

## Network Security Assessment Know Your Network

The instant access that hackers have to the latest tools and techniques demands that companies become more aggressive in defending the security of their networks. Conducting a network vulnerability assessment, a self-induced hack attack, identifies the network components and faults in policies, and procedures that expose a company to the damage caused by malicious network intruders. Managing a Network Vulnerability Assessment provides a formal framework for finding and eliminating network security threats, ensuring that no vulnerabilities are overlooked. This thorough overview focuses on the steps necessary to successfully manage an assessment, including the development of a scope statement, the understanding and proper use of assessment methodology, the creation of an expert assessment team, and the production of a valuable response report. The book also details what commercial, freeware, and shareware tools are available, how they work, and how to use them. By following the procedures outlined in this guide, a company can pinpoint what individual parts of their network need to be hardened, and avoid expensive and unnecessary purchases.

Ten Strategies of a World-Class Cyber Security Operations Center conveys

MITRE's accumulated expertise on enterprise-grade computer network defense. It covers ten key qualities of leading Cyber Security Operations Centers (CSOCs), ranging from their structure and organization, to processes that best enable smooth operations, to approaches that extract maximum value from key CSOC technology investments. This book offers perspective and context for key decision points in structuring a CSOC, such as what capabilities to offer, how to architect large-scale data collection and analysis, and how to prepare the CSOC team for agile, threat-based response. If you manage, work in, or are standing up a CSOC, this book is for you. It is also available on MITRE's website, [www.mitre.org](http://www.mitre.org).

As hacker organizations surpass drug cartels in terms of revenue generation, it is clear that the good guys are doing something wrong in information security. Providing a simple foundational remedy for our security ills, *Security De-Engineering: Solving the Problems in Information Risk Management* is a definitive guide to the current problems impacting corporate information risk management. It explains what the problems are, how and why they have manifested, and outlines powerful solutions. Ian Tibble delves into more than a decade of experience working with close to 100 different Fortune 500s and multinationals to explain how a gradual erosion of skills has placed corporate

information assets on a disastrous collision course with automated malware attacks and manual intrusions. Presenting a complete journal of hacking feats and how corporate networks can be compromised, the book covers the most critical aspects of corporate risk information risk management. Outlines six detrimental security changes that have occurred in the past decade Examines automated vulnerability scanners and rationalizes the differences between their perceived and actual value Considers security products—including intrusion detection, security incident event management, and identity management The book provides a rare glimpse at the untold stories of what goes on behind the closed doors of private corporations. It details the tools and products that are used, typical behavioral traits, and the two types of security experts that have existed since the mid-nineties—the hackers and the consultants that came later. Answering some of the most pressing questions about network penetration testing and cloud computing security, this book provides you with the understanding and tools needed to tackle today's risk management issues as well as those on the horizon.

Network Security Evaluation provides a methodology for conducting technical security evaluations of all the critical components of a target network. The book describes how the methodology evolved and how to define the proper scope of

an evaluation, including the consideration of legal issues that may arise during the evaluation. More detailed information is given in later chapters about the core technical processes that need to occur to ensure a comprehensive understanding of the network's security posture. Ten baseline areas for evaluation are covered in detail. The tools and examples detailed within this book include both Freeware and Commercial tools that provide a detailed analysis of security vulnerabilities on the target network. The book ends with guidance on the creation of customer roadmaps to better security and recommendations on the format and delivery of the final report. \* There is no other book currently on the market that covers the National Security Agency's recommended methodology for conducting technical security evaluations \* The authors are well known in the industry for their work in developing and deploying network security evaluations using the NSA IEM \* The authors also developed the NSA's training class on this methodology

"This book identifies the latest technological solutions, practices and principles on network security while exposing possible security threats and vulnerabilities of contemporary software, hardware, and networked systems"--

End-to-End Network Security Defense-in-Depth Best practices for assessing and improving network defenses and responding to security incidents Omar Santos Information security practices have evolved from Internet perimeter protection to

an in-depth defense model in which multiple countermeasures are layered throughout the infrastructure to address vulnerabilities and attacks. This is necessary due to increased attack frequency, diverse attack sophistication, and the rapid nature of attack velocity—all blurring the boundaries between the network and perimeter. End-to-End Network Security is designed to counter the new generation of complex threats. Adopting this robust security strategy defends against highly sophisticated attacks that can occur at multiple locations in your network. The ultimate goal is to deploy a set of security capabilities that together create an intelligent, self-defending network that identifies attacks as they occur, generates alerts as appropriate, and then automatically responds. End-to-End Network Security provides you with a comprehensive look at the mechanisms to counter threats to each part of your network. The book starts with a review of network security technologies then covers the six-step methodology for incident response and best practices from proactive security frameworks. Later chapters cover wireless network security, IP telephony security, data center security, and IPv6 security. Finally, several case studies representing small, medium, and large enterprises provide detailed example configurations and implementation strategies of best practices learned in earlier chapters. Adopting the techniques and strategies outlined in this book enables you to prevent day-

zero attacks, improve your overall security posture, build strong policies, and deploy intelligent, self-defending networks. “Within these pages, you will find many practical tools, both process related and technology related, that you can draw on to improve your risk mitigation strategies.” —Bruce Murphy, Vice President, World Wide Security Practices, Cisco

Omar Santos is a senior network security engineer at Cisco®. Omar has designed, implemented, and supported numerous secure networks for Fortune 500 companies and the U.S. government. Prior to his current role, he was a technical leader within the World Wide Security Practice and the Cisco Technical Assistance Center (TAC), where he taught, led, and mentored many engineers within both organizations.

