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Cybersecurity - Attack and Defense Strategies
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Cyberspace and Cybersecurity

DEVIN CARNEY

What Every Engineer Should Know About Cyber Security and Digital Forensics Nova Science Publishers
Drawing upon a wealth of experience from academia, industry, and government service, Cyber Security Policy Guidebook details and dissects, in simple language, current organizational cyber security policy issues on a global scale—taking great care to educate readers on the history and current approaches to the security of cyberspace. It includes thorough descriptions—as well as the pros and cons—of a plethora of issues, and documents policy alternatives for the sake of clarity with respect to policy alone. The Guidebook also delves into organizational implementation issues, and equips readers with descriptions of the positive and negative

impact of specific policy choices. Inside are detailed chapters that: Explain what is meant by cyber security and cyber security policy Discuss the process by which cyber security policy goals are set Educate the reader on decision-making processes related to cyber security Describe a new framework and taxonomy for explaining cyber security policy issues Show how the U.S. government is dealing with cyber security policy issues With a glossary that puts cyber security language in layman's terms—and diagrams that help explain complex topics—Cyber Security Policy Guidebook gives students, scholars, and technical decision-makers the necessary knowledge to make informed decisions on cyber security policy.

Cybersecurity in Israel IGI Global

There is extensive government research on cyber security science, technology, and applications. Much of this research will be transferred to the private sector to aid in product development and the improvement of protective measures against cyber warfare attacks. This research is not widely publicized. There are initiatives to coordinate these research efforts but there has never been a published comprehensive analysis of the content and direction of the numerous research programs. This book provides private sector developers, investors, and security planners with insight into the direction of the U.S. Government

research efforts on cybersecurity.

A Guide to the National Initiative for Cybersecurity Education (NICE) Cybersecurity Workforce Framework (2.0)

Auerbach Publications

This book focuses on the vulnerabilities of state and local services to cyber-threats and suggests possible protective action that might be taken against such threats. Cyber-threats to U.S. critical infrastructure are of growing concern to policymakers, managers and consumers. Information and communications technology (ICT) is ubiquitous and many ICT devices and other components are interdependent; therefore, disruption of one component may have a negative, cascading effect on others. Cyber-attacks might include denial of service, theft or manipulation of data. Damage to critical infrastructure through a cyber-based attack could have a significant impact on the national security, the economy, and the livelihood and safety of many individual citizens. Traditionally cyber security has generally been viewed as being focused on higher level threats such as those against the internet or the Federal government. Little attention has been paid to cyber-security at the state and local level. However, these governmental units play a critical role in providing services to local residents and consequently are highly vulnerable to cyber-threats. The failure of

these services, such as waste water collection and water supply, transportation, public safety, utility services, and communication services, would pose a great threat to the public. Featuring contributions from leading experts in the field, this volume is intended for state and local government officials and managers, state and Federal officials, academics, and public policy specialists.
The Cybersecurity Manager's Guide Springer
Protect your business and family against cyber attacks Cybersecurity is the protection against the unauthorized or criminal use of electronic data and the practice of ensuring the integrity, confidentiality, and availability of information. Being "cyber-secure" means that a person or organization has both protected itself against attacks by cyber criminals and other online scoundrels, and ensured that it has the ability to recover if it is attacked. If keeping your business or your family safe from cybersecurity threats is on your to-do list, Cybersecurity For Dummies will introduce you to the basics of becoming cyber-secure! You'll learn what threats exist, and how to identify, protect against, detect, and respond to these threats, as well as how to recover if you have been breached! The who and why of cybersecurity threats Basic cybersecurity concepts What to do to be cyber-secure Cybersecurity careers What to think about to stay cybersecure

in the future Now is the time to identify vulnerabilities that may make you a victim of cyber-crime — and to defend yourself before it is too late.

