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Abstract

For Master's Certification of on the topic:

"Investigation of the ways to implement the functions of firewalls"

By Volodymyr S. Drobina

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The Relevance

Over the past ten years, the activity of computer hackers greatly increased, and their own attacks on enterprise networks were designed precisely for Commercial benefits. Among the tools of information security a major role is played by firewall, the correct selection and configuration of which can minimize the impact of network attacks. Thus, the question of analysis of the functions and selection of firewalls are more then relevant.

The Purpose

The purpose of this diploma certification work is to compare the different ways of implementing the functionality of firewalls of well-known examples of software and hardware solutions as well as the latest trends in network screening as an example of hardware firewall which was established by InZero Systems Corporation in the United States.. A separate activity is the development of methodical recommendations concerning testing network activity of different programs, namely, obtaining information about ports and hosts, which are used by these programs within their work.

Problems that are solved

To achieve this goal in this paper the following problems were solved:

- The detailed analysis of existing methods of network attacks;
- Classification of firewalls;
- Comparison of existing firewalls and develop recommendations regarding the ways of how to use different solutions depending on the needs of the enterprise;
- Development of classification of network programs in terms of using their network traffic;
- Development of guidelines for testing network activityof the programs;
- Hint practical information concerning the use of network traffic to specific programs.

Results Achieved:

Upon reaching the result in solving problems in goal, the author defends:

- the importance of an integrated approach in developing information security policy of the enterprise;
- the critical role of firewalls in the organization of the network
- topology, the most secure from network attacks;
- developed by the author the classification of network programms;
- developed by the author guidelines on the testing of network software and specified data on the use of network traffic by specific programs

Scientific novelty

Scientific novelty of the work is to reflect the latest trends in technology gateway screening for example, the device InZero, as well as in the developed of the classification of network programs on the basis of their network bandwidth.

The practical value

The practical value of the work is to indicate information regarding the use of network traffic programs, collected more than 30 programs classified by the classification developed by the author in the work. Analyzed the strengths and weaknesses of the device InZero, which is an integral part of information security InZero Security Platform.

Findings

Due to the intensification of hackers and create them new ways to harm the confidential information that can be stored on corporate networks, increasing resources companies spend on organizing and supporting information security systems. An important component of this system is a firewall. Of exceptional importance is the analysis of existing firewalls, identification of strengths and weaknesses.

The work containes: 129 pages, 38 pictures, 7 tables, 8 sources

Key Words: FIREWALL SECURITY NETWORK ACCESS INZERO POLICY