Applied Cyber Security And The Smart Grid Implementing Security Controls Into The Modern Power Infrastructure

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Applied Cyber Security And The Smart Grid Implementing Security Controls Into The Modern Power Infrastructure ***2022-04-02***

MACIAS KERR

Cyber-security of SCADA and Other Industrial Control Systems
Springer Science & Business Media
Applied Cyber-Physical Systems presents the latest methods and technologies in the area of cyber-physical systems including medical and biological applications. Cyber-physical systems (CPS) integrate computing and communication capabilities by monitoring, and controlling the physical systems via embedded hardware and computers. This book brings together unique contributions from renowned experts on cyber-physical systems research and education with applications. It also addresses the major challenges in CPS, and then provides a resolution with various diverse applications as examples. Advanced-level students and researchers focused on computer science, engineering and biomedicine will find this to be a useful secondary text book or reference, as will professionals working in this field.
Implementing Security Controls into the Modern Power

Infrastructure CRC Press
In this book, you are going to learn what it takes to manage risk in your organization specifically risk that has to do with information with information systems, with data, and so on. You are going to learn about a wide variety of topics. You are going to learn about assets and what they are, what are the elements of risks, risk analysis, risk assessments, managing and monitoring risk and more. CLICK BUY NOW TO GET STARTED TODAY!You will learn: -How to Understand Asset Value-How to place Value on the Company's Information Assets-How to Classify Information Assets-Information Asset and Risk Ownership-Understanding Information Asset and Risk Ownership-Assigning Information Asset Value-How to Assign Value to our company's Assets-How to Determine Legal Requirements and Risk-Understanding FISMA, NIST, HIPAA and PCI-DSS-How to Describe Risk-Risk Management Scenario-Risk Scenarios-Risk Assessments-How to Reassess Risk-Risk Assessments Scenario-How to Implement Risk Response-Risk Response Option Basics-How to Analyse Cost & Benefit-How to Prioritize Risk Response Options-How to Respond to Risk-Introduction to Control Types-Control Function Basics-Understanding Security Controls-Control Standards Assessment, and Analysis-Understanding Risk Factors and Risk Metrics-How to Develop and Use KPIs-How to Monitor Risk Factors-Understanding Risk Indicators-Reporting Compliance BasicsCLICK BUY NOW TO GET STARTED TODAY!
Applied Incident Response IGI Global
Presents various challenges faced by security policy makers and risk analysts, and mathematical approaches that inform homeland security policy development and decision support

Compiled by a group of highly qualified editors, this book provides a clear connection between risk science and homeland security policy making and includes top-notch contributions that uniquely highlight the role of risk analysis for informing homeland security policy decisions. Featuring discussions on various challenges faced in homeland security risk analysis, the book seamlessly divides the subject of risk analysis for homeland security into manageable chapters, which are organized by the concept of risk-informed decisions, methodology for applying risk analysis, and relevant examples and case studies. Applied Risk Analysis for Guiding Homeland Security Policy and Decisions offers an enlightening overview of risk analysis methods for homeland security. For instance, it presents readers with an exploration of radiological and nuclear risk assessment, along with analysis of uncertainties in radiological and nuclear pathways. It covers the advances in risk analysis for border security, as well as for cyber security. Other topics covered include: strengthening points of entry; systems modeling for rapid containment and casualty mitigation; and disaster preparedness and critical infrastructure resilience. Highlights how risk analysis helps in the decision-making process for homeland security policy Presents specific examples that detail how various risk analysis methods provide decision support for homeland security policy makers and risk analysts Describes numerous case studies from academic, government, and industrial perspectives that apply risk analysis methods for addressing challenges within the U.S. Department of Homeland Security (DHS) Offers detailed information regarding each of the five DHS missions: prevent terrorism and enhance security; secure and

manage our borders; enforce and administer our immigration laws; safeguard and secure cyberspace; and strengthen national preparedness and resilience Discusses the various approaches and challenges faced in homeland risk analysis and identifies improvements and methodological advances that influenced DHS to adopt an increasingly risk-informed basis for decision-making Written by top educators and professionals who clearly illustrate the link between risk science and homeland security policy making Applied Risk Analysis for Guiding Homeland Security Policy and Decisions is an excellent textbook and/or supplement for upper-undergraduate and graduate-level courses related to homeland security risk analysis. It will also be an extremely beneficial resource and reference for homeland security policy analysts, risk analysts, and policymakers from private and public sectors, as well as researchers, academics, and practitioners who utilize security risk analysis methods.