The Information Systems Security Officer's Guide

CRC Press

Produced by a team of 14 cybersecurity experts from five countries, Cybersecurity in the Digital Age is ideally structured to help everyone—from the novice to the experienced professional—understand and apply both the strategic concepts as well as the tools, tactics, and techniques of cybersecurity. Among the vital areas covered by this team of highly regarded experts are: Cybersecurity for the C-suite and Board of Directors Cybersecurity risk management framework comparisons Cybersecurity identity and access management – tools & techniques Vulnerability assessment and penetration testing – tools & best practices Monitoring, detection, and response (MDR) – tools & best practices Cybersecurity in the financial services industry Cybersecurity in the healthcare services industry Cybersecurity for public sector and government contractors ISO 27001 certification – lessons learned and best practices With Cybersecurity in the Digital Age, you immediately access the tools and best practices you need to manage: Threat intelligence Cyber vulnerability Penetration testing Risk management Monitoring defense Response strategies And

more! Are you prepared to defend against a cyber attack? Based entirely on real-world experience, and intended to empower you with the practical resources you need today, Cybersecurity in the Digital Age delivers: Process diagrams Charts Time-saving tables Relevant figures Lists of key actions and best practices And more! The expert authors of Cybersecurity in the Digital Age have held positions as Chief Information Officer, Chief Information Technology Risk Officer, Chief Information Security Officer, Data Privacy Officer, Chief Compliance Officer, and Chief Operating Officer. Together, they deliver proven practical guidance you can immediately implement at the highest levels.

Cybersecurity in the Digital Age Packt Publishing Ltd

Cyber Security features articles from the WileyHandbook of Science and Technology for Homeland Security coveringtopics related to cyber security metrics and measure and related technologies that meet security needs.Specific applications to web services, the banking and the financesector, and industrial process control systems are discussed.

Cybersecurity CRC Press

Computers and computer networking provide major benefits to modern society, yet the growing costs of malicious cyber activities and cybersecurity itself diminish these benefits. Advances in cybersecurity are urgently needed to

preserve the Internets growing social and economic benefits by thwarting adversaries and strengthening public trust of cyber systems. On December 18, 2014 the President signed into law the Cybersecurity Enhancement Act of 2014. This law requires the National Science and Technology Council (NSTC) and the Networking and Information Technology Research and Development (NITRD) Program to develop and maintain a cybersecurity research and development (R&D) strategic plan (the Plan) using an assessment of risk to guide the overall direction of Federally-funded cybersecurity R&D. This plan satisfies that requirement and establishes the direction for the Federal R&D enterprise in cybersecurity science and technology (S&T) to preserve and expand the Internets wide-ranging benefits. This book reviews the strategy and implementation for research and development of federal cybersecurity.

Protecting Our Future

Packt Publishing Ltd

CYBERSECURITY: THE ESSENTIAL BODY OF KNOWLEDGE provides a comprehensive, trustworthy framework of practices for assuring information security. This book is organized to help readers understand how the various roles and functions within cybersecurity practice can be combined and leveraged to produce a secure organization. In this unique book,

concepts are not presented as stagnant theory; instead, the content is interwoven in a real world adventure story that runs throughout. In the story, a fictional company experiences numerous pitfalls of cyber security and the reader is immersed in the everyday practice of securing the company through various characters' efforts. This approach grabs learners' attention and assists them in visualizing the application of the content to real-world issues that they will face in their professional life. Derived from the Department of Homeland Security's Essential Body of Knowledge (EBK) for IT Security, this book is an indispensable resource dedicated to understanding the framework, roles, and competencies involved with information security. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Cyber Security and Global Information Assurance: Threat Analysis and Response Solutions Elsevier Cybersecurity is an active and important area of study, practice, and research today. It spans various fields including cyber terrorism, cyber warfare, electronic civil disobedience, governance and security, hacking and hacktivism, information management and security, internet and controls, law enforcement, national security, privacy, protection of society and the rights of the

individual, social engineering, terrorism, and more. This book compiles original and innovative findings on issues relating to cybersecurity and threats. This comprehensive reference explores the developments, methods, approaches, and surveys of cyber threats and security in a wide variety of fields and endeavors. It specifically focuses on cyber threats, cyberattacks, cyber techniques, artificial intelligence, cyber threat actors, and other related cyber issues. The book provides researchers, practitioners, academicians, military professionals, government officials, and other industry professionals with an in-depth discussion of the state-of-the-art advances in the field of cybersecurity. Cybersecurity: The Essential Body Of Knowledge Legend Press Updated and revised edition of the bestselling guide to developing defense strategies against the latest threats to cybersecurity Key FeaturesCovers the latest security threats and defense strategies for 2020Introduces techniques and skillsets required to conduct threat hunting and deal with a system breachProvides new information on Cloud Security Posture Management, Microsoft Azure Threat Protection, Zero Trust Network strategies, Nation State attacks, the use of Azure Sentinel as a cloud-based SIEM for logging and investigation, and much moreBook Description Cybersecurity – Attack

