5G wireless, modern security threats and countermeasures, emerging applications, and breakthrough techniques for building more scalable, manageable networks. Gain a practical understanding of modern cellular, Wi-Fi, Internet, cloud, and carrier technologies Discover how key technical, business, and regulatory innovations are changing the industry See how streaming video, social media, cloud computing, smartphones, and the Internet of Things are transforming networks Explore growing concerns about security and privacy, and review modern strategies for detecting and mitigating network breaches Learn how Software Defined Networks (SDN) and Network Function Virtualization (NFV) add intelligence to networks, enabling automation, flexible configurations, and advanced networks Preview cutting-edge, telecom-enabled applications and gear—from mobile payments to drones Whether you're an aspiring network engineer looking for a broad understanding of the industry, or a salesperson, marketer, investor, or customer, this indispensable guide provides everything you need to know about telecommunications right now. This new edition is ideal for both self-study and classroom instruction. Register your product for convenient access to downloads, updates, and/or corrections as they become available.*

## Computer Networking and the Internet

Pearson Education *With the advent of the World Wide Web the global Internet has rapidly become the dominant type of computer network. It now enables people around the world to use the Web for E-Commerce and interactive entertainment applications, in addition to e-mail and IP telephony. As a result, the study of computer networking is now synonymous with the study of the Internet and its applications. The 5th edition of this highly successful text has been completely revised to focus entirely on the Internet, and so avoids the necessity of describing protocols and architectures that are no longer relevant. As many Internet applications now involve multiple data types ; text, images, speech, audio and video ; the book explains in detail how they are represented. A number of different access networks are now used to gain access to the global Internet. Separate chapters illustrate how each type of access network operates, and this is followed by a detailed account of the architecture and protocols of the Internet itself and the operation of the major application protocols. This body of knowledge is made*

accessible by extensive use of illustrations and worked examples that make complex systems more understandable at first glance. This makes the book ideal for self-study or classroom use for students in Computer Science or Engineering, as well as being a comprehensive reference for practitioners who require a definitive guide to networking.

# OECD Digital Economy Outlook 2017

OECD Publishing *The OECD Digital Economy Outlook examines and documents the evolutions and emerging opportunities and challenges in the digital economy. It highlights how OECD countries and partner economies are taking advantage of ICTs and the Internet to meet their public policy objectives.*

## Data Communications and Networking

McGraw-Hill College

## Passive Optical Networks Principles and Practice

Elsevier *Passive optical network (PON) technologies have become an important broadband access technology as a result of the growing demand for bandwidth-hungry video-on-demand applications. Written by the leading researchers and industry experts in the field, Passive Optical Networks provides coherent coverage of networking technologies, fiber optic transmission technologies, as well as the electronics involved in PON system development. Features: An in-depth overview of PON technologies and the potential applications that they enable Comprehensive review of all major PON standards and architecture evolutions, as well as their pros and cons Balanced coverage of recent research findings with economic and engineering considerations Presents system issues of protocols, performance, management and protection Extensive references to standards and research materials for further studies This book provides an authoritative overview of PON technologies and system requirements and is ideal for engineers and managers in industry, university researchers, and graduate students. Balances treatment of the optical technologies with systems issues such as protocols, performance, management and protection Covers latest developments in WDM-PONS, protection switching, dynamic bandwidth allocation Practical coverage with a chapter on PON applications and deployment Case studies on implementing PONs*

# Optical Networks

## A Practical Perspective

Morgan Kaufmann *This fully updated and expanded second edition of Optical Networks: A Practical Perspective succeeds the first as the authoritative source for information on optical networking technologies and techniques. Written by two of the field's most respected individuals, it covers componentry and transmission in detail but also emphasizes the practical networking issues that affect organizations as they evaluate, deploy, or develop optical solutions. This book captures all the hard-to-find information on architecture, control and management, and other communications topics that will affect you every step of the way—from planning to decision-making to implementation to ongoing maintenance. If your goal is to thoroughly understand practical optical networks, this book should be your first and foremost resource. \* Focuses on practical, networking-specific issues: everything you need to know to implement currently available optical solutions. \* Provides the transmission and component details you need to understand and assess competing technologies. \* Offers updated and expanded coverage of propagation, lasers and optical switching technology, network design, transmission design, IP over WDM, wavelength routing, optical standards, and more.*

## After Access

## Inclusion, Development, and a More Mobile Internet

MIT Press *An expert considers the effects of a more mobile Internet on socioeconomic development and digital inclusion, examining both potentialities and constraints. Almost anyone with a \$40 mobile phone and a nearby cell tower can get online with an ease unimaginable just twenty years ago. An optimistic narrative has proclaimed the mobile phone as the device that will finally close the digital divide. Yet access and effective use are not the same thing, and the digital world does not run on mobile handsets alone. In After Access, Jonathan Donner examines the implications of the shift to a more mobile, more available Internet for the global South, particularly as it relates to efforts to promote socioeconomic development and broad-based inclusion in the global information society. Drawing on his own research in South Africa and India, as well as the burgeoning literature from the ICT4D (Internet and Communication Technologies for Development) and mobile communication communities, Donner introduces the "After Access Lens," a conceptual framework for understanding effective use of the Internet by those whose "digital repertoires" contain exclusively mobile devices. Donner argues that both the potentialities and constraints of the shift to a more mobile Internet are*

important considerations for scholars and practitioners interested in Internet use in the global South.

