

Business Data Networks Security Edition

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Wireless Networks and Security - Shafiullah Khan 2013-01-26

"Wireless Networks and Security" provides a broad coverage of wireless security issues including cryptographic coprocessors, encryption, authentication, key management, attacks and countermeasures, secure routing, secure medium access control, intrusion detection, epidemics, security performance analysis, security issues in applications. The contributions identify various vulnerabilities in the physical layer, MAC layer, network layer, transport layer, and application layer, and focus on ways of strengthening security mechanisms and services throughout the layers. This carefully edited monograph is targeting for researchers, post-graduate students in universities, academics, and industry practitioners or professionals.

Guide to Computer Network Security - Joseph Migga Kizza 2020-06-03

This timely textbook presents a comprehensive guide to the core topics in cybersecurity, covering issues of security that extend beyond traditional computer networks to the ubiquitous mobile communications and online social networks that have become part of our daily lives. In the context of our growing dependence on an ever-changing digital ecosystem, this book stresses the importance of security awareness, whether in our homes, our businesses, or our public spaces. This fully updated new edition features new material on the security issues raised by blockchain technology, and its use in logistics, digital ledgers, payments systems, and digital contracts. Topics and features: Explores the full range of security risks and vulnerabilities in all connected digital systems Inspires debate over future developments and improvements necessary to enhance the security of personal, public, and private enterprise systems Raises thought-provoking questions regarding legislative, legal, social, technical, and ethical challenges, such as the tension between privacy and security Describes the fundamentals of traditional computer network security, and common threats to security Reviews the current landscape of tools, algorithms, and professional best practices in use to maintain security of digital systems Discusses the security issues introduced by the latest generation of network technologies, including mobile systems, cloud computing, and blockchain Presents exercises of varying levels of difficulty at the end of each chapter, and concludes with a diverse selection of practical projects Offers supplementary material for students and instructors at an associated website, including slides, additional projects, and syllabus suggestions This important textbook/reference is an invaluable resource for students of computer science, engineering, and information management, as well as for practitioners working in data- and information-intensive industries.

Network Security Policies and Procedures - Douglas W. Frye 2007-04-06

Company network administrators are compelled today to aggressively pursue a robust network security regime. This book aims to give the reader a strong, multi-disciplinary understanding of how to pursue this goal. This professional volume introduces the technical issues surrounding security as well as how security policies are formulated at the executive level and communicated throughout the organization. Readers will gain a better understanding of how their colleagues on "the other side of the fence" view the company's security and will thus be better equipped to act in a way that forwards the company's goals.

Security for Telecommunications Networks - Patrick Traynor 2008-07-12

This book responds to the growing need to secure critical infrastructure by creating a starting place for new researchers in secure telecommunications networks. It is the first book to discuss securing current and next generation telecommunications networks by the security community. The book not only discusses emerging threats and systems vulnerability, but also presents the open questions posed by network evolution and defense mechanisms. It is designed for professionals and researchers in telecommunications. The book is also recommended as a secondary text for graduate-level students in computer science and electrical engineering.

Business Data Communications - William Stallings 2013

"Business Data Communications: Infrastructure, Networking and Security" covers the fundamentals of data communications, networking, distributed applications, and network management and security. These concepts are presented in a way that relates specifically to the business environment and the concerns of business management and staff. While making liberal use of real-world case studies and charts and graphs to provide a business perspective, the book also provides the student with a solid grasp of the technical foundation of business data communications. -- From product description.

Big Data in Complex and Social Networks - My T. Thai 2016-12-01

This book presents recent developments on the theoretical, algorithmic, and application aspects of Big Data in Complex and Social Networks. The book consists of four parts, covering a wide range of topics. The first part of the book focuses on data storage and data processing. It explores how the efficient storage of data can fundamentally support intensive data access and queries, which enables sophisticated analysis. It also looks at how data processing and visualization help to communicate information clearly and efficiently. The second part of the book is devoted to the extraction of essential information and the prediction of web content. The book shows how Big Data analysis can be used to understand the interests, location, and search history of users and provide more accurate predictions of User Behavior. The latter two parts of the book cover the protection of privacy and security, and emergent applications of big data and social networks. It analyzes how to model rumor diffusion, identify misinformation from massive data, and design intervention strategies. Applications of big data and social networks in multilayer networks and multiparty systems are also covered in-depth.