Guard your network with firewalls, VPNs, and intrusion prevention systems  
Control network access with AAA  
Enforce security policies with Cisco Network Admission Control (NAC)  
Learn how to perform risk and threat analysis  
Harden your network infrastructure, security policies, and procedures against security threats  
Identify and classify security threats  
Trace back attacks to their source  
Learn how to best react to security incidents  
Maintain visibility and control over your network with the SAVE framework  
Apply Defense-in-Depth principles to wireless networks, IP telephony networks, data centers, and IPv6 networks

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. Category: Networking: Security Covers: Network security and incident response

There are hundreds--if not thousands--of techniques used to compromise both Windows and Unix-based systems. Malicious code and new exploit scripts are released on a daily basis, and each evolution becomes more and more sophisticated. Keeping up with the myriad of systems used by hackers in the wild is a formidable task, and scrambling to patch each potential vulnerability or address each new attack one-by-one is a bit like emptying the Atlantic with paper cup. If you're a network administrator, the pressure is on you to defend your systems from attack. But short of devoting your life to becoming a security expert, what can you do to ensure the safety of your mission critical systems? Where do you start? Using the steps laid out by professional security analysts and consultants to identify and assess risks, Network Security Assessment offers an efficient testing model that an administrator can adopt, refine, and reuse to create proactive defensive strategies to protect their systems from the threats that are out there, as well as those still being developed. This thorough and insightful guide covers offensive technologies by grouping and analyzing them at a higher

level--from both an offensive and defensive standpoint--helping administrators design and deploy networks that are immune to offensive exploits, tools, and scripts. Network administrators who need to develop and implement a security assessment program will find everything they're looking for--a proven, expert-tested methodology on which to base their own comprehensive program--in this time-saving new book.

In today's litigious business world, cyber-related matters could land you in court. As a computer security professional, you are protecting your data, but are you protecting your company? While you know industry standards and regulations, you may not be a legal expert. Fortunately, in a few hours of reading, rather than months of classroom study, Tari Schreider's *The Manager's Guide to Cybersecurity Law: Essentials for Today's Business*, lets you integrate legal issues into your security program. Tari Schreider, a board-certified information security practitioner with a criminal justice administration background, has written a much-needed book that bridges the gap between cybersecurity programs and cybersecurity law. He says, "My nearly 40 years in the fields of cybersecurity, risk management, and disaster recovery have taught me some immutable truths. One of these truths is that failure to consider the law when developing a cybersecurity program results in a protective façade or false sense of security."



In a friendly style, offering real-world business examples from his own experience supported by a wealth of court cases, Schreider covers the range of practical information you will need as you explore – and prepare to apply – cybersecurity law. His practical, easy-to-understand explanations help you to: Understand your legal duty to act reasonably and responsibly to protect assets and information. Identify which cybersecurity laws have the potential to impact your cybersecurity program. Upgrade cybersecurity policies to comply with state, federal, and regulatory statutes. Communicate effectively about cybersecurity law with corporate legal department and counsel. Understand the implications of emerging legislation for your cybersecurity program. Know how to avoid losing a cybersecurity court case on procedure – and develop strategies to handle a dispute out of court. Develop an international view of cybersecurity and data privacy – and international legal frameworks. Schreider takes you beyond security standards and regulatory controls to ensure that your current or future cybersecurity program complies with all laws and legal jurisdictions. Hundreds of citations and references allow you to dig deeper as you explore specific topics relevant to your organization or your studies. This book needs to be required reading before your next discussion with your corporate legal department. In order to protect company's information assets such as sensitive customer

records, health care records, etc., the security practitioner first needs to find out: what needs protected, what risks those assets are exposed to, what controls are in place to offset those risks, and where to focus attention for risk treatment. This is the true value and purpose of information security risk assessments. Effective risk assessments are meant to provide a defensible analysis of residual risk associated with your key assets so that risk treatment options can be explored. Information Security Risk Assessments gives you the tools and skills to get a quick, reliable, and thorough risk assessment for key stakeholders. Based on authors' experiences of real-world assessments, reports, and presentations Focuses on implementing a process, rather than theory, that allows you to derive a quick and valuable assessment Includes a companion web site with spreadsheets you can utilize to create and maintain the risk assessment Network Security Assessment Know Your Network "O'Reilly Media, Inc." Security Risk Assessment is the most up-to-date and comprehensive resource available on how to conduct a thorough security assessment for any organization. A good security assessment is a fact-finding process that determines an organization's state of security protection. It exposes vulnerabilities, determines the potential for losses, and devises a plan to address these security concerns. While most security professionals have heard of a

