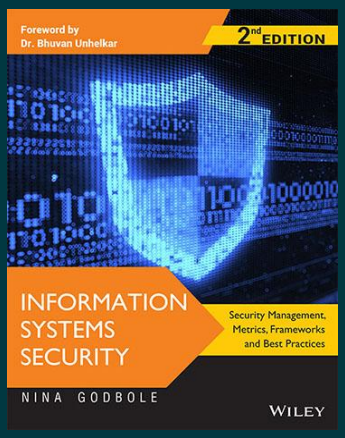
WILEY



Information Systems Security, 2ed: Security Management, Metrics, Frameworks and Best Practices

By Nina Godbole

Paperback 9788126564057 **₹1,179.00**

Pages: 972

Description

Keeping the essence of the first edition, this new edition of Information Systems Security: Security Management, Metrics, Frameworks and Best Practices is restructured to meet the ever-growing demand for books that give a comprehensive treatment of the Information Security topic. Designed with ample figures to illustrate key points and Review Questions and Reference Material Pointers at the end of each chapter, it is truly a treatise on the subject. This book should prove a valuable reference on the topic to students as well as professionals. It is useful for candidates appearing for the CISA certification exam and maps well with the CBOK for CSTE and CSQA Certifications.

Table of Contents

Foreword
About the Author
Preface to the Second Edition
Preface to the First Edition
Acknowledgments
List of Figures
List of Tables
List of Boxes

Part I Introduction

1 Information Systems in Global Context
1.1 History of Information Systems
1.2 Importance of Information Systems
1.3 Basics of Information Systems
1.4 The Changing Nature of Information Systems
1.5 Globalization of Businesses and the Need for Distributed Information Systems
1.6 Global Information Systems: Role of Internet and Web Services
1.7 Information Systems Security and Threats: A Glimpse

2 Threats to Information Systems
2.1 Introduction
2.2 New Technologies Open Door to the Threats
2.3 Information-Level Threats versus Network-Level Threats

2.4 Information Systems Security: Threats and Attacks
2.5 Computer Viruses: The bête noire of Computing Era
2.6 Classifications of Threats and Assessing Damages
2.7 Protecting Information Systems Security

3 Information Security Management in Organizations
3.1 The Context for Information Security Management (ISM)
3.2 Security Policy, Standards, Guidelines and Procedures
3.3 Information Security Scenario in the Financial Sector
3.4 Information Security Management System (ISMS)
3.5 Organizational Responsibility for Information Security Management
3.6 Information Security Awareness Scenario in Indian Organizations

4 Building Blocks of Information Security
4.1 Introduction
4.2 Basic Principles of Information Systems Security
4.3 Security-Related Basic Terms and Definitions
4.4 The Three Pillars of Information Security
4.5 Other Important Terms in Information Security
4.6 Information Classification
4.7 Terms for Information Classification
4.8 Criteria for Classification of Data and Information
4.9 Information Classification: Various Roles
4.10 Data Obfuscation
4.11 Business Systems' Classification
4.12 Event Classification

5 Information Security Risk Analysis
5.1 Introduction
5.2 Terms and Definitions for Risk Analysis of Information Security
5.3 Risk Management and Risk Analysis: What it is and the Need for it
5.4 Approaches and Considerations in Information Security Risk Analysis
5.5 Auditing Perspective on Information Security Risk Analysis

Part II Cloud, Mobile Applications, Smartphone, IoT, Smart Cities and Wireless Networks in Security Perspective

6 Security Considerations in Mobile and Wireless Computing
6.1 Introduction
6.2 Proliferation of Mobile and Wireless Devices
6.3 Trends in Mobility
6.4 Credit Card Frauds in Mobile and Wireless Computing Era
6.5 Security Challenges Posed by Mobile Devices
6.6 Registry Settings for Mobile Devices
6.7 Authentication Service Security
6.8 Mobile Devices: Security Implications for Organizations
6.9 Organizational Measures for Handling Mobile Devices Related Security Issues
6.10 Organizational Security Policies and Measures in Mobile Computing Era
6.11 Laptops