## Fundamentals of Telecommunications

*John Wiley & Sons* The Second Edition of this critically-acclaimed text continues the standard of excellence set in the first edition by providing a thorough introduction to the fundamentals of telecommunication networks without bogging you down in complex technical jargon or math. Although focusing on the basics, the book has been thoroughly updated with the latest advances in the field, including a new chapter on metropolitan area networks (MANs) and new sections on Mobile Fi, ZigBee and ultrawideband. You'll learn which choices are now available to an organization, how to evaluate them and how to develop strategies that achieve the best balance among cost, security and performance factors for voice, data, and image communication.

## Firewalls Don't Stop Dragons

## A Step-by-Step Guide to Computer Security for Non-Techies

*Apress* Rely on this practical, end-to-end guide on cyber safety and online security written expressly for a non-technical audience. You will have just what you need to protect yourself—step by step, without judgment, and with as little jargon as possible. Just how secure is your computer right now? You probably don't really know. Computers and the Internet have revolutionized the modern world, but if you're like most people, you have no clue how these things work and don't know the real threats. Protecting your computer is like defending a medieval castle. While moats, walls, drawbridges, and castle guards can be effective, you'd go broke trying to build something dragon-proof. This book is not about protecting yourself from a targeted attack by the NSA; it's about armoring yourself against common hackers and mass surveillance. There are dozens of no-brainer things we all should be doing to protect our computers and safeguard our data—just like wearing a seat belt, installing smoke alarms, and putting on sunscreen. Author Carey Parker has structured this book to give you maximum benefit with minimum effort. If you just want to know what to do, every chapter has a complete checklist with step-by-step instructions and pictures. The book contains more than 150 tips to make you and your family safer. It includes: Added steps for Windows 10 (Spring 2018) and Mac OS X High Sierra Expanded coverage on mobile device safety Expanded coverage on safety for kids online More than 150 tips with complete step-by-step instructions and pictures What You'll Learn Solve your password problems once and for all Browse the web safely and with confidence Block online tracking and dangerous ads Choose the

*right antivirus software for you Send files and messages securely Set up secure home networking Conduct secure shopping and banking online Lock down social media accounts Create automated backups of all your devices Manage your home computers Use your smartphone and tablet safely Safeguard your kids online And more! Who This Book Is For Those who use computers and mobile devices, but don't really know (or frankly care) how they work. This book is for people who just want to know what they need to do to protect themselves—step by step, without judgment, and with as little jargon as possible.*

## Broadband Cable Access Networks

### The HFC Plant

Morgan Kaufmann *Broadband Cable Access Networks* focuses on broadband distribution and systems architecture and concentrates on practical concepts that will allow the reader to do their own design, improvement, and troubleshooting work. The objective is to enhance the skill sets of a large population that designs and builds broadband cable plants, as well as those maintaining and troubleshooting it. A large cross-section of technical personnel who need to learn these skills design, maintain, and service HFC systems from signal creation through transmission to reception and processing at the customer end point. In addition, data/voice and video specialists need to master and reference the basics of HFC design and distribution before contending with the intricacies of their own unique services. This book serves as an essential reference to all cable engineers—those who specifically design and maintain the HFC distribution plant as well as those primarily concerned with data/voice technology as well as video technology. Concentrates on practical concepts that will allow the user to do his own design, improvement, and troubleshooting work. Prepares cable engineers and technicians to work with assurance as they face the latest developments and future directions. Concise and tightly focused, allowing readers to easily find answers to questions about an idea or concept they are developing in this area.