and Defense Strategies, Second Edition is a completely revised new edition of the bestselling book, covering the very latest security threats and defense mechanisms including a detailed overview of Cloud Security Posture Management (CSPM) and an assessment of the current threat landscape, with additional focus on new IoT threats and cryptomining. Cybersecurity starts with the basics that organizations need to know to maintain a secure posture against outside threat and design a robust cybersecurity program. It takes you into the mindset of a Threat Actor to help you better understand the motivation and the steps of performing an actual attack – the Cybersecurity kill chain. You will gain hands-on experience in implementing cybersecurity using new techniques in reconnaissance and chasing a user's identity that will enable you to discover how a system is compromised, and identify and then exploit the vulnerabilities in your own system. This book also focuses on defense strategies to enhance the security of a system. You will also discover in-depth tools, including Azure Sentinel, to ensure there are security controls in each network layer, and how to carry out the recovery process of a compromised system. What you will learnThe importance of having a solid foundation for your security postureUse cyber security kill chain to understand the attack

strategyBoost your organization's cyber resilience by improving your security policies, hardening your network, implementing active sensors, and leveraging threat intelligenceUtilize the latest defense tools, including Azure Sentinel and Zero Trust Network strategyIdentify different types of cyberattacks, such as SQL injection, malware and social engineering threats such as phishing emailsPerform an incident investigation using Azure Security Center and Azure SentinelGet an in-depth understanding of the disaster recovery processUnderstand how to consistently monitor security and implement a vulnerability management strategy for on-premises and hybrid cloudLearn how to perform log analysis using the cloud to identify suspicious activities, including logs from Amazon Web Services and AzureWho this book is for For the IT professional venturing into the IT security domain, IT pentesters, security consultants, or those looking to perform ethical hacking. Prior knowledge of penetration testing is beneficial.

Assessing and Insuring Cybersecurity Risk John Wiley & Sons

Remote workforces using VPNs, Cloud-based infrastructure and critical systems, and a proliferation in phishing attacks and fraudulent websites are all raising the level of risk for every company. It all comes down to just one thing that is at stake: how to gauge a company’s level of cyber risk and the

tolerance level for this risk. Loosely put, this translates to how much level of uncertainty an organization can tolerate before the uncertainty starts to negatively affect mission critical flows and business processes. Trying to gauge this can be a huge and nebulous task for any IT security team to accomplish. Making this task so difficult are the many frameworks and models that can be utilized. It is very confusing to know which one to utilize in order to achieve a high level of security. Complicating this situation further is that both quantitative and qualitative variables must be taken into consideration and deployed into a cyber risk model. Assessing and Insuring Cybersecurity Risk provides an insight into how to gauge an organization’s particular level of cyber risk, and what would be deemed appropriate for the organization’s risk tolerance. In addition to computing the level of cyber risk, an IT security team has to determine the appropriate controls that are needed to mitigate cyber risk. Also to be considered are the standards and best practices that the IT security team has to implement for complying with such regulations and mandates as CCPA, GDPR, and HIPAA. To help a security team to comprehensively assess an organization’s cyber risk level and how to insure against it, the book covers: The mechanics of cyber risk Risk controls that need to be put into

place The issues and benefits of cybersecurity risk insurance policies GDPR, CCPA, and the CMMC Gauging how much cyber risk and uncertainty an organization can tolerate is a complex and complicated task, and this book helps to make it more understandable and manageable.

Making Sense of Cybersecurity Springer If you're a leader in Cybersecurity, then you know it often seems like no one cares about--or understands--information security. Infosec professionals struggle to integrate security into their companies. Most are under resourced. Most are at odds with their organizations. 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 infosec leader Todd Barnum upends the assumptions security professionals take for granted. CISOs, CSOs, CIOs, and IT security professionals will learn a simple seven-step process that will help you build a new program or improve your current program. Build better relationships with IT and other teams within your 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 progress with two key metrics: your staff's ability to recognize and report security policy violations and phishing emails.

