Review of the book

"Security of e-Systems and Computer Networks"

by Mohammad Obaidat, Noureddine Boudriga

Cambridge University Press, 2007

ISBN: 978-0521837644

Nishant Doshi
PDPU, Gandhinagar, India

1 Summary of the review

For the researchers, this book gives the fundamentals understanding of the information security, and to develop information security assurance assessment model from scratch. I will recommend this book to the UG students to strengthen their fundamentals on information security. For the PG student (and researchers too) to get the well depth understanding with further scope of improvements in the information security assessment model and analysis using various tools.

2 Summary of the book

Part I The beginning of any book is the first impression that any reader can have to impart the impression. Indeed, the first part of this book is handling it very well. It summarize as follows

- Chapter 1 deals with the introduction to the e-security which includes the security services, threats, vulnerabilities, protection, security planning etc.
- Chapter 2 deals with the introduction to the cryptography. It start with the symmetric key cryptography which uses from ancient times. Then, it lead to the breakthrough public key cryptography. Afterward, it discusses the various algorithms for public key cryptography and the attacks against it.
- Chapter 3 deals with the digital signature. As we require the signature on hard copy documents, the digital signature deals with the signing soft copy based documents. It discusses the various digital signature frameworks including RSA, DSA, Hash Functions, etc. It also discusses the applications as well as authentication network services.

Part II This part deals with the various tools that required for the e-system as well as network security tools. It summarize as follows

- Chapter 4 deals with the public key infrastructure systems including public key certificates, trust hierarchical models, certification path processing as well as deploying the enterprise PKI.
- Chapter 5 deals with the biometric based security systems. Biometric is one of unique parameter which cannot duplicate easily as to other protection mechanisms. This chapter discusses the various biometric based techniques, accuracy of them to detect the biometric. Finally it concludes with the issues as well as challenges in today's biometric based systems.
- Chapter 6 deals with the trust management within the communication networks. It start with the definition of the trust definition including the delegation of trust. It discusses the digital credentials as well as authorization and access control systems. It discusses the policy maker as well as referee for the trust management systems. Finally it discusses the applications for the trust management systems which includes e-payment as well as distribute firewalls.

Part III This part is the heart of the book as it deals with the e-security applications. It summarize as follows

- Chapter 7 deals with the introduction of the e-services. It discusses the various basic technologies as well as message protection mechanisms. Finally it discusses the security of the registry services like ebXML as well as server side protection of his registries.
- Chapter 7 deals with the security of the e-government. It discusses the what if e-government, concepts, examples, authentication, privacy and so on. It discusses the e-voting security as it required in the governance. Its nice to see the e-government security model as well as advanced issues in e-government.
- Chapter 8 deals with the security in the e-commerce. It discuss the various transaction security measures based on the SSL,TLS and SET. It also discuss the security of the electronic payment methods with its classification.
- Chapter 9 deals with the security on the wireless LAN. It discusses the various attacks, security services, problems, It also discuss the various available wireless technologies like WPA, mobile IP, VPN and so on.

Part IV As the previous part discusses the various security measures in e-systems. This part discuses the various protection mechanisms for the enterprises. It summarize as follows

- In any security system, in order to remove the vulnerabilities, first it need to be detected based on the signatures, anomalies etc. Chapter 11 discuss the intrusion detection system. It discusses the architecture, various detection techniques, modeling the process, products. Finally it detects the advanced issues in the present intrusion detection systems.
- Chapter 12 deals with the virtual private networks. It discusses the various VPN variables, types, implementations etc. It also discuses the Quality of Service provision for the virtual networks.
- Chapter 13 discusses the various type of virus like worms, Trojan, malware, etc. There are several mechanism based on the firewall-detection based, using anti-malware software.
- Chapter 14 discusses about security risk management that associated with the computer and its network. It brief about the limits of current technologies with risk analysis, risk libraries etc.

3 Comments and Recommendations

One thing that I like about this book is *how* it proves its title in each unit. First unit discuss about the introduction of the E-security. Second Unit discuss about the various tools in the E-security. Third unit discuss about the various applications of E-security. Forth unit discuss about the present protecting mechanisms in E-systems. I suggest to consider some real time scenario with case studies can be helpful to novice readers too in future editions. Finally, some future scopes can be mentioned to help researchers to work on it.

On an average, this book gives the undergraduate students (of pre-final year), postgraduate students, researchers, scientists and so on to motivate and also to study further in the E-security model and how to do the analysis of them. Surely, I will suggest this book as first hand book in information security for UG, PG and the researchers.

The reviewer is a faculty at Department of Computer Science and Engineering, Pandit Deendayal Petroleum University (PDPU), India.