security assessment, many do not know how to conduct one, how it's used, or how to evaluate what they have found. Security Risk Assessment offers security professionals step-by-step guidance for conducting a complete risk assessment. It provides a template draw from, giving security professionals the tools needed to conduct an assessment using the most current approaches, theories, and best practices. Discusses practical and proven techniques for effectively conducting security assessments Includes interview guides, checklists, and sample reports Accessibly written for security professionals with different levels of experience conducting security assessments

"The book you are about to read will arm you with the knowledge you need to defend your network from attackers—both the obvious and the not so obvious.... If you are new to network security, don't put this book back on the shelf! This is a great book for beginners and I wish I had access to it many years ago. If you've learned the basics of TCP/IP protocols and run an open source or commercial IDS, you may be asking 'What's next?' If so, this book is for you." —Ron Gula, founder and CTO, Tenable Network Security, from the Foreword "Richard Bejtlich has a good perspective on Internet security—one that is orderly and practical at the same time. He keeps readers grounded and addresses the fundamentals in an accessible way." —Marcus Ranum, TruSecure "This book is not about security

or network monitoring: It's about both, and in reality these are two aspects of the same problem. You can easily find people who are security experts or network monitors, but this book explains how to master both topics." —Luca Deri, ntop.org

"This book will enable security professionals of all skill sets to improve their understanding of what it takes to set up, maintain, and utilize a successful network intrusion detection strategy." —Kirby Kuehl, Cisco Systems

Every network can be compromised. There are too many systems, offering too many services, running too many flawed applications. No amount of careful coding, patch management, or access control can keep out every attacker. If prevention eventually fails, how do you prepare for the intrusions that will eventually happen? Network security monitoring (NSM) equips security staff to deal with the inevitable consequences of too few resources and too many responsibilities. NSM collects the data needed to generate better assessment, detection, and response processes—resulting in decreased impact from unauthorized activities. In *The Tao of Network Security Monitoring*, Richard Bejtlich explores the products, people, and processes that implement the NSM model. By focusing on case studies and the application of open source tools, he helps you gain hands-on knowledge of how to better defend networks and how to mitigate damage from security incidents. Inside, you will find in-depth information on the following

areas. The NSM operational framework and deployment considerations. How to use a variety of open-source tools—including Sguil, Argus, and Ethereal—to mine network traffic for full content, session, statistical, and alert data. Best practices for conducting emergency NSM in an incident response scenario, evaluating monitoring vendors, and deploying an NSM architecture. Developing and applying knowledge of weapons, tactics, telecommunications, system administration, scripting, and programming for NSM. The best tools for generating arbitrary packets, exploiting flaws, manipulating traffic, and conducting reconnaissance. Whether you are new to network intrusion detection and incident response, or a computer-security veteran, this book will enable you to quickly develop and apply the skills needed to detect, prevent, and respond to new and emerging threats.

This fully revised and updated new edition of the definitive text/reference on computer network and information security presents a comprehensive guide to the repertoire of security tools, algorithms and best practices mandated by the technology we depend on. Topics and features: highlights the magnitude of the vulnerabilities, weaknesses and loopholes inherent in computer networks; discusses how to develop effective security solutions, protocols, and best practices for the modern computing environment; examines the role of legislation,

regulation, and enforcement in securing computing and mobile systems; describes the burning security issues brought about by the advent of the Internet of Things and the eroding boundaries between enterprise and home networks (NEW); provides both quickly workable and more thought-provoking exercises at the end of each chapter, with one chapter devoted entirely to hands-on exercises; supplies additional support materials for instructors at an associated website.

A highly detailed guide to performing powerful attack vectors in many hands-on scenarios and defending significant security flaws in your company's infrastructure

**Key Features**

- Advanced exploitation techniques to breach modern operating systems and complex network devices
- Learn about Docker breakouts, Active Directory delegation, and CRON jobs
- Practical use cases to deliver an intelligent endpoint-protected system

**Book Description**

It has always been difficult to gain hands-on experience and a comprehensive understanding of advanced penetration testing techniques and vulnerability assessment and management. This book will be your one-stop solution to compromising complex network devices and modern operating systems. This book provides you with advanced penetration testing techniques that will help you exploit databases, web and application servers, switches or routers, Docker, VLAN, VoIP, and VPN.