Security in Fixed and Wireless Networks - Guenter Schaefer 2016-08-19

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.

Business Data Networks and Security - Raymond R. Panko 2013

Rev. ed. of: Business data networks and telecommunications. 8th ed.

BUSINESS DATA COMMUNICATIONS AND NETWORKING, 8TH ED - Jerry Fitzgerald 2007-08-16

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

Network Security Tools - Nitesh Dhanjani 2005-04-04

If you're an advanced security professional, then you know that the battle to protect online privacy continues to rage on. Security chat rooms, especially, are resounding with calls for vendors to take more responsibility to release products that are more secure. In fact, with all the information and code that is passed on a daily basis, it's a fight that may never end. Fortunately, there are a number of open source security tools that give you a leg up in the battle. Often a security tool does exactly what you want, right out of the box. More frequently, you need to customize the tool to fit the needs of your network structure. Network Security Tools shows experienced administrators how to modify, customize, and extend popular open source security tools such as Nikto, Ettercap, and Nessus. This concise, high-end guide discusses the common customizations and extensions for these tools, then shows you how to write even more specialized attack and penetration reviews that are suited to your unique network environment. It also explains how tools like port scanners, packet injectors, network sniffers, and web assessment tools function. Some of the topics covered include: Writing your own network sniffers and packet injection tools Writing plugins for Nessus, Ettercap, and Nikto Developing exploits for Metasploit Code analysis for web applications Writing kernel modules for security applications, and understanding rootkits While many books on security are either tediously academic or overly sensational, Network Security Tools takes an even-handed and accessible approach that will let you quickly review the problem and implement new, practical solutions--without reinventing the wheel. In an age when security is critical, Network Security Tools is the resource you want at your side when locking down your network.

Business Data Networks and Telecommunications - Raymond R. Panko 2010-07-15

For undergraduate and graduate business data communications and networking courses. Panko teaches students about the technologies that are being used in the marketplace.

Cyber Security and IT Infrastructure Protection - John R. Vacca 2013-08-22

This book serves as a security practitioner's guide to today's most crucial issues in cyber security and IT infrastructure. It offers in-depth coverage of theory, technology, and practice as they relate to established technologies as well as recent advancements. It explores practical solutions to a wide range of cyber-physical and IT infrastructure protection issues. Composed of 11 chapters contributed by leading experts in their fields, this highly useful book covers disaster recovery, biometrics, homeland security, cyber warfare, cyber security, national infrastructure security, access controls, vulnerability assessments and audits, cryptography, and operational and organizational security, as well as an extensive glossary of security terms and acronyms. Written with instructors and students in mind, this book includes methods of analysis and problem-solving techniques through hands-on exercises and worked examples as well as questions and answers and the ability to implement practical solutions through real-life case studies. For example, the new format includes the following pedagogical elements: • Checklists throughout each chapter to gauge understanding • Chapter Review Questions/Exercises and Case Studies • Ancillaries: Solutions Manual; slide package; figure files This format will be attractive to universities and career schools as well as federal and state agencies, corporate security training programs, ASIS certification, etc. Chapters by leaders in the field on theory and practice of cyber security and IT infrastructure protection, allowing the reader to develop a new

level of technical expertise Comprehensive and up-to-date coverage of cyber security issues allows the reader to remain current and fully informed from multiple viewpoints Presents methods of analysis and problem-solving techniques, enhancing the reader's grasp of the material and ability to implement practical solutions

The Early History of Data Networks - Gerard J. Holzmann 1995

Most of us would consider the emergence of large-scale communication networks to be a twentieth-century phenomenon. The first nationwide data networks, however, were built almost two hundred years ago. At the end of the eighteenth century, well before the electromagnetic telegraph was invented, many countries in Europe had fully operational data communications systems, with altogether close to one thousand network stations. This book gives a fascinating glimpse of the many documented attempts throughout history to develop effective means for long-distance communications. The oldest attempts date back to millennia before Christ, and include ingenious uses of homing pigeons, mirrors, flags, torches, and beacons. The book then shows how Claude Chappe, a French clergyman, started the information revolution in 1794, with the design and construction of the first true telegraph network in France. Another chapter contains the first English translation of a remarkable document on the design of optical telegraphs networks, originally written in 1796 by the Swedish nobleman Abraham Niclas Edelcrantz.