Threats, Countermeasures, and Advances in Applied Information Security IGI Global

"This book addresses the fact that managing information security program while effectively managing risks has never been so critical, discussing issues such as emerging threats and countermeasures for effective management of information security in organizations"--Provided by publisher.

Principles of Information Security Syngress

Handling risk is one of the chief goals of organizations, mainly in the InfoSec program. Risk management delivers the vehicle for the balance between compliance and security. Businesses need to defend their data by launching and upholding an operational risk management platform. Organizations must considered their environment, resources, threats, and sensitivity of their data. In this book, you will learn the fundamentals of risk management with security, and how to deploy the RMF to efficiently deal with compliance and risk within your business.CLICK BUY NOW TO GET STARTED TODAY!You will learn: -Compliance, Security, Risk-How to be Compliant and Secure-Introduction to Risk Management Framework-Introduction to the NIST Special Publications-Introduction to the RMF Publications-Understanding the Cybersecurity Framework-Comprehending the CSF Construction-Comprehending the CSF Tiers and Profiles-Essential RMF Concepts-Understanding Risk Tiers-Understanding Systems and Authorization-Introduction to Roles and Responsibilities-Comprehending Security and Privacy in the RMF-How to prepare for RMF-How to prepare for Organization-level Tasks-How to prepare for System-level Tasks-How to Categorize Information Systems-Comprehending RMF Categorization Tasks-Understanding Categorizing Systems-How to Select Security Controls-How to Select Controls and Baselines-How to Implement Security Controls-How to Implement Controls-How to Assess Security Controls-Understanding RMF Assess Tasks-How to Assess Systems-How to Authorize Information Systems-How to Monitor Security Controls-How to Monitor Tasks-How to Monitor SystemsCLICK BUY NOW TO GET STARTED TODAY!

Computers at Risk Springer Science & Business Media

Security and law against the backdrop of technological development.00Few people doubt the importance of the security of a state, its society and its organizations, institutions and individuals, as an unconditional basis for personal and societal flourishing. Equally, few people would deny being concerned by

the often occurring conflicts between security and other values and fundamental freedoms and rights, such as individual autonomy or privacy for example. While the search for a balance between these public values is far from new, ICT and data-driven technologies have undoubtedly given it a new impulse. These technologies have a complicated and multifarious relationship with security.00This book combines theoretical discussions of the concepts at stake and case studies following the relevant developments of ICT and data-driven technologies.

Ten Strategies of a World-Class Cybersecurity Operations Center Cengage Learning

Research Methods for Cyber Security teaches scientific methods for generating impactful knowledge, validating theories, and adding critical rigor to the cyber security field. This book shows how to develop a research plan, beginning by starting research with a question, then offers an introduction to the broad range of useful research methods for cyber security research: observational, mathematical, experimental, and applied. Each research method chapter concludes with recommended outlines and suggested templates for submission to peer reviewed venues. This book concludes with information on cross-cutting issues within cyber security research. Cyber security research contends with numerous unique issues, such as an extremely fast environment evolution, adversarial behavior, and the merging of natural and social science phenomena. Research Methods for Cyber Security addresses these concerns and much more by teaching readers not only the process of science in the context of cyber security research, but providing assistance in execution of research as well. Presents research methods from a cyber security science perspective Catalyzes the rigorous research necessary to propel the cyber security field forward Provides a guided method selection for the type of research being conducted, presented in the context of real-world usage

Safe Computing in the Information Age John Wiley & Sons

This is a monumental reference for the theory and practice of computer security. Comprehensive in scope, this text covers applied and practical elements, theory, and the reasons for the design of applications and security techniques. It covers both the management and the engineering issues of computer security. It provides excellent examples of ideas and mechanisms that demonstrate how disparate techniques and principles are combined in widely-used systems. This book is acclaimed for its scope, clear and lucid writing, and its combination of formal and theoretical aspects with real systems, technologies, techniques, and policies.