With this book, you will explore exploitation abilities such as offensive PowerShell tools and techniques, CI servers, database exploitation, Active Directory delegation, kernel exploits, cron jobs, VLAN hopping, and Docker breakouts. Moving on, this book will not only walk you through managing vulnerabilities, but will also teach you how to ensure endpoint protection. Toward the end of this book, you will also discover post-exploitation tips, tools, and methodologies to help your organization build an intelligent security system. By the end of this book, you will have mastered the skills and methodologies needed to breach infrastructures and provide complete endpoint protection for your system. What you will learn

- Exposure to advanced infrastructure penetration testing techniques and methodologies
- Gain hands-on experience of penetration testing in Linux system vulnerabilities and memory exploitation
- Understand what it takes to break into enterprise networks
- Learn to secure the configuration management environment and continuous delivery pipeline
- Gain an understanding of how to exploit networks and IoT devices
- Discover real-world, post-exploitation techniques and countermeasures

Who this book is for If you are a system administrator, SOC analyst, penetration tester, or a network engineer and want to take your penetration testing skills and security knowledge to the next level, then this book is for you. Some prior experience with penetration testing tools and

knowledge of Linux and Windows command-line syntax is beneficial. 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)

PART OF THE NEW JONES & BARTLETT LEARNING INFORMATION SYSTEMS SECURITY & ASSURANCE SERIES Fully revised and updated with the latest data from the field, *Network Security, Firewalls, and VPNs, Second Edition* provides a unique, in-depth look at the major business challenges and threats that are introduced when an organization's network is connected to the public Internet. Written by an industry expert, this book provides a comprehensive explanation of network security basics, including how hackers access online networks and the use of Firewalls and VPNs to provide security countermeasures. Using examples and exercises, this book incorporates hands-on activities to prepare the reader to disarm threats and prepare for emerging technologies and future attacks. Key Features: -Introduces the basics of network security exploring the details of firewall security and how VPNs operate -Illustrates how to plan proper network security to combat hackers and outside



threats -Discusses firewall configuration and deployment and managing firewall security -Identifies how to secure local and internet communications with a VPN

Instructor Materials for Network Security, Firewalls, VPNs include: PowerPoint Lecture Slides Exam Questions Case Scenarios/Handouts About the Series This book is part of the Information Systems Security and Assurance Series from Jones and Bartlett Learning. Designed for courses and curriculums in IT Security, Cybersecurity, Information Assurance, and Information Systems Security, this series features a comprehensive, consistent treatment of the most current thinking and trends in this critical subject area. These titles deliver fundamental information-security principles packed with real-world applications and examples. Authored by Certified Information Systems Security Professionals (CISSPs), they deliver comprehensive information on all aspects of information security. Reviewed word for word by leading technical experts in the field, these books are not just current, but forward-thinking putting you in the position to solve the cybersecurity challenges not just of today, but of tomorrow, as well."

Information and communication systems are an essential component of our society, forcing us to become dependent on these infrastructures. At the same time, these systems are undergoing a convergence and interconnection process that, besides its benefits, raises specific threats to user interests. Citizens and organizations must feel

safe when using cyberspace facilities in order to benefit from its advantages. *Network Security and Its Impact on Business Strategy* provides innovative insights into the impact of m-commerce, m-learning, and m-knowledge management technologies and the risks their usage has on different organizations, such as online stores, higher education institutions, multinational corporations, health providers, and more. Highlighting topics including cyberterrorism, smart security, and cyber ethics, this book is designed for IT and security specialists and consultants, managers and risk managers, corporations, health providers, researchers, academicians, and students. If you're a cybersecurity professional, then you know how it often seems that no one cares about (or understands) information security. InfoSec professionals frequently struggle to integrate security into their companies' processes. Many are at odds with their organizations. Most are under-resourced. There must be a better way. This essential manager's guide offers a new approach to building and maintaining an information security program that's both effective and easy to follow. Author and longtime chief information security officer (CISO) Todd Barnum upends the assumptions security professionals take for granted. CISOs, chief security officers, chief information officers, and IT security professionals will learn a simple seven-step process for building a new program or improving a current one. Build better relationships across the organization Align your role with your company's values, culture, and tolerance for information loss Lay the groundwork for your security program

Create a communications program to share your team's contributions and educate your coworkers  
Transition security functions and responsibilities to other teams  
Organize and build an effective infosec team  
Measure your company's ability to recognize and report security policy violations and phishing emails

The Security Risk Assessment Handbook: A Complete Guide for Performing Security Risk Assessments provides detailed insight into precisely how to conduct an information security risk assessment. Designed for security professionals and their customers who want a more in-depth understanding of the risk assessment process, this volume contains real-wor