Data Network Design - Darren L. Spohn 2002

This work details the process and technologies needed to successfully design a data network in today's marketplace. It covers new technologies that have entered the market, such as voice over packet offerings and dense wavelength division multiplexing. Also covered are chapters on Optical Networking (SONET, WDM, and DWDM), and International Networks, including VPNs.

Network Security Assessment - Chris McNab 2004

A practical handbook for network administrators who need to develop and implement security assessment programs, exploring a variety of offensive technologies, explaining how to design and deploy networks that are immune to offensive tools and scripts, and detailing an efficient testing model. Original. (Intermediate)

Security and Privacy in Social Networks - Yaniv Altshuler 2012-08-14

Security and Privacy in Social Networks brings to the forefront innovative approaches for analyzing and enhancing the security and privacy dimensions in online social networks, and is the first comprehensive attempt dedicated entirely to this field. In order to facilitate the transition of such methods from theory to mechanisms designed and deployed in existing online social networking services, the book aspires to create a common language between the researchers and practitioners of this new area--spanning from the theory of computational social sciences to conventional security and network engineering.

A Practical Introduction to Enterprise Network and Security Management - Bongsik Shin 2021-07-21

A Practical Introduction to Enterprise Network and Security Management, Second Edition, provides a balanced understanding of introductory and advanced subjects in both computer networking and cybersecurity. Although much of the focus is on technical concepts, managerial issues related to enterprise network and security planning and design are explained from a practitioner's perspective. Because of the critical importance of cybersecurity in today's enterprise networks, security-related issues are explained throughout the book, and four chapters are dedicated to fundamental knowledge. Challenging concepts are explained so readers can follow through with careful reading. This book is written for those who are self-studying or studying information systems or computer science in a classroom setting. If used for a course, it has enough material for a semester or a quarter. FEATURES Provides both theoretical and practical hands-on knowledge and learning experiences for computer networking and cybersecurity Offers a solid knowledge base for those preparing for certificate tests, such as CompTIA and CISSP Takes advantage of actual cases, examples, industry products, and services

so students can relate concepts and theories to practice Explains subjects in a systematic and practical manner to facilitate understanding Includes practical exercise questions that can be individual or group assignments within or without a classroom Contains several information-rich screenshots, figures, and tables carefully constructed to solidify concepts and enhance visual learning The text is designed for students studying information systems or computer science for the first time. As a textbook, this book includes hands-on assignments based on the Packet Tracer program, an excellent network design and simulation tool from Cisco. Instructor materials also are provided, including PowerPoint slides, solutions for exercise questions, and additional chapter questions from which to build tests.

Network Security First-Step - Thomas M. Thomas 2004-05-21

Your first step into the world of network security No security experience required Includes clear and easily understood explanations Makes learning easy Your first step to network security begins here! Learn about hackers and their attacks Understand security tools and technologies Defend your network with firewalls, routers, and other devices Explore security for wireless networks Learn how to prepare for security incidents Welcome to the world of network security! Computer networks are indispensable-but they're also not secure. With the proliferation of Internet viruses and worms, many people and companies are considering increasing their network security. But first, you need to make sense of this complex world of hackers, viruses, and the tools to combat them. No security experience needed! Network Security First-Step explains the basics of network security in easy-to-grasp language that all of us can understand. This book takes you on a guided tour of the core technologies that make up and control network security. Whether you are looking to take your first step into a career in network security or are interested in simply gaining knowledge of the technology, this book is for you!

Fundamentals of Communications and Networking - Michael G. Solomon 2021-01-15

Today's networks are required to support an increasing array of real-time communication methods. Video chat and live resources put demands on networks that were previously unimagined. Written to be accessible to all, Fundamentals of Communications and Networking, Third Edition helps readers better understand today's networks and the way they support the evolving requirements of different types of organizations. While displaying technical depth, this new edition presents an evolutionary perspective of data networking from the early years to the local area networking boom, to advanced IP data networks that support multimedia and real-time applications. The Third Edition is loaded with real-world examples, network designs, and network scenarios that provide the reader with a wealth of data networking information and practical implementation tips. Key Features of the third Edition: - Introduces network basics by describing how networks work - Discusses how networks support the increasing demands of advanced communications - Illustrates how to map the right technology to an organization's needs and business goals - Outlines how businesses use networks to solve business problems, both technically and operationally.