How to Apply the NIST Risk Management Framework Springer

Organizations are increasingly relying on electronic information to conduct business, which has caused the amount of personal information to grow exponentially. Threats, Countermeasures, and Advances in Applied Information Security addresses the fact that managing information security program while effectively managing risks has never been so critical. This book contains 24 chapters on the most relevant and important issues and advances in applied information security management. The chapters are authored by leading researchers and practitioners in the field of information security from across the globe. The chapters represent emerging threats and countermeasures for effective management of information security at organizations.

Applied Cyber Security and the Smart Grid John Wiley & Sons

As society continues to heavily rely on software and databases, the risks for cyberattacks have increased rapidly. As the dependence on computers has become gradually widespread throughout communities and governments, there is a need for cybersecurity programs that can assist in protecting sizeable networks and significant amounts of data at once. Implementing overarching security policies for software systems is integral to protecting community-wide data from harmful attacks. Establishing Cyber Security Programs Through the Community Cyber Security Maturity Model (CCSMM) is an essential reference source that discusses methods in applying sustainable cybersecurity programs and policies within organizations, governments, and other communities. Featuring research on topics such as community engagement, incident planning methods, and information sharing, this book is ideally designed for cybersecurity professionals, security analysts, managers, researchers, policymakers, students, practitioners, and academicians seeking coverage on novel policies and programs in cybersecurity implementation.

Protect to Enable IGI Global

Move beyond the foundations of machine learning and game theory in cyber security to the latest research in this cutting-edge field In Game Theory and Machine Learning for Cyber Security, a team of expert security researchers delivers a collection of central research contributions from both machine learning and game theory applicable to cybersecurity. The distinguished editors have included resources that address open research questions in game theory and machine learning applied to cyber security systems and examine the strengths and limitations of current game theoretic models for cyber security. Readers will explore the vulnerabilities of traditional machine learning algorithms and how they can be mitigated in an adversarial machine learning approach. The book offers a comprehensive suite of solutions to a broad range of technical issues in applying game theory and machine learning to solve cyber security challenges. Beginning with an introduction to foundational concepts in game theory, machine learning, cyber security, and cyber deception, the editors provide readers with resources that discuss the latest in hypergames, behavioral game theory, adversarial machine learning, generative adversarial networks, and multi-agent reinforcement learning. Readers will also enjoy: A thorough introduction to game theory for cyber deception, including scalable algorithms for identifying stealthy attackers in a game theoretic framework, honeypot allocation over attack graphs, and behavioral games for cyber deception An exploration of game theory for cyber security, including actionable game-theoretic adversarial intervention detection against persistent and advanced threats Practical discussions of adversarial machine learning for cyber security, including adversarial machine learning in 5G security and machine learning-driven fault injection in cyber-physical systems In-depth examinations of generative models for cyber security Perfect for researchers, students, and experts in the fields of computer science and engineering, Game Theory and Machine Learning for Cyber Security is also an indispensable resource for industry professionals, military personnel, researchers, faculty, and