The ultimate hands-on guide to IT security and proactivedefense  
The Network Security Test Lab is a hands-on, step-by-stepguide to ultimate IT security implementation. Covering the fullcomplement of malware, viruses, and other attack technologies, thisessential guide walks you through the security assessment andpenetration testing process, and provides the set-up guidance youneed to build your own security-testing lab. You'll look inside theactual attacks to decode their methods, and learn how to runattacks in an isolated sandbox to better understand how attackerstarget systems, and how to build the defenses that stop them. You'll be introduced to tools like Wireshark, Networkminer, Nmap, Metasploit, and more as you discover techniques for defendingagainst network attacks, social networking bugs, malware, and themost prevalent malicious traffic. You also get access to opensource tools, demo software,

and a bootable version of Linux to facilitate hands-on learning and help you implement your new skills. Security technology continues to evolve, and yet not a week goes by without news of a new security breach or a new exploit being released. The Network Security Test Lab is the ultimate guide when you are on the front lines of defense, providing the most up-to-date methods of thwarting would-be attackers. Get acquainted with your hardware, gear, and test platform. Learn how attackers penetrate existing security systems. Detect malicious activity and build effective defenses. Investigate and analyze attacks to inform defense strategy. The Network Security Test Lab is your complete, essential guide.

This complete new guide to auditing network security is an indispensable resource for security, network, and IT professionals, and for the consultants and technology partners who serve them. Cisco network security expert Chris Jackson begins with a thorough overview of the auditing process, including coverage of the latest regulations, compliance issues, and industry best practices. The author then demonstrates how to segment security architectures into domains and measure security effectiveness through a comprehensive systems approach. Network Security Auditing thoroughly covers the use of both commercial and open source tools to assist in auditing and validating security policy assumptions. The book also introduces leading IT governance frameworks such as COBIT, ITIL, and ISO 17799/27001, explaining their values, usages, and effective integrations with Cisco security products.

Provides information on advanced network testing strategies, covering such topics as detecting vulnerabilities; finding hidden hosts using DNS, WINS, and Net BIOS; war dialing and war driving; and spam and e-mail abuses.

Network and System Security provides focused coverage of network and system security technologies. It explores practical solutions to a wide range of network and systems security issues. Chapters are authored by leading experts in the field and address the immediate and long-term challenges in the authors' respective areas of expertise. Coverage includes building a secure organization, cryptography, system intrusion, UNIX and Linux security, Internet security, intranet security, LAN security; wireless network security, cellular network security, RFID security, and more. Chapters contributed by leaders in the field covering foundational and practical aspects of system and network security, providing a new level of technical expertise not found elsewhere Comprehensive and updated coverage of the subject area allows the reader to put current technologies to work Presents methods of analysis and problem solving techniques, enhancing the reader's grasp of the material and ability to implement practical solutions

A thorough handbook on network risk assessment methodologies furnishes step-by-step training on how to assess the security of one's network computer system, covering everything from paperwork to penetration testing and ethical hacking, along with a Web site that includes access to helpful tools, checklists, and templates. Original.

(Intermediate)

The Definitive Insider's Guide to Auditing Software Security This is one of the most detailed, sophisticated, and useful guides to software security auditing ever written. The authors are leading security consultants and researchers who have personally uncovered vulnerabilities in applications ranging from sendmail to Microsoft Exchange, Check Point VPN to Internet Explorer. Drawing on their extraordinary experience, they introduce a start-to-finish methodology for "ripping apart" applications to reveal even the most subtle and well-hidden security flaws. The Art of Software Security Assessment covers the full spectrum of software vulnerabilities in both UNIX/Linux and Windows environments. It demonstrates how to audit security in applications of all sizes and functions, including network and Web software.

Moreover, it teaches using extensive examples of real code drawn from past flaws in many of the industry's highest-profile applications. Coverage includes

- Code auditing: theory, practice, proven methodologies, and secrets of the trade
- Bridging the gap between secure software design and post-implementation review
- Performing architectural assessment: design review, threat modeling, and operational review
- Identifying vulnerabilities related to memory management, data types, and malformed data
- UNIX/Linux assessment: privileges, files, and processes
- Windows-specific issues, including objects and the filesystem
- Auditing interprocess communication, synchronization, and state
- Evaluating network software: IP stacks, firewalls, and common application protocols
- Auditing Web applications and technologies

This is the only computer book to focus completely on infrastructure security: network devices, protocols and architectures. It offers unique coverage of network design so administrators

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understand how they should design and protect their enterprises. Network security publishing has boomed in the last several years with a proliferation of materials that focus on various elements of the enterprise. \* This is the only computer book to focus completely on infrastructure security: network devices, protocols and architectures \* It offers unique coverage of network design so administrators understand how they should design and protect their enterprises \* Helps provide real practical solutions and not just background theory Implement information security effectively as per your organization's needs. About This Book Learn to build your own information security framework, the best fit for your organization Build on the concepts of threat modeling, incidence response, and security analysis Practical use cases and best practices for information security Who This Book Is For This book is for security analysts and professionals who deal with security mechanisms in an organization. If you are looking for an end to end guide on information security and risk analysis with no prior knowledge of this domain, then this book is for you. What You Will Learn Develop your own information security framework Build your incident response mechanism Discover cloud security considerations Get to know the system development life cycle Get your security operation center up and running Know the various security testing types Balance security as per your business needs Implement information security best practices In Detail Having an information security mechanism is one of the most crucial factors for any organization. Important assets of organization demand a proper risk management and threat model for security, and so information security concepts are gaining a lot of traction. This book starts with the concept of information security and shows you why it's important. It then moves on to modules such as threat modeling, risk management, and mitigation. It also covers the

concepts of incident response systems, information rights management, and more. Moving on, it guides you to build your own information security framework as the best fit for your organization. Toward the end, you'll discover some best practices that can be implemented to make your security framework strong. By the end of this book, you will be well-versed with all the factors involved in information security, which will help you build a security framework that is a perfect fit your organization's requirements. Style and approach This book takes a practical approach, walking you through information security fundamentals, along with information security best practices.