Fundamentals of Communications and Networking - Michael G. Solomon 2014-08-08

Today's networks are required to support an increasing array of real-time communication methods. Video chat, real-time messaging, and always-connected resources put demands on networks that were previously unimagined. The Second Edition of Fundamentals of Communications and Networking helps readers better understand today's networks and the way they support the evolving requirements of different types of organizations. It discusses the critical issues of designing a network that will meet an organization's performance needs and discusses how businesses use networks to solve business problems. Using numerous examples and exercises, this text incorporates hands-on activities to prepare readers to fully understand and design modern networks and their requirements. Key Features of the Second Edition: - Introduces network basics by describing how networks work - Discusses how networks support the increasing demands of advanced communications - Illustrates how to map the right technology to an organization's needs and business goals - Outlines how businesses use

networks to solve business problems, both technically and operationally.

Data Analysis for Network Cyber-Security - Niall Adams 2014-02-28

There is increasing pressure to protect computer networks against unauthorized intrusion, and some work in this area is concerned with engineering systems that are robust to attack. However, no system can be made invulnerable. Data Analysis for Network Cyber-Security focuses on monitoring and analyzing network traffic data, with the intention of preventing, or quickly identifying, malicious activity. Such work involves the intersection of statistics, data mining and computer science. Fundamentally, network traffic is relational, embodying a link between devices. As such, graph analysis approaches are a natural candidate. However, such methods do not scale well to the demands of real problems, and the critical aspect of the timing of communications events is not accounted for in these approaches. This book gathers papers from leading researchers to provide both background to the problems and a description of cutting-edge methodology. The contributors are from diverse institutions and areas of expertise and were brought together at a workshop held at the University of Bristol in March 2013 to address the issues of network cyber security. The workshop was supported by the Heilbronn Institute for Mathematical Research. Contents: Inference for Graphs and Networks: Adapting Classical Tools to Modern Data (Benjamin P Olding and Patrick J Wolfe) Rapid Detection of Attacks in Computer Networks by Quickest Change-point Detection Methods (Alexander G Tartakovsky) Statistical Detection of Intruders Within Computer Networks Using Scan Statistics (Joshua Neil, Curtis Storlie, Curtis Hash and Alex Brugh) Characterizing Dynamic Group Behavior in Social Networks for Cybernetics (Sumeet Dua and Pradeep Chowriappa) Several Approaches for Detecting Anomalies in Network Traffic Data (Céline Lévy-Leduc) Monitoring a Device in a Communication Network (Nicholas A Heard and Melissa Turcotte) Readership: Researchers and graduate students in the fields of network traffic data analysis and network cyber security. Key Features: This book is unique in being a treatise on the statistical analysis of network traffic data The contributors are leading researchers in the field and will give authoritative descriptions of cutting edge methodology The book features material from diverse areas, and as such forms a unified view of network cyber security Keywords: Network Data Analysis; Cyber Security; Change Detection; Anomaly Detection

Network Security Through Data Analysis - Michael Collins 2017-09-08

Traditional intrusion detection and logfile analysis are no longer enough to protect today's complex networks. In the updated second edition of this practical guide, security researcher Michael Collins shows InfoSec personnel the latest techniques and tools for collecting and analyzing network traffic datasets. You'll understand how your network is used, and what actions are necessary to harden and defend the systems within it. In three sections, this book examines the process of collecting and organizing data, various tools for analysis, and several different analytic scenarios and techniques. New chapters focus on active monitoring and traffic manipulation, insider threat detection, data mining, regression and machine learning, and other topics. You'll learn how to: Use sensors to collect network, service, host, and active domain data Work with the SiLK toolset, Python, and other tools and techniques for manipulating data you collect Detect unusual phenomena through exploratory data analysis (EDA), using visualization and mathematical techniques Analyze text data, traffic behavior, and communications mistakes Identify significant structures in your network with graph analysis Examine insider threat data and acquire threat intelligence Map your network and identify significant hosts within it Work with operations to develop defenses and analysis techniques

Business Data Communications and Networking - Jerry FitzGerald 2009-01-09

Over the past few years, many fundamental changes have occurred in data communications and networking that will shape the future for decades to come. Updated with the latest advances in the field, Jerry FitzGerald and Alan Dennis' 10th Edition of Business Data Communications and Networking continues to provide the fundamental concepts and cutting-edge coverage applications that students need to succeed in this fast-moving field. Authors FitzGerald and

Dennis have developed a foundation and balanced presentation from which new technologies and applications can be easily understood, evaluated, and compared.