students with an interest in cyber security.
Using Wireshark to Solve Real-world Network Problems National Academies Press
Cyber security has become a topic of concern over the past decade. As many individual and organizational activities continue to evolve digitally, it is important to examine the psychological and behavioral aspects of cyber security. Psychological and Behavioral Examinations in Cyber Security is a critical scholarly resource that examines the relationship between human behavior and interaction and cyber security. Featuring coverage on a broad range of topics, such as behavioral analysis, cyberpsychology, and online privacy, this book is geared towards IT specialists, administrators, business managers, researchers, and students interested in online decision making in cybersecurity.
SCADA, DCS, PLC, HMI, and SIS IGI Global
This book constitutes the refereed proceedings of the 9th International Conference on Applied Cryptography and Network Security, ACNS 2011, held in Nerja, Spain, in June 2011. The 31 revised full papers included in this volume were carefully reviewed and selected from 172 submissions. They are organized in topical sessions on malware and intrusion detection; attacks, applied crypto; signatures and friends; eclectic assortment; theory; encryption; broadcast encryption; and security services.
A Hands-on Guide to Information Security Software Springer Nature
As the sophistication of cyber-attacks increases, understanding how to defend critical infrastructure systems—energy production, water, gas, and other vital systems—becomes more important, and heavily mandated. Industrial Network Security, Second Edition arms you with the knowledge you need to understand the vulnerabilities of these distributed supervisory and control systems. The book examines the unique protocols and applications that are the foundation of industrial control systems, and provides clear guidelines for their protection. This how-to guide gives you thorough understanding of the unique challenges facing critical infrastructures, new guidelines and security measures for critical infrastructure protection, knowledge of new and evolving security tools, and pointers on SCADA protocols and security implementation. All-new real-world examples of attacks against control systems, and more diagrams of systems Expanded coverage of protocols such as 61850, Ethernet/IP, CIP, ISA-99, and the evolution to IEC62443 Expanded coverage of Smart Grid security New coverage of signature-based detection, exploit-based vs. vulnerability-based detection, and signature reverse engineering
Cybersecurity For Beginners Newnes
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.

Establishing Cyber Security Programs Through the Community Cyber Security Maturity Model (CCSMM) Pearson College Division

Many people think of the Smart Grid as a power distribution group built on advanced smart metering—but that's just one aspect of a much larger and more complex system. The "Smart Grid" requires new technologies throughout energy generation, transmission and distribution, and even the homes and businesses being served by the grid. This also represents new information paths between these new systems and services, all of which represents risk, requiring a more thorough approach to where and how cyber security controls are implemented. This insight provides a detailed architecture of the entire Smart Grid, with recommended cyber security measures for everything from the supply chain to the consumer. Discover the potential of the Smart Grid Learn in depth about its systems See its vulnerabilities and how best to protect it

Managing Risk and Information Security No Starch Press

Applied Cyber Security and the Smart GridImplementing Security Controls into the Modern Power InfrastructureNewnes

Handbook of Research on Machine and Deep Learning Applications for Cyber Security Syngress

The two-volume set LNCS 12726 + 12727 constitutes the proceedings of the 19th International Conference on Applied Cryptography and Network Security, ACNS 2021, which took place virtually during June 21-24, 2021. The 37 full papers presented in the proceedings were carefully reviewed and selected from a total of 186 submissions. They were organized in topical sections as follows: Part I: Cryptographic protocols; secure and fair protocols; cryptocurrency and smart contracts; digital signatures; embedded system security; lattice cryptography; Part II: Analysis of applied systems; secure computations; cryptanalysis; system security; and cryptography and its applications.

Applied Information Security IGI Global

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

Psychological and Behavioral Examinations in Cyber Security IGI Global

Applied Information Security guides readers through the installation and basic operation of IT Security software used in the industry today. Dos Commands; Password Auditors; Data Recovery & Secure Deletion; Packet Sniffer; Port Scanners; Vulnerability Scanners; Monitoring Software; Porn & Spam Filters; Tracing & Information Gathering; Honeypots And Intrusion Detection Systems; File Integrity Checkers & System Monitors; Forensics; Alternate Data Streams; Cryptography And Steganography; Security Readings; Wireless; Sql Injection; Linux Primer; Web Servers; Utilities & Other; Intermediate & Advanced For readers looking for hands-on assignments in IT Security.