Advanced Engineering Days

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Cyber security in mail with Fortiweb and Fortinet for companies and institutions

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Cite this study: Daberdini, A., Basholli, F., Metaj, N. & Skenderaj, E. (2022). Cyber security in mail with Fortiweb and Fortinet for companies and institutions. 5th Advanced Engineering Days, 81-83

Keywords
Cybercrime
Cybersecurity
Fortinet
Security
Fortiweb

Abstract

In this paper, we will present some studies that we have done on the applications that are used for the cyber protection of email on the client and on the server. It is expected that these can also be applied in companies and also in different institutions. One of the applications that is being used for data protection is Fortinet and for web and email protection on the web is Fortiweb, which can be used in different ways with EMS and FortiGate. Fortinet is installed on a linux server as it is one of the most suitable systems for such programs given the protection they offer against various viruses. The data analysis that was done on this server was done on the basis of the attacks that were recorded mainly on the server. Security management in different companies has started to be separated from the management of IT sectors as it is always and more presenting a high risk and security is normally required in applications and in their most efficient use. Also, they are also very vulnerable, since expanding to every user, then not everything can be controlled and secured by IT. Nowadays, organizations, different companies and different government organizations are moving more and more towards a digital acceleration, which has brought the highest risk of cyber-attacks. We will also consider how we will have the opportunity to increase the protection and integrity of regular email and email used in companies and institutions.

Introduction

One of the main solutions that can provide the applications that will be used is the increase in security in the company's computer networks. Also, the application of the principle of a secure network with a firewall and all the necessary applications for its protection: "wide. integrated. automated network" [1]. First, a central system must be created that unites the concepts of cyber security in the servers that will be used in the network and then the users of this network, the use of powerful software that provides security and stability in the work they perform and ensures comprehensive protection. cyber security for all; "users, devices and applications" and at all edges of the network [2]. First, the central security equipment that can be used in the company must have an operating system that provides encrypted (encrypted) traffic, stability, high performance, ensures interoperability with systems, security, tools and other hybrid applications that can be integrated into the network. Since in recent years the methods to encrypt traffic and packages have been applied precisely in this field of cyber security and the field of emails is one of the most important for their security. Hackers have continued to work harder and harder to break this aspect of security [3].

E-mails are one of the standard forms of communication that are used more often in today's trade, but also for communications in offices and beyond. Today, they are one of the most convenient, official ways of communication in institutions, offices and private companies to convey work and tasks or various announcements [2]. Email addresses in almost all companies and institutions are public and can be seen by everyone at any point of communication between two users, but they are also exposed on their official websites. Therefore, due to their confidential and transparent nature, we cannot write sensitive information in ordinary and institutional or

company e-mails [2]. We expect high privacy when communicating with regular mail, however regular e-mails are not private and do not offer security, they are exposed to everyone and very easy to fall prey to cybercrime. E-mails are mainly based on point-to-point communication [4].

Material and Method

In this study we have done the construction of the security of a system taking into account forclient 7.0 installed on some client computers and also fortinet with fos 7.0, which support forticlient with free licenses and Fortiweb. FortiClient is software that provides remote filtering of the institution's network, providing more security on the web and filtering the content of information that can be accessed from the web [3]. The Web Application Firewall provides botnet protection and granular traffic control of applications used by employees in relevant institutions, including several applications, web-based applications, and also software as a service (SaaS) [3]. FortiClient is a Fabric agent that provides external threat protection, compliance, and secure access in a single, lightweight, modular client [5]. A Fabric Agent is a piece of endpoint software that runs on an endpoint, such as laptop or mobile device, which communicates with the Fortinet Security Fabric to provide information, visibility and control for that device. It also enables secure, remote connection to the Security Factory [6].

Results and Discussion

The FortiClient 7.0 that we have installed includes a vulnerability scanning component that the system can display to check the endpoints of the security system and for known vulnerabilities [7]. The possible results of the vulnerability scan may include these elements that we have presented:

- The list of vulnerabilities detected in the system and in the endpoints of the system.
- How many detected vulnerabilities should be evaluated as critical system threats, as high, medium or low system threats.
- If we need more information, we will contact the FortiGuard Center [8].
- One-click connection to install system troubleshooting and resolve as many identified vulnerabilities as possible.
- Some elements of these solutions require manual installation to resolve vulnerabilities.
- FortiClient has the ability to detect and recognize vulnerabilities for many software [9].

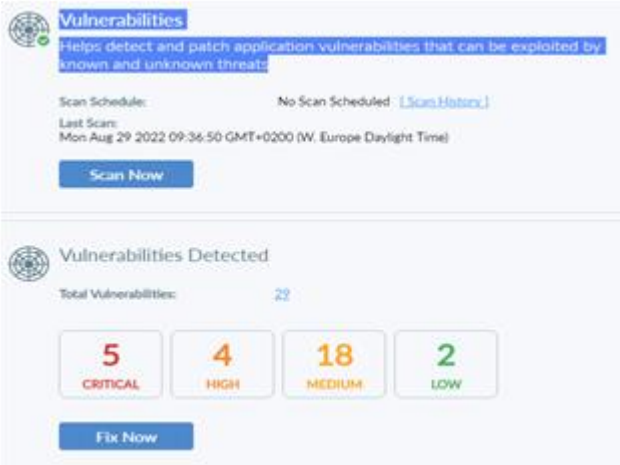

Figure 1. Vulnerabilities in forticlient.

For the safest protection of the system, perform the following actions by checking the following components:

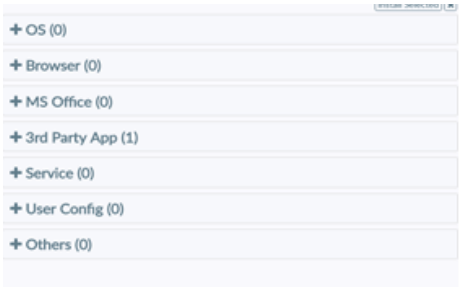

Figure 2. The Component checked in the following data to increase the security of the system [10]

Conclusion

At the end of this study, which was also a practical development of an application for the protection of information security [11].

If all security policies are correctly implemented, the application provides protection of security information and safe transfer of information.

We have managed to record some of the logs that have been captured and so far we have not been able to see a breach of its security [12].

To secure e-mail and the network, there are several steps that must be followed: create an identity, set up secure email software, obtain public keys for software, get public keys for recipients, start sending secure messages [6,13].

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