Business Data Networks and Telecommunications - Raymond R. Panko 2009

Panko teaches students about the technologies that are being used in the marketplace. This text covers market-driven content such as wireless LANs, security and network management, TCP/IP, and application layers. This text would be suitable for business professionals looking for the most recent developments in data communications and networking.

Business Data Communications - William Stallings 2012-11

Business Data Communications and Security covers the fundamentals of data communications, networking, distributed applications, and network management and security. These concepts are presented in a way that relates specifically to the business environment and the concerns of business management and staff. While making liberal use of real-world case studies and charts and graphs to provide a business perspective, the book also provides the student with a solid grasp of the technical foundation of business data communications. The diverse set of projects and student exercises enables the instructor to use the book as a component in a rich and varied learning experience and to tailor a course plan to meet the specific needs of the instructor and students. This edition features a new co-author, Dr. Thomas L. Case, Professor and Chair of the Department of Information Systems at Georgia Southern University. New coverage of security-related issues is included in relevant places throughout the book to meet the needs of the IT/IS schools using this book and the growing emphasis on network security. Additionally, the Seventh edition now aligns with the ACM/AIS IS 2010 curriculum model.

Security and Resilience in Intelligent Data-Centric Systems and Communication Networks - Massimo Ficco 2017-09-29

Security and Resilience in Intelligent Data-Centric Systems and Communication Networks presents current, state-of-the-art work on novel research in theoretical and practical resilience and security aspects of intelligent data-centric critical systems and networks. The book analyzes concepts and technologies that are successfully used in the implementation of intelligent data-centric critical systems and communication networks, also touching on future developments. In addition, readers will find in-demand information for domain experts and developers who want to understand and realize the aspects (opportunities and challenges) of using emerging technologies for designing and developing more secure and resilient intelligent data-centric critical systems and communication networks. Topics covered include airports, seaports, rail transport systems, plants for the provision of water and energy, and business transactional systems. The book is well suited for researchers and PhD interested in the use of security and resilient computing technologies. Includes tools and techniques to prevent and avoid both accidental and malicious behaviors Explains the state-of-the-art technological solutions for main issues hindering the development of monitoring and reaction solutions Describes new methods and technologies, advanced prototypes, systems, tools and techniques of future direction

Business Data Networks and Security, Global Edition - Julia L. Panko 2014-12-18

For undergraduate and graduate courses in Business Data Communication / Networking (MIS) Clear writing style, job-ready detail, and focus on the technologies used in today's marketplace Business Data Networks and Security guides readers through the details of networking, while helping them train for the workplace. It starts with the basics of security and network design and management; goes beyond the basic topology and switch operation covering topics like VLANs, link aggregation, switch purchasing considerations, and more; and covers the latest in networking techniques, wireless networking, with an emphasis on security. With this text as a guide, readers learn the basic, introductory topics as a firm foundation; get sound training for the marketplace; see the latest advances in wireless networking; and learn the importance and ins and outs of security. Teaching and Learning Experience This textbook will provide a better teaching and learning experience-for you and your students. Here's how: *The basic, introductory topics provide a firm foundation. *Job-level content prepares students with the skills

demand by today's employers.*The latest in networking techniques and wireless networking, including a focus on security, keeps students up to date and aware of what's going on in the field. *The flow of the text guides students through the material. MyMISLab not included. Students, if MyMISLab is a recommended/mandatory component of the course, please ask your instructor for the correct ISBN and course ID. MyMISLab is not a self-paced technology and should only be purchased when required by an instructor. Instructors, contact your Pearson representative for more information. MyMISLab is an online homework, tutorial, and assessment product designed to personalize learning and improve results. With a wide range of interactive, engaging, and assignable activities, students are encouraged to actively learn and retain tough course concepts.