6.12 Use of RFID in Mobile Commerce and Information Asset Protection
6.13 Wearable Devices and Security Threats

7 Security in Cloud Computing
7.1 Introduction
7.2 Cloud Computing: Why?
7.3 How Does Computing with the ‘Cloud’ Work
7.4 Conceptual View of Cloud Computing − Characteristics and Deployment Models
7.5 Big Data and Cloud Computing
7.6 Security and Privacy Risks in Cloud Computing
7.7 Protecting Information Security and Data Privacy in Cloud Computing

8 Smartphone Security
8.1 Introduction: The Emergence of Smartphones
8.2 Smartphones: Security Risks, Issues and Challenges
8.3 Protected Health Information and Smartphones
8.4 Smartphones and Electronically Stored Medical Information: The Challenges
8.5 Smartphones: The Downside
8.6 Guidelines for using Smartphone Securely

9 Security of Wireless Networks
9.1 Introduction
9.2 An Overview of Wireless Technology
9.3 Wireless Network Usage Scenario Today and Implications
9.4 Wired World versus Wireless World: Putting Wireless Networks in Information Security Context
9.5 Attacks on Wireless Networks

10 The Internet of Things (IoT) and Smart Cities: Security and Privacy Challenges
10.1 Introduction
10.2 The ‘Internet of Things’ (IoT): The New Kid on the Block
10.3 Understanding Security and Privacy Issues in IoT
10.4 Intelligent Buildings: Security Threats
10.5 Smart Cities: Privacy and Security
10.6 Personal and Business Impact of IoT

Part III Network Security and Other Controls
11 Biometrics for Security
11.1 Introduction
11.2 Access Control, User Identification and User Authentication
11.3 What is Biometrics?
11.4 Biometric Identification/Authentication Techniques
11.5 Biometric Techniques
11.6 Matching and Enrolment Process in Biometrics
11.7 Classification of Biometric Applications
11.8 Criteria for Selection of Biometric Application
11.9 Biometric Systems: Architectural Design Issues
11.10 Biometric Measurement Issues
11.11 Key Success Factors for Biometric Systems

11.12 Benefits of Biometrics over Traditional Authentication Methods
11.13 Standards for Biometrics
11.14 Economic and Social Aspects of Biometrics
11.15 Legal Challenges in Biometrics
11.16 The Future of Biometrics

12 Network Security in Perspective
12.1 Need for Security in the Networked World
12.2 Net-Centric Information Systems
12.3 Basic Concepts of Network Security
12.4 Network Security Dimensions
12.5 Establishing Security Perimeter for Network Protection

13 Networking and Digital Communication Fundamentals
13.1 Introduction
13.2 Network Types
13.3 Network Architecture
13.4 Network Topologies
13.5 The OSI Seven-Layer Model
13.6 Network Components
13.7 Network Protocols
13.8 Working of Networks and the Internet
13.9 Telecommunication Links and Other Important Related Topics

14 Cryptography and Encryption
14.1 Introduction
14.2 What is Cryptography?
14.3 Genesis and Application of Cryptography
14.4 Role of Cryptography in Information Security
14.5 Digital Signature – A Method for Information Security
14.6 Cryptographic Algorithms

15 Intrusion Detection for Securing the Networks
15.1 Introduction
15.2 Network Attacks – The Stages
15.3 Need for Intrusion Monitoring and Detection
15.4 Intrusion Detection for Information Systems Security

16 Firewalls for Network Protection
16.1 Introduction
16.2 What are Firewalls?
16.3 Demilitarized Zone (DMZ)
16.4 Why Firewalls are Needed – Protection Provided by Firewalls
16.5 Proxy Servers
16.6 Topologies for Different Types of Firewalls
16.7 Examining Firewalls in the Context of Intrusion Detection Systems
16.8 Firewalls vis-à-vis Routers
16.9 Design and Implementation Issues in Firewalls
16.10 Policies for Firewalls – The Importance