### Free Space Optics

## Enabling Optical Connectivity in Today's Networks

Sams Publishing *Discusses free-space optics and their use in high-bandwidth systems and high-speed networks, covering topics including the physics behind free-space optics technology and using free-space optics to extend existing networks.*

# Hacking the Cable Modem

## What Cable Companies Don't Want You to Know

No Starch Press *A guide to cable modems includes tutorials, diagrams, source code examples, hardware schematics, and hacks to get the most out of this Internet connection.*

## Network Protocols Handbook

Javvin Technologies Incorporated *This resource fully explains and illustrates all commonly used network communication protocols including TCP/IP, WAN, and LAN technologies such as VOIP, SAN, MAN, VPN/Security, WLAN, VLAN, and vendor specific technologies from Cisco, IBM, Novell, Sun, HP, Microsoft, Apple, and more. (Computer Books)*

## Data and Computer Communications

## Mobile Broadband

## Including WiMAX and LTE

Springer Science & Business Media *This book addresses the emerging technology for Orthogonal Frequency Division Multiple Access (OFDMA), covering OFDMA physical layer as well as network technology. The book also includes information on IEEE 802.16e and WiMAX networks and also offers a comparison with other OFDMA technologies. OFDMA is the fastest growing area in the wireless marketplace, and the backbone of systems used in WiMAX. WiMAX is the technology that enables wireless users to communicate at any time from any location without having to find a WiFi hotspot.*

## Broadband

## Bringing Home the Bits

National Academies Press *Broadband communication expands our opportunities for entertainment, e-commerce and work at home, health care, education, and even e-*

government. It can make the Internet more useful to more people. But it all hinges on higher capacity in the "first mile" or "last mile" that connects the user to the larger communications network. That connection is often adequate for large organizations such as universities or corporations, but enhanced connections to homes are needed to reap the full social and economic promise. *Broadband: Bringing Home the Bits* provides a contemporary snapshot of technologies, strategies, and policies for improving our communications and information infrastructure. It explores the potential benefits of broadband, existing and projected demand, progress and failures in deployment, competition in the broadband industry, and costs and who pays them. Explanations of broadband's "alphabet soup" HFC, DSL, FTTH, and all the rest are included as well. The report's findings and recommendations address regulation, the roles of communities, needed research, and other aspects, including implications for the Telecommunications Act of 1996.

## The Emerging WDM EPON

Springer This book proposes dynamic wavelength and bandwidth allocation (DWBA), a hybrid of time-division multiplexing (TDM) and wavelength-division multiplexing (WDM), which offers a solution for service providers faced with multiservice networks. It discusses different models, architectures and implementations and evaluates their performance.

## Network Design

## Principles and Applications

CRC Press Never has the need for reliable internetworking been greater, yet with networks now comprising differing operating systems, hardware, and software, achieving a reliable network has never been more complex. Network planners and managers face a multitude of difficult decisions—decisions made even more difficult by the need for knowledge from a variety

## Computer and Communication Networks

## Computer Communication Networks

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Prentice Hall *Computer and Communication Networks, Second Edition*, explains the modern technologies of networking and communications, preparing you to analyze and simulate complex networks, and to design cost-effective networks for emerging requirements. Offering uniquely balanced coverage of basic and advanced topics, it

teaches through case studies, realistic examples and exercises, and intuitive illustrations. Nader F. Mir establishes a solid foundation in basic networking concepts; TCP/IP schemes; wireless and LTE networks; Internet applications, such as Web and e-mail; and network security. Then, he delves into both network analysis and advanced networking protocols, VoIP, cloud-based multimedia networking, SDN, and virtualized networks. In this new edition, Mir provides updated, practical, scenario-based information that many networking books lack, offering a uniquely effective blend of theory and implementation. Drawing on extensive field experience, he presents many contemporary applications and covers key topics that other texts overlook, including P2P and voice/video networking, SDN, information-centric networking, and modern router/switch design. Students, researchers, and networking professionals will find up-to-date, thorough coverage of Packet switching Internet protocols (including IPv6) Networking devices Links and link interfaces LANs, WANs, and Internetworking Multicast routing, and protocols Wide area wireless networks and LTE Transport and end-to-end protocols Network applications and management Network security Network queues and delay analysis Advanced router/switch architecture QoS and scheduling Tunneling, VPNs, and MPLS All-optical networks, WDM, and GMPLS Cloud computing and network virtualization Software defined networking (SDN) VoIP signaling Media exchange and voice/video compression Distributed/cloud-based multimedia networks Mobile ad hoc networks Wireless sensor networks Key features include More than three hundred fifty figures that simplify complex topics Numerous algorithms that summarize key networking protocols and equations Up-to-date case studies illuminating concepts and theory Approximately four hundred exercises and examples honed over Mir's twenty years of teaching networking

## End-to-end Qos Network Design

Cisco Press Best-practice QoS designs for protecting voice, video, and critical data while mitigating network denial-of-service attacks Understand the service-level requirements of voice, video, and data applications Examine strategic QoS best practices, including Scavenger-class QoS tactics for DoS/worm mitigation Learn about QoS tools and the various interdependencies and caveats of these tools that can impact design considerations Learn how to protect voice, video, and data traffic using various QoS mechanisms Evaluate design recommendations for protecting voice, video, and multiple classes of data while mitigating DoS/worm attacks for the following network infrastructure architectures: campus LAN, private WAN, MPLS VPN, and IPsec VPN Quality of Service (QoS) has already proven itself as the enabling technology for the convergence of voice, video, and data networks. As business needs evolve, so do the demands for QoS. The need to protect critical applications via QoS mechanisms in business networks has escalated over the past few years, primarily due to the increased frequency and sophistication of denial-of-service (DoS) and worm attacks. End-to-End QoS Network Design is a detailed handbook for planning and deploying QoS solutions to address current business needs. This book goes beyond discussing available QoS technologies and considers detailed design examples that illustrate where, when, and how to deploy various QoS features to