Build a resilient network and prevent advanced cyber attacks and breaches Key Features Explore modern cybersecurity techniques to protect your networks from ever-evolving cyber threats Prevent cyber attacks by using robust cybersecurity strategies Unlock the secrets of network security Book Description With advanced cyber attacks severely impacting industry giants and the constantly evolving threat landscape, organizations are adopting complex systems to maintain robust and secure environments. Network Security Strategies will help you get well-versed with the tools and techniques required to protect any network environment against modern cyber threats. You'll understand how to identify security vulnerabilities across the network and how to effectively use a variety of network security techniques and platforms. Next, the book will show you how to design a robust network that provides top-notch security to protect against traditional and new evolving attacks. With the help of detailed solutions and explanations, you'll be able to monitor networks skillfully and identify potential risks. Finally, the book will cover topics relating to thought leadership and the management aspects of network security. By the end of this network security book, you'll be well-versed in defending your



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network from threats and be able to consistently maintain operational efficiency, security, and privacy in your environment. What you will learn Understand network security essentials, including concepts, mechanisms, and solutions to implement secure networks Get to grips with setting up and threat monitoring cloud and wireless networks Defend your network against emerging cyber threats in 2020 Discover tools, frameworks, and best practices for network penetration testing Understand digital forensics to enhance your network security skills Adopt a proactive approach to stay ahead in network security Who this book is for This book is for anyone looking to explore information security, privacy, malware, and cyber threats. Security experts who want to enhance their skill set will also find this book useful. A prior understanding of cyber threats and information security will help you understand the key concepts covered in the book more effectively.

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 Being able to identify security loopholes has become critical to many businesses. That's where learning network security assessment becomes very important. This book will not only show you how to find out the system vulnerabilities but also help you build a network security threat model.

Special Ops: Internal Network Security Guide is the solution for the impossible 24-hour IT work day. By now, most companies have hardened their perimeters and locked out the "bad guys," but what has been done on the inside? This book attacks the problem of the soft, chewy center in internal networks. We use a two-pronged approach-Tactical and Strategic-to give readers a complete guide to internal penetration testing. Content includes the newest vulnerabilities and exploits, assessment methodologies, host review guides, secure baselines and case studies to bring it all together. We have scoured the Internet and assembled some of the best to function as Technical Specialists and Strategic Specialists. This creates a diversified project removing restrictive corporate boundaries. The unique style of this book will allow it to cover an incredibly broad range of topics in unparalleled detail. Chapters within the book will be written using the same concepts behind software development. Chapters will be treated like functions within programming code, allowing the authors to call on each other's data. These functions will supplement the methodology when specific technologies are examined thus reducing the common redundancies found in other security books. This book is designed to be the "one-

stop shop" for security engineers who want all their information in one place. The technical nature of this may be too much for middle management; however technical managers can use the book to help them understand the challenges faced by the engineers who support their businesses. Ø Unprecedented Team of Security Luminaries. Led by Foundstone Principal Consultant, Erik Pace Birkholz, each of the contributing authors on this book is a recognized superstar in their respective fields. All are highly visible speakers and consultants and their frequent presentations at major industry events such as the Black Hat Briefings and the 29th Annual Computer Security Institute Show in November, 2002 will provide this book with a high-profile launch. Ø The only all-encompassing book on internal network security. Windows 2000, Windows XP, Solaris, Linux and Cisco IOS and their applications are usually running simultaneously in some form on most enterprise networks. Other books deal with these components individually, but no other book provides a comprehensive solution like Special Ops. This book's unique style will give the reader the value of 10 books in 1. This book will take readers from the discovery of vulnerabilities and the creation of the corresponding exploits, through a complete security assessment, all the way through deploying patches against these vulnerabilities to protect their networks. This is unique in that it details both the management and technical skill and tools required to develop an effective vulnerability management system. Business case studies and real world vulnerabilities are used through the book. It starts by introducing the reader to the concepts of a vulnerability management system. Readers will be provided detailed timelines of exploit development, vendors' time to patch, and corporate path installations. Next, the differences between security assessment s and penetration tests will be clearly explained along with best practices for conducting both.