16.11 Using Firewalls Effectively
16.12 Vendors of Firewall Products

17 Virtual Private Networks for Security
17.1 Introduction
17.2 What is a Virtual Private Network?
17.3 The Need for Virtual Private Networks
17.4 Role of a Virtual Private Network for an Enterprise
17.5 Use of Tunneling with Virtual Private Networks
17.6 Working of Virtual Private Networks
17.7 Authentication Mechanisms in Virtual Private Networks
17.8 Types of VPNs and Their Usage
17.9 Tunneling Security
17.10 VPN Technologies
17.11 VPN Architecture
17.12 Configurations/Topologies for Virtual Private Networks
17.13 Security Concerns in VPN
17.14 VPN Best Practices

Part IV Security of Applications and Operating Systems

18 Security of Electronic Mail Systems
18.1 Introduction
18.2 Today’s Electronic Mail Usage Scenario
18.3 Electronic Mail System Mechanism
18.4 The Growing Power of Electronic Mail Systems
18.5 Security Threats Posed By Electronic Mails
18.6 Countermeasures to Protect from Threats Posed Through E-Mails
18.7 Governance for Electronic Mail Systems

19 Security of Electronic Commerce
19.1 Introduction
19.2 ‘Electronic Commerce’ Paradigm
19.3 Strategic Issues in EDI Security
19.4 The IT Environment and Infrastructure for Electronic Commerce
19.5 Security Issues and Concerns in the Electronic Commerce

20 Security of Databases
20.1 Introduction
20.2 Database Security Challenge in the Modern World
20.3 Databases in the Context of Business Intelligence
20.4 Nature of Database Security Issues: Why it is Important?
20.5 Federated Databases: The Need and the Security Issues
20.6 Securing the Contents of Mobile Databases
20.7 Securing Connectivity with Enterprise Databases
20.8 Data Integrity as a Parameter for Database Security
20.9 Database Security Policy

21 Security of Operating Systems
21.1 Introduction
21.2 Role of Operating Systems in Information Systems Application
21.3 Operating System Types
21.4 Operating Systems, Functions and Tasks
21.5 Network Operating Systems (NOSs)
21.6 Operating System Security
21.7 Host Security and OS Hardening
21.8 Patched Operating System
21.9 Current ‘Insecurity’ Scenario

Part V Models, Frameworks and Metrics for Maturing Security Practices

22 Security Models, Frameworks, Standards and Methodologies
22.1 Introduction
22.2 Terminology
22.3 Methodologies for Information Systems Security

23 ISO 17799/ISO 27001
23.1 Introduction
23.2 Evolution of the Standard
23.3 ISO 27001 in Organizational Context: Relation to ISO 17799
23.4 Inside the ISO 17799
23.5 ISMS Implementation in Organizations Using Security Controls of ISO 27001
23.6 Security Certification Using the ISO 17799/ISO 27001
23.7 Benefits of ISO 27001 Certification

24 COBIT, COSO-ERM and SOC
24.1 Introduction
24.2 Control Objectives for Information and Related Technologies – the COBIT
24.3 COSO Enterprise Risk Management Model (COSO-ERM)
24.4 ERM: Definition and History
24.5 Service Organization Control (SOC)

Part VI Metrics, Legal Aspects and Privacy Consideration for Information Security
25 Security Metrics
25.1 Introduction
25.2 What are Measurements and Metrics?
25.3 Security Metrics Basics
25.4 Security Metrics Classification
25.5 Why Security Metrics are Important
25.6 Benefits of Using Security Metrics
25.7 InfoSec Metrics Management in Organizations
25.8 Quantitative versus Qualitative Approach to Security Risk Metrics
25.9 Security Metrics for Considerations
25.10 Implementing Security Metrics Program

25.11 Components of Security Metrics Program
25.12 Metrics Development Process
25.13 Metrics Implementation Process
25.14 Implementation Approach
25.15 Communication of Security Metrics in the Organization
25.16 Key Success Factors in Implementing InfoSec Metrics
25.17 Pitfalls and Challenges in Organizational Security Metrics Program