*provide validated and tested solutions for voice, video, and critical data over the LAN, WAN, and VPN. The book starts with a brief background of network infrastructure evolution and the subsequent need for QoS. It then goes on to cover the various QoS features and tools currently available and comments on their evolution and direction. The QoS requirements of voice, interactive and streaming video, and multiple classes of data applications are presented, along with an overview of the nature and effects of various types of DoS and worm attacks. QoS best-practice design principles are introduced to show how QoS mechanisms can be strategically deployed end-to-end to address application requirements while mitigating network attacks. The next section focuses on how these strategic design principles are applied to campus LAN QoS design. Considerations and detailed design recommendations specific to the access, distribution, and core layers of an enterprise campus network are presented. Private WAN QoS design is discussed in the following section, where WAN-specific considerations and detailed QoS designs are presented for leased-lines, Frame Relay, ATM, ATM-to-FR Service Interworking, and ISDN networks. Branch-specific designs include Cisco® SAFE recommendations for using Network-Based Application Recognition (NBAR) for known-worm identification and policing. The final section covers Layer 3 VPN QoS design-for both MPLS and IPsec VPNs. As businesses are migrating to VPNs to meet their wide-area networking needs at lower costs, considerations specific to these topologies are required to be reflected in their customer-edge QoS designs. MPLS VPN QoS design is examined from both the enterprise and service provider's perspectives. Additionally, IPsec VPN QoS designs cover site-to-site and teleworker contexts. Whether you are looking for an introduction to QoS principles and practices or a QoS planning and deployment guide, this book provides you with the expert advice you need to design and implement comprehensive QoS solutions.*

## Connection-Oriented Networks

### SONET/SDH, ATM, MPLS and Optical Networks

*John Wiley & Sons A thorough knowledge of modern connection-oriented networks is essential to understanding the current and near-future state of networking. This book provides a complete overview of connection-oriented networks, discussing both packet-switched and circuit-switched networks, which, though seemingly different, share common networking principles. It details the history and development of such networks, and defines their terminology and architecture, before progressing to aspects such as signaling and standards. There is inclusive coverage of SONET/SDH, ATM networks, Multi-Protocol Label Switching (MPLS), optical networks, access networks and voice over ATM and MPLS. Connection-oriented Networks: \* Provides in-depth, systematic coverage of several connection-oriented networks in a single volume \* Explains topics such as the Generic Framing Procedure, Label Distribution Protocols, Wavelength Routing Optical Networks, Optical Burst Switching, and Access*

*Networks in detail \* Illustrates all concepts with problems and simulation projects to test and deepen your understanding \* Includes an accompanying website with solutions manual and complete set of PowerPoint presentations for each chapter Senior undergraduate and graduate students in telecommunication and networking courses, as well as networking engineers, will find this comprehensive guide to connection-oriented packet-switched and circuit-switched networks useful for their training. The book presents tried and tested material based on an existing, successful course.*

## Understanding Telephone Electronics

Prentice Hall

## Broadband Strategies Handbook

World Bank Publications *This guide identifies issues and challenges in broadband development, analyzing potential solutions to consider, and providing practical examples from countries that have addressed broadband-related matters.*

## IBM Converged Switch B32

IBM Redbooks *This IBM® Redbooks® document introduces the IBM Converged Switch B32. This switch supports Fibre Channel over Ethernet (FCoE), Fibre Channel, Converged Enhanced Ethernet (CEE), and traditional Ethernet protocol connectivity for servers and storage. FCoE is a new protocol that can expand Fibre Channel into the Ethernet environment, and it helps to combine and leverage the advantages of two technologies, Fibre Channel protocol and Ethernet. Features of the IBM Converged Switch B32 include: A 32-port multiprotocol switch for server I/O consolidation Enterprise-class availability for business continuance Improved return on investment and investment protection Fabric security for mission-critical information In the related publication An Introduction to Fibre Channel over Ethernet, and Fibre Channel over Convergence Enhanced Ethernet, REDP-4493 we introduce FCoE and CEE concepts.*

## Anatomy of a Robot

McGraw Hill Professional *This work looks under the hood of all robotic projects, stimulating teachers, students, and hobbyists to learn more about the gamut of areas associated with control systems and robotics. It offers a unique presentation in providing both theory and philosophy in a technical yet entertaining way.*