Federal Cybersecurity
Simon and Schuster
In today’s digital transformation environments, a rigorous cybersecurity approach to effective risk management — including contingency planning, outlining immediate actions, preparing post-breach responses — is central to defending organizations’ interconnected computer systems, networks, and infrastructure resources from malicious cyber-attacks. Specifically, cybersecurity technologies, processes, and practices need to be generalized and applied to intrusion detection and prevention measures. This entails analyzing profiles of cyber-attackers and building cyber-attack models for behavior simulation that can effectively counter such attacks. This comprehensive volume aims to cover all essential aspects of cybersecurity in digital transformation and to provide a framework for considering the many objectives and requirements involved. In addition to introducing theoretical foundations, the work also offers practical techniques for defending against malicious cybercriminals. Topics and features: Explores cybersecurity’s impact on the dynamics of interconnected, complex cyber- and physical systems, infrastructure

resources, and networks Provides numerous examples of applications and best practices Considers methods that organizations can use to assess their cybersecurity awareness and/or strategy Describes anomaly intrusion detection, a key tool in thwarting both malware and theft (whether by insiders or external parties) of corporate data Addresses cyber-attacker profiles, cyber-attack models and simulation, cybersecurity ontology, access-control mechanisms, and policies for handling ransomware attacks Discusses the NIST Cybersecurity Framework, MITRE Adversarial Tactics, Techniques and Common Knowledge, CIS Critical Security Controls, and the ISA/IEC 62442 Cybersecurity Standard Gathering all the relevant information, this practical guide is eminently suitable as a self-study resource for engineers, scientists, computer scientists, and chief information officers. Further, with its many examples of best practices, it can serve as an excellent text for graduate-level courses and research into cybersecurity. Dietmar P. F. Möller, a retired full professor, is affiliated with the Institute for Mathematics at Clausthal University of Technology, Germany. He was an author of several other Springer titles, including Guide to Automotive Connectivity and Cybersecurity.

Cyber Security Policy Guidebook CRC Press A jargon-busting guide to

the key concepts, terminology, and technologies of cybersecurity. Perfect for anyone planning or implementing a security strategy. In Making Sense of Cybersecurity you will learn how to: Develop and incrementally improve your own cybersecurity strategy Detect rogue WiFi networks and safely browse on public WiFi Protect against physical attacks utilizing USB devices or building access cards Use the OODA loop and a hacker mindset to plan out your own attacks Connect to and browse the Dark Web Apply threat models to build, measure, and improve your defenses Respond to a detected cyber attack and work through a security breach Go behind the headlines of famous attacks and learn lessons from real-world breaches that author Tom Kranz has personally helped to clean up. Making Sense of Cybersecurity is full of clear-headed advice and examples that will help you identify risks in your organization and choose the right path to apply the important security concepts. You'll learn the three pillars of a successful security strategy and how to create and apply threat models that will iteratively improve your organization's readiness. Foreword by Naz Markuta. About the technology Someone is attacking your business right now. Understanding the threats, weaknesses, and attacks gives you the power to make better decisions about how to secure your systems. This book guides you through

the concepts and basic skills you need to make sense of cybersecurity. About the book Making Sense of Cybersecurity is a crystal-clear overview of common cyber threats written for business and technical readers with no background in security. You'll explore the core ideas of cybersecurity so you can effectively talk shop, plan a security strategy, and spot your organization's own weak points. By examining real-world security examples, you'll learn how the bad guys think and how to handle live threats. What's inside Develop and improve your cybersecurity strategy Apply threat models to build, measure, and improve your defenses Detect rogue WiFi networks and safely browse on public WiFi Protect against physical attacks About the reader For anyone who needs to understand computer security. No IT or cybersecurity experience required. About the author Tom Kranz is a security consultant with over 30 years of experience in cybersecurity and IT. Table of Contents 1 Cybersecurity and hackers 2 Cybersecurity: Everyone's problem PART 1 3 Understanding hackers 4 External attacks 5 Tricking our way in: Social engineerin 6 Internal attacks 7 The Dark Web: Where is stolen data traded? PART 2 8 Understanding risk 9 Testing your systems 10 Inside the security operations center 11 Protecting the people 12 After the hack