26 Laws and Legal Framework for Information Security
26.1 Introduction
26.2 Information Security and the Law: The Rising Need
26.3 Understanding the Laws for Information Security: A Conceptual Framework
26.4 The Indian IT Act
26.5 Laws for Intellectual Property Rights (IPR)
26.6 Patent Law
26.7 Copyright Law
26.8 Indian Copyright Act
26.9 Privacy Issues and Laws in Hong Kong, Japan and Australia
26.10 European Outlook on Laws for Information Security
26.11 Data Protection Act in Europe
26.12 Health Insurance Portability and Accountability Act of 1996 (HIPAA)
26.13 Gramm–Leach–Bliley Act of 1999 (GLBA)
26.14 Overview of Sarbanes–Oxley (SOX)
26.15 Legal Issues in Data Mining Security
26.16 Building Security into Software/System Development Life Cycle
26.17 Federal Information Security Management Act (FISMA)
26.18 The Need for Global Action

27 Privacy – Fundamental Concepts and Principles
27.1 Introduction
27.2 Why Privacy is a Business Issue?
27.3 Privacy and Security: Confusion and Conflict
27.4 Privacy and Related Key Terms and Concepts
27.5 Transactional Context and Historical Perspective for Privacy
27.6 The Growing Importance of Privacy
27.7 The Need for Privacy Awareness
27.8 Fair Information Practices (FIPs)
27.9 Information Privacy Principles (IPPs)

28 Privacy – Business Challenges and Technological Impacts
28.1 Introduction
28.2 Privacy and Direct Marketing
28.3 Data Mining and Privacy Invasion
28.4 Privacy and Business Outsourcing
28.5 Privacy Challenges in a Test Environment
28.6 Masking the Test Data to Address Data Privacy during Testing
28.7 Best Practices – Data Privacy in Test Data Management
28.8 Privacy – Technological Impacts

29 Privacy Aspects of Web Services
29.1 Introduction
29.2 Privacy on the Internet – A Legal Perspective and Organizational Implications
29.3 Privacy Considerations in Web Services
29.4 Privacy in the Semantic Web
29.5 Privacy Considerations in the Use of Context-Sensitive Technologies
29.6 Security and Privacy Aspects of Service-Oriented Architectures
Part VII Security Best Practices
30 Staffing the Security Function
30.1 Introduction
30.2 Security Reporting Structure in Organizations
30.3 Choices for Placement of Security Function in Organizations
30.4 Managing Security Staffing – Possible Approaches
30.5 Security Certifications

31 Business Continuity and Disaster Recovery Planning
31.1 Introduction
31.2 The Genesis of DRP
31.3 Importance of BCP
31.4 Business Impact Analysis
31.5 Approaches to DRP
31.6 Defining Business Goals to Prepare for BCP and DRP
31.7 Types of Alternate Sites from BCP Perspective
31.8 DRP Test Types
31.9 Identification of Key Personnel
31.10 Business Interruption Preparedness Checklist
31.11 Business Resilience

32 Auditing for Security
32.1 Introduction
32.2 Basic Terms Related to Audits
32.3 Security Audits – What are They?
32.4 The Need for Security Audits in Organizations
32.5 Organizational Roles and Responsibilities for Security Audit
32.6 Auditor’s Responsibility in Security Audits
32.7 Types of Security Audits
32.8 Approaches to Audits
32.9 Technology-Based Audits – Vulnerability Scanning and Penetration Testing
32.10 Resistance to Security Audits
32.11 Phases in Security Audit
32.12 Security Audit Engagement Costs and Other Aspects
32.13 Budgeting for Security Audits
32.14 Selecting External Security Consultants
32.15 Key Success Factors for Security Audits

33 Privacy Best Practices in Organizations
33.1 Introduction
33.2 Privacy – Organizational Implications
33.3 Privacy Audits – Driving Factors