Practical Industrial Data Networks - Steve Mackay 2004-02-27

There are many data communications titles covering design, installation, etc, but almost none that specifically focus on industrial networks, which are an essential part of the day-to-day work of industrial control systems engineers, and the main focus of an increasingly large group of network specialists. The focus of this book makes it uniquely relevant to control engineers and network designers working in this area. The industrial application of networking is explored in terms of design, installation and troubleshooting, building the skills required to identify, prevent and fix common industrial data communications problems - both at the design stage and in the maintenance phase. The focus of this book is 'outside the box'. The emphasis goes beyond typical communications issues and theory to provide the necessary toolkit of knowledge to solve industrial communications problems covering RS-232, RS-485, Modbus, Fieldbus, DeviceNet, Ethernet and TCP/IP. The idea of the book is that in reading it you should be able to walk onto your plant, or facility, and troubleshoot and fix communications problems as quickly as possible. This book is the only title that addresses the nuts-and-bolts issues involved in design, installation and troubleshooting that are the day-to-day concern of engineers and network specialists working in industry. * Provides a unique focus on the industrial application of data networks * Emphasis goes beyond typical communications issues and theory to provide the necessary toolkit of knowledge to solve industrial communications problems * Provides the tools to allow engineers in various plants or facilities to troubleshoot and fix communications problems as quickly as possible

Business Data Communications and Networking - R. R. Panko 2001

Data Communications and Computer Networks: A Business User's Approach - Curt White 2015-01-01

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.

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Network Security Metrics - Lingyu Wang 2017-11-15

This book examines different aspects of network security metrics and their application to enterprise networks. One of the most pertinent issues in securing mission-critical computing networks is the lack of effective security metrics which this book discusses in detail. Since “you cannot improve what you cannot measure”, a network security metric is essential to evaluating the relative effectiveness of potential network security solutions. The authors start by examining the limitations of existing solutions and standards on security metrics, such as CVSS and attack surface, which typically focus on known vulnerabilities in individual software products or systems. The first few chapters of this book describe different approaches to fusing individual metric values obtained from CVSS scores into an overall measure of network security using attack graphs. Since CVSS scores are only available for previously known vulnerabilities, such approaches do not consider the threat of unknown attacks exploiting the so-called zero day vulnerabilities. Therefore, several chapters of this book are dedicated to develop network security metrics especially designed for dealing with zero day attacks where the challenge is that little or no prior knowledge is available about the exploited vulnerabilities, and thus most existing methodologies for designing security metrics are no longer effective. Finally, the authors examine several issues on the application of network security metrics at the enterprise level. Specifically, a chapter presents a suite of security metrics organized along several dimensions for measuring and visualizing different aspects of the enterprise cyber security risk, and the last chapter presents a novel metric for measuring the operational effectiveness of the cyber security operations center (CSOC). Security researchers who work on network security or security analytics related areas seeking new research topics, as well as security practitioners including network administrators and security architects who are looking for state of the art approaches to hardening their networks, will find this book helpful as a reference. Advanced-level students studying computer science and engineering will find this book useful as a secondary text.

Network Security Through Data Analysis - Michael S Collins 2014-02-10

Traditional intrusion detection and logfile analysis are no longer enough to protect today’s complex networks. In this practical guide, security researcher Michael Collins shows you several techniques and tools for collecting and analyzing network traffic datasets. You’ll understand how your network is used, and what actions are necessary to protect and improve it. Divided into three sections, this book examines the process of collecting and organizing data, various tools for analysis, and several different analytic scenarios and techniques. It’s ideal for network administrators and operational security analysts familiar with scripting. Explore network, host, and service sensors for capturing security data Store data traffic with relational databases, graph databases, Redis, and Hadoop Use SiLK, the R language, and other tools for analysis and visualization Detect unusual phenomena through Exploratory Data Analysis (EDA) Identify significant structures in networks with graph analysis Determine the traffic that’s crossing service ports in a network Examine traffic volume and behavior to spot DDoS and database raids Get a step-by-step process for network mapping and inventory

Data Networks, IP and the Internet - Martin P. Clark 2003-05-07

Data Networking is a capability that allows users to combine separate data bases, telecommunication systems, and specialised computer operations into a single integrated system, so that data communication can be handled as easily as voice messages. Data communications is the problem of getting information from one place to another reliably (secure both from channel disruptions and deliberate interference) while conforming to user requirements. IP (Internet protocol) is the central pillar of the Internet and was designed primarily for internetworking as being a simple protocol almost any network could carry. The business world appears to increasingly revolve around data communications and the Internet and all modern data networks are based around either the Internet or at least around IP (Internet Protocol)-based networks. However, many people still remain baffled by multiprotocol networks - how do all the protocols fit together? How do I build a network? What sort of

problems should I expect? This volume is intended not only for network designers and practitioners, who for too long have been baffled by the complex jargon of data networks, but also for the newcomer - eager to put the plethora of "protocols" into context. After the initial boom the rate of IP development is now beginning to stabilise, making a standard textbook and reference book worthwhile with a longer shelf life. Highly illustrated and written in an accessible style this book is intended to provide a complete foundation textbook and reference of modern IP-based data networking - avoiding explanation of defunct principles that litter other books. Network/IP engineers, Network operators, engineering managers and senior undergraduate students will all find this invaluable.

