Chapter 6
Emerging Challenges, Security Issues, and Technologies in Online Banking Systems

Shadi A Aljawarneh
Jordan University of Science and Technology, Jordan

ABSTRACT

Online banking security is a critical issue over request-response model. But the traditional protection mechanisms are not sufficient to secure the online banking systems that hold information about clients, and banks. The infrastructure of networks, routers, domain name servers, and switches that glue these online banking systems together could be fail, and as a result, online banking systems will no longer be able to communicate accurately or reliably. A number of critical questions arise, such as what exactly the infrastructure is, what threats it must be secured against, and how protection can be provided on a cost-effective basis. But underlying all these questions is how to define secure online banking systems. In this chapter, emerging challenges, security issues and technologies in Online Banking Systems will be analyzed and discussed systematically.

INTRODUCTION

Online banking security is a critical issue over HTTP request-response model. But the traditional protection mechanisms are not sufficient to secure the online banking systems that hold information about clients, and banks (Aljawarneh et. al, 2016; Aljawarneh et. al, 2014). The infrastructure of networks, routers, domain name servers, and switches that glue these online banking systems together could be fail, and as a result, online banking systems will no longer be able to communicate accurately or reliably. A number of critical questions arise, such as what exactly the infrastructure is, what threats it must be secured against, and how protection can be provided on a cost-effective basis. But underlying all these questions is how to define secure online banking systems (Aljawarneh et. al, 2014; Aljawarneh, 2011a; Aljawarneh, Alkhatteen, & Al Maghayreh, 2010).

Cryptography and watermarking seem to be the alternative solutions for reinforcing the security of multimedia documents against tampering attacks (Aljawarneh et. al, 2007; Chen, Lin, Sirakriengkrai et al., 2015). When the hidden or encrypted information is revealed or even suspected, the purpose of cryptography and watermarking are defeated (Hodgson, 2015). It difficult to employ end-to-end encryption or end-end watermarking on all banking data to achieve end-to-end security because proxies, web servers, and web browsers involve decrypting some or all data to read and even modify some of them to provide client-server services such as executing client and server scripts, transforming and filtering web pages. However, if sensitive data is exposed (decrypted) to untrustworthy proxies, web servers, and web browsers for processing, it can result in information leakage and tampering (Aljawarneh et. al, 2007; Aljawarneh et. al, 2008).

This chapter presents the description of online banking content, and the HTTP request-response model. It also discusses the online banking security issues, objectives, and technologies. Placing an online banking security in perspective is important, because it is a central issue and necessary to banks, clients and even home users now and in the future. Indeed, what is online banking security? Having it is clearly good; everyone says so. But few people realize it exactly. Core to online banking security are the issues of confidentiality, integrity and availability, which refer to keeping data secret, ensuring data remains intact and ensuring systems, are responsive.

www.igi-global.com/e-resources/library-recommendation/?id=96

Related Content

The Impact of Firm Specific Factors on Capital Structure: Empirical Evidence from Turkey
Mehtap Öner (2014). International Journal of Corporate Finance and Accounting (pp. 1-21).
www.igi-global.com/article/the-impact-of-firm-specific-factors-on-capital-structure/119399?camid=4v1a
A Study on Factors Influencing the Initial Public Offerings (IPO) in the Bombay Stock Exchange (BSE), India: During 2007-2013
www.igi-global.com/article/a-study-on-factors-influencing-the-initial-public-offerings-ipo-in-the-bombay-stock-exchange-bse-india/164985?camid=4v1a

Measuring the Poverty of Elderly People with Needs Analysis in Turkey
www.igi-global.com/chapter/measuring-the-poverty-of-elderly-people-with-needs-analysis-in-turkey/128625?camid=4v1a

The Value Relevance of Accounting Information in Times of Crisis: An Empirical Study
www.igi-global.com/article/the-value-relevance-of-accounting-information-in-times-of-crisis/119402?camid=4v1a