33.4 Privacy Practices: Caveats for Management – Planning and Oversight
33.5 Privacy Auditing Standards and Privacy Audit Phases
33.6 Privacy Officer: The Job and Responsibilities and Skills
33.7 Privacy Impact Assessments of Information Systems Application
33.8 Organizational Reactions to Privacy Audits

34 IT Asset Management
34.1 Introduction
34.2 Understanding the Organizational Context for Asset Management
34.3 Security Aspects in IT Asset Management
34.4 Asset Management in Organizations: Issues and Challenges
34.5 Asset Management Life Cycle
34.6 Tools for IT Asset Management
34.7 Benefits of Asset Management
34.8 Roles and Responsibilities in Asset Management
34.9 Identifying Asset Containers
34.10 Organizational Best Practices in IT Asset Management
34.11 Treatment of IT Assets in the Company's Book of Accounts
34.12 SOX Compliance Requirements for IT Assets
34.13 SAS 70 and the Asset Manager
34.14 Managing Software Assets
34.15 IT Assessment Management – Key Success Factors
Part VIII Other Important Concepts in Information Systems Security
35 Physical Security: An Overview
35.1 Introduction
35.2 Need for Physical Security
35.3 What is Physical Security?
35.4 Natural Disasters and Controls
35.5 Basic Tenets of Physical Security of Information Systems Resources
35.6 Physical Entry Controls: Protecting Organization's Physical Entry Points

36 Perimeter Security for Physical Protection
36.1 Introduction
36.2 Scope of Perimeter Security
36.3 Typical Terms in Perimeter Security
36.4 Elements of Perimeter Security

37 Business Applications Security: An EAI Perspective
37.1 Introduction
37.2 Meaning and Evolution of EAI
37.3 Application Security: Basic Issues
37.4 Understanding Web Services in the Context of EAI
37.5 Business Drivers for Enterprise Application Integration
37.6 Application Communication Through EAI
37.7 Role of Web Services in Enterprise Application Integration
37.8 Security Complexities and Complications Due to Enterprise Application Integration
37.9 Security Threats and Risks for the Extended Enterprise
37.10 Mitigating Security Issues in Enterprise Application Development

38 Systems Security Engineering Capability Maturity Model – The SSE-CMM
38.1 Introduction
38.2 What is Security Engineering?
38.3 SSE-CMM – Nature and Scope
38.4 Importance of the SSE-CMM Model
38.5 Target Audience for the SSE-CMM
38.6 SSE-CMM Usage Paradigm
38.7 SSE-CMM – Structure and Architecture
38.8 Process Areas of the SSE-CMM
38.9 Common Misconceptions About Capability Maturity Models

39 Information Security: Other Models and Methodologies
39.1 Introduction
39.2 Other Frameworks for Information Security
39.3 Other Methodologies and Standards for Information Security

40 Ethical Issues and Intellectual Property Concerns in Information Security
40.1 Introduction
40.2 Information Systems – Threats from Within
40.3 Characteristics of Insider Attacks on Organizational Information Systems
40.4 The Nature of Ethical Issues in the Networked Enterprise
40.5 Implications for the Healthcare Industry: Ethical and Legal Concerns
40.6 Data Auctioning, Data Hijacking and Data Laundering: Ethical Issues in Paramedical Process Outsourcing
40.7 Ethical Issues Owing to Information Warfare
40.8 Cryptography, Cryptographic Tools and Ethical Issues
40.9 Understanding Ethical Hacking
40.10 Social Engineering Issues
40.11 Concerns from Information Brokers' Activities
40.12 The Need for Ethical Guidance for Security Professionals
40.13 Understanding Intellectual Property and its Various Forms
40.14 Trademark, Trade Name, Company Name, Business Name and Domain Name – The Relationship
40.15 Ethical Domain for Information Security: Some Concluding Thoughts

Index

To purchase this product, please visit:
https://www.wileyindia.com/information-systems-security-2ed-security-management-metrics-frameworks-and-best-practices.html

Scan to buy