Business Data Communications - William Stallings 2009

Business Data Communications, 6/e, covers the fundamentals of data communications, networking, distributed applications, and network management and security. Stallings presents these concepts in a way that relates specifically to the business environment and the concerns of business management and staff, structuring his text around requirements, ingredients, and applications. All of the material has been updated for the latest technologies and developments in the field, including: specifications of WiFi/IEEE 802.11 wireless LANs, including 802.11n. IP; performance metrics and service level agreements (SLAs); Gigabit Ethernet and 10-Gbps Ethernet standards; New unified communications concepts; expanded, enhanced security material; New online animations illustrate key functions and algorithms in OS design. Appropriate for professionals interested in business data communications.

Applied Network Security Monitoring - Chris Sanders 2013-11-26

Applied Network Security Monitoring is the essential guide to becoming an NSM analyst from the ground up. This book takes a fundamental approach to NSM, complete with dozens of real-world examples that teach you the key concepts of NSM. Network security monitoring is based on the principle that prevention eventually fails. In the current threat landscape, no matter how much you try, motivated attackers will eventually find their way into your network. At that point, it is your ability to detect and respond to that intrusion that can be the difference between a small incident and a major disaster. The book follows the three stages of the NSM cycle: collection, detection, and analysis. As you progress through each section, you will have access to insights from seasoned NSM professionals while being introduced to relevant, practical scenarios complete with sample data. If you've never performed NSM analysis, Applied Network Security Monitoring will give you an adequate grasp on the core concepts needed to become an effective analyst. If you are already a practicing analyst, this book will allow you to grow your analytic technique to make you more effective at your job. Discusses the proper methods for data collection, and teaches you how to become a skilled NSM analyst Provides thorough hands-on coverage of Snort, Suricata, Bro-IDS, SiLK, and Argus Loaded with practical examples containing real PCAP files you can replay, and uses Security Onion for all its lab examples Companion website includes up-to-date blogs from the authors about the latest developments in NSM

Computer and Network Security Essentials - Kevin Daimi 2017-08-12

This book introduces readers to the tools needed to protect IT resources and communicate with security specialists when there is a security problem. The book covers a wide range of security topics including Cryptographic Technologies, Network Security, Security Management, Information Assurance, Security Applications, Computer Security, Hardware Security, and Biometrics and Forensics. It introduces the concepts, techniques, methods, approaches, and trends needed by security specialists to improve their security skills and capabilities. Further, it provides a glimpse into future directions where security techniques, policies, applications, and theories are headed. The book represents a collection of carefully selected and reviewed chapters written by diverse security experts in the listed fields and edited by prominent security researchers. Complementary slides are available for download on the book’s website at Springer.com.

Business Data Networks and Security - Raymond R. Panko 2018

For undergraduate and graduate courses in Business Data Communication / Networking (MIS). Prepare for the modern workplace with networking and security essentials. With a clear writing style and a focus on contemporary technologies, *Business Data Networks and Security* guides readers through the details of networking, while effectively training them for the demands of the modern workplace. Authors Panko and Panko start with the basics -including the Internet, security, and network design - and move on to the latest in networking techniques and wireless networking, all while emphasizing security. The 11th Edition helps readers form a firm foundation, including sound job-related training, in the context of the latest updates and advances in the field.

Business Data Networks and Telecommunications - Ray Panko 2003

For undergraduate/graduate/MBA-level courses in Business Data Communications, Introduction to Data Communications, Telecommunications, and Introduction to Networking. Using a unique modular approach, this cutting-edge introduction to data communications features 11 core chapters of essential material, 6 advanced modules, and a Companion Website to provide the widest possible range of topics around which to customize courses with specific goals. This approach allows selective emphasis without requiring instructors to assemble their own additional material. Plus, 9 mini-chapters for hands-on material and case studies give students a feel for what they will encounter on the job.

Network Security and Its Impact on Business Strategy - Ionica Oncioiu 2019

"This book examines the impact of m-commerce, m-learning, and m-knowledge management technologies on organizations, such as online stores, higher education institutions, multinational corporations, and health providers"--