Advances in Cyber

Security Aspen Publishers Start your Cybersecurity career with expert advice on how to get certified, find your first job, and progress Purchase of the print or Kindle book includes a free eBook in PDF format Key Features Learn how to follow your desired career path that results in a well-paid, rewarding job in cybersecurity Explore expert tips relating to career growth and certification options Access informative content from a panel of experienced cybersecurity experts Book Description Cybersecurity is an emerging career trend and will continue to become increasingly important. Despite the lucrative pay and significant career growth opportunities, many people are unsure of how to get started. This book is designed by leading industry experts to help you enter the world of cybersecurity with confidence, covering everything from gaining the right certification to tips and tools for finding your first job. The book starts by helping you gain a foundational understanding of cybersecurity, covering cyber law, cyber policy, and frameworks. Next, you'll focus on how to choose the career field best suited to you from options such as security operations, penetration testing, and risk analysis. The book also guides you through the different certification options as well as the pros and cons of a formal college education versus formal certificate courses. Later, you'll discover the

importance of defining and understanding your brand. Finally, you'll get up to speed with different career paths and learning opportunities. By the end of this cyber book, you will have gained the knowledge you need to clearly define your career path and develop goals relating to career progression. What you will learn Gain an understanding of cybersecurity essentials, including the different frameworks and laws, and specialties Find out how to land your first job in the cybersecurity industry Understand the difference between college education and certificate courses Build goals and timelines to encourage a work/life balance while delivering value in your job Understand the different types of cybersecurity jobs available and what it means to be entry-level Build affordable, practical labs to develop your technical skills Discover how to set goals and maintain momentum after landing your first cybersecurity job Who this book is for This book is for college graduates, military veterans transitioning from active service, individuals looking to make a mid-career switch, and aspiring IT professionals. Anyone who considers cybersecurity as a potential career field but feels intimidated, overwhelmed, or unsure of where to get started will also find this book useful. No experience or cybersecurity knowledge is needed to get started. *Digital Defense* Fordham Univ Press

"There is extensive government research on cyber security science, technology, and applications. Much of this research will be transferred to the private sector to aid in product development and the improvement of protective measures against cyber warfare attacks. This research is not widely publicized. There are initiatives to coordinate these research efforts but there has never been a published comprehensive analysis of the content and direction of the numerous research programs. This book provides private sector developers, investors, and security planners with insight into the direction of the U.S. Government research efforts on cybersecurity."--Provided by publisher.

Cybersecurity For Dummies CRC Press

Drs. Pelton and Singh warn of the increasing risks of cybercrime and lay out a series of commonsense precautions to guard against individual security breaches. This guide clearly explains the technology at issue, the points of weakness and the best ways to proactively monitor and maintain the integrity of individual networks. Covering both the most common personal attacks of identity fraud, phishing, malware and breach of access as well as the larger threats against companies and governmental systems, the authors explain the vulnerabilities of the internet age. As more and more of life's transactions take place online, the

average computer user and society at large have a lot to lose. All users can take steps to secure their information. Cybercrime is so subtle and hidden, people can ignore the threat until it is too late. Yet today about every three seconds a person is hit by some form of cyber attack out of the blue. Locking the “cyber-barn door” after a hacker has struck is way too late. Cyber security, cyber crime and cyber terrorism may seem to be intellectual crimes that don't really touch the average person, but the threat is real. Demystifying them is the most important step and this accessible explanation covers all the bases.

Security Architecture – How & Why BoD – Books on Demand

As you read this your computer is in jeopardy of being hacked and your identity being stolen. How can you protect yourself? The world's foremost cyber security experts from FBI Director Robert S. Mueller, III to Special Assistant to the President Howard A. Schmidt, share critical practical knowledge on how the cyberspace ecosystem is structured, how it functions, and what we can do to protect it and ourselves from attack

Building an Effective Cybersecurity Program, 2nd Edition

CRC Press

The World Economic Forum regards the threat of cyber attack as one of the top five global risks confronting nations of the world today. Cyber attacks are increasingly targeting the core

functions of the economies in nations throughout the world. The threat to attack critical infrastructures, disrupt critical services, and induce a wide range of dam

Cyber-Physical Security

Springer Nature

The first edition, published November 2016, was targeted at the directors and senior managers of SMEs and larger organisations that have not yet paid sufficient attention to cybersecurity and possibly did not appreciate the scale or severity of permanent risk to their businesses. The book was an important wake-up call and primer and proved a significant success, including wide global reach and diverse additional use of the chapter content through media outlets. The new edition, targeted at a similar readership, will provide more detailed information about the cybersecurity environment and specific threats. It will offer advice on the resources available to build defences and the selection of tools and managed services to achieve enhanced security at acceptable cost. A content sharing partnership has been agreed with major technology provider Alien Vault and the 2017 edition will be a larger book of approximately 250 pages.