Next, several case studies from different industries will illustrate the effectiveness of varying vulnerability assessment methodologies. The next several chapters will define the steps of a vulnerability assessment including: defining objectives, identifying and classifying assets, defining rules of engagement, scanning hosts, and identifying operating systems and applications. The next several chapters provide detailed instructions and examples for differentiating vulnerabilities from configuration problems, validating vulnerabilities through penetration testing. The last section of the book provides best practices for vulnerability management and remediation. \* Unique coverage detailing both the management and technical skill and tools required to develop an effective vulnerability management system \* Vulnerability management is rated the #2 most pressing concern for security professionals in a poll conducted by Information Security Magazine \* Covers in the detail the vulnerability management lifecycle from discovery through patch.

The Art of Network Penetration Testing is a guide to simulating an internal security breach. You'll take on the role of the attacker and work through every stage of a professional pentest, from information gathering to seizing control of a system and owning the network. Summary Penetration testing is about more than just getting through a perimeter firewall. The biggest security threats are inside the network, where attackers can rampage through sensitive data by exploiting weak access controls and poorly patched software. Designed for up-and-coming security professionals, The Art of Network Penetration Testing teaches you how to take over an enterprise network from the inside. It lays out every stage of an internal security assessment step-by-step,

showing you how to identify weaknesses before a malicious invader can do real damage. Purchase of the print book includes a free eBook in PDF, Kindle, and ePub formats from Manning Publications. About the technology Penetration testers uncover security gaps by attacking networks exactly like malicious intruders do. To become a world-class pentester, you need to master offensive security concepts, leverage a proven methodology, and practice, practice, practice. This book delivers insights from security expert Royce Davis, along with a virtual testing environment you can use to hone your skills. About the book The Art of Network Penetration Testing is a guide to simulating an internal security breach. You'll take on the role of the attacker and work through every stage of a professional pentest, from information gathering to seizing control of a system and owning the network. As you brute force passwords, exploit unpatched services, and elevate network level privileges, you'll learn where the weaknesses are—and how to take advantage of them. What's inside Set up a virtual pentest lab Exploit Windows and Linux network vulnerabilities Establish persistent re-entry to compromised targets Detail your findings in an engagement report About the reader For tech professionals. No security experience required. About the author Royce Davis has orchestrated hundreds of penetration tests, helping to secure many of the largest companies in the world. Table of Contents 1 Network Penetration Testing PHASE 1 - INFORMATION GATHERING 2 Discovering network hosts 3 Discovering network services 4 Discovering network vulnerabilities PHASE 2 - FOCUSED

PENETRATION 5 Attacking vulnerable web services 6 Attacking vulnerable database services 7 Attacking unpatched services PHASE 3 - POST-EXPLOITATION AND PRIVILEGE ESCALATION 8 Windows post-exploitation 9 Linux or UNIX post-exploitation 10 Controlling the entire network PHASE 4 - DOCUMENTATION 11 Post-engagement cleanup 12 Writing a solid pentest deliverable

Here's easy-to-understand book that introduces you to fundamental network security concepts, principles, and terms, while providing you with practical techniques that you can apply on the job. It helps you identify the best type of intrusion detection system for your environment, develop organizational guidelines for passwords, set general computer security policies, and perform a security review and risk assessment .

How secure is your network? The best way to find out is to attack it, using the same tactics attackers employ to identify and exploit weaknesses. With the third edition of this practical book, you'll learn how to perform network-based penetration testing in a structured manner. Security expert Chris McNab demonstrates common vulnerabilities, and the steps you can take to identify them in your environment. System complexity and attack surfaces continue to grow. This book provides a process to help you mitigate risks posed to your network. Each chapter includes a checklist summarizing attacker techniques, along with effective countermeasures you can use immediately. Learn how to effectively test system components, including: Common services such as SSH, FTP, Kerberos, SNMP, and LDAP Microsoft services, including NetBIOS, SMB, RPC, and

RDP SMTP, POP3, and IMAP email services IPsec and PPTP services that provide secure network access TLS protocols and features providing transport security Web server software, including Microsoft IIS, Apache, and Nginx Frameworks including Rails, Django, Microsoft ASP.NET, and PHP Database servers, storage protocols, and distributed key-value stores

This concise, high-end guide shows experienced administrators how to customize and extend popular open source security tools such as Nikto, Ettercap, and Nessus. It also addresses port scanners, packet injectors, network sniffers, and web assessment tools. With the rising cost of data breaches, executives need to understand the basics of cybersecurity so they can make strategic decisions that keep companies out of headlines and legal battles. Although top executives do not make the day-to-day technical decisions related to cybersecurity, they can direct the company from the top down to have a security mindset. As this book explains, executives can build systems and processes that track gaps and security problems while still allowing for innovation and achievement of business objectives. Many of the data breaches occurring today are the result of fundamental security problems, not crafty attacks by insidious malware. The way many companies are moving to cloud environments exacerbates these problems. However, cloud platforms can also help organizations reduce risk if organizations understand how to leverage their benefits. If and when a breach does happen, a company that has the appropriate metrics can more quickly pinpoint and

correct the root cause. Over time, as organizations mature, they can fend off and identify advanced threats more effectively. The book covers cybersecurity fundamentals such as encryption, networking, data breaches, cyber-attacks, malware, viruses, incident handling, governance, risk management, security automation, vendor assessments, and cloud security. **RECOMMENDATION:** As a former senior military leader, I learned early on that my personal expertise of a subject was less important than my ability to ask better questions of the experts. Often, I had no expertise at all but was required to make critical high risk decisions under very tight time constraints. In this book Teri helps us understand the better questions we should be asking about our data, data systems, networks, architecture development, vendors and cybersecurity writ large and why the answers to these questions matter to our organizations bottom line as well as our personal liability. Teri writes in a conversational tone adding personal experiences that bring life and ease of understanding to an otherwise very technical, complex and sometimes overwhelming subject. Each chapter breaks down a critical component that lends to a comprehensive understanding or can be taken individually. I am not steeped in cyber, but Teri's advice and recommendations have proven critical to my own work on Boards of Directors as well as my leadership work with corporate CISOs, cybersecurity teams, and C-Suite executives. In a time-constrained world this is a worthy read. - Stephen A. Clark, Maj Gen, USAF (Ret) **AUTHOR:** Teri Radichel (@teriradichel) is the CEO of 2nd Sight Lab, a cloud and cybersecurity training and



consulting company. She has a Master of Software Engineering, a Master of Information Security Engineering, and over 25 years of technology, security, and business experience. Her certifications include GSE, GXPN, GCIH, GPEN, GCIA, GCPM, GCCC, and GREM. SANS Institute gave her the 2017 Difference Makers Award for cybersecurity innovation. She is on the IANS (Institute for Applied Network Security) faculty and formerly taught and helped with curriculum for cloud security classes at SANS Institute. She is an AWS hero and runs the Seattle AWS Architects and Engineers Meetup which has over 3000 members. Teri was on the original Capital One cloud team helping with cloud engineering, operations, and security operations. She wrote a paper called Balancing Security and Innovation With Event Driven Automation based on lessons learned from that experience. It explains how companies can leverage automation to improve cybersecurity. She went on to help a security vendor move a product to AWS as a cloud architect and later Director of SaaS Engineering, where she led a team that implemented the concepts described in her paper. She now helps companies around the world with cloud and cyber security as a sought-after speaker, trainer, security researcher, and pentester.

The perimeter defenses guarding your network perhaps are not as secure as you think. Hosts behind the firewall have no defenses of their own, so when a host in the "trusted" zone is breached, access to your data center is not far behind. That's an all-too-familiar scenario today. With this practical book, you'll learn the principles behind zero trust

architecture, along with details necessary to implement it. The Zero Trust Model treats all hosts as if they're internet-facing, and considers the entire network to be compromised and hostile. By taking this approach, you'll focus on building strong authentication, authorization, and encryption throughout, while providing compartmentalized access and better operational agility. Understand how perimeter-based defenses have evolved to become the broken model we use today Explore two case studies of zero trust in production networks on the client side (Google) and on the server side (PagerDuty) Get example configuration for open source tools that you can use to build a zero trust network Learn how to migrate from a perimeter-based network to a zero trust network in production

Despite the increase of high-profile hacks, record-breaking data leaks, and ransomware attacks, many organizations don't have the budget to establish or outsource an information security (InfoSec) program, forcing them to learn on the job. For companies obliged to improvise, this pragmatic guide provides a security-101 handbook with steps, tools, processes, and ideas to help you drive maximum-security improvement at little or no cost. Each chapter in this book provides step-by-step instructions for dealing with a specific issue, including breaches and disasters, compliance, network infrastructure and password management, vulnerability scanning, and penetration testing, among others. Network engineers, system administrators, and security professionals will learn tools and techniques to help improve security in sensible, manageable chunks. Learn

fundamentals of starting or redesigning an InfoSec program Create a base set of policies, standards, and procedures Plan and design incident response, disaster recovery, compliance, and physical security Bolster Microsoft and Unix systems, network infrastructure, and password management Use segmentation practices and designs to compartmentalize your network Explore automated process and tools for vulnerability management Securely develop code to reduce exploitable errors Understand basic penetration testing concepts through purple teaming Delve into IDS, IPS, SOC, logging, and monitoring

Computers at Risk presents a comprehensive agenda for developing nationwide policies and practices for computer security. Specific recommendations are provided for industry and for government agencies engaged in computer security activities. The volume also outlines problems and opportunities in computer security research, recommends ways to improve the research infrastructure, and suggests topics for investigators. The book explores the diversity of the field, the need to engineer countermeasures based on speculation of what experts think computer attackers may do next, why the technology community has failed to respond to the need for enhanced security systems, how innovators could be encouraged to bring more options to the marketplace, and balancing the importance of security against the right of privacy.

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