

4th year student
of Economics and Law Faculty of KhNUE

COMPUTER VIRUSES AND ANTI-VIRUS PROGRAMS

Annotation. The article deals with the problems of computer viruses and anti-virus programs. Some factors influencing the computer viruses appearance are studied. Basic measures helping to overcome this problem are regarded. Several approaches to the application of anti-virus programs are recommended.

Анотація. Розглянуто деякі проблеми комп'ютерних вірусів та створення антивірусних комп'ютерних програм. Досліджено фактори, які впливають на появу комп'ютерних вірусів та засоби подолання цієї проблеми. Запропоновано підходи до використання антивірусних програм.

Аннотация. Рассмотрены некоторые проблемы компьютерных вирусов и создания антивирусных компьютерных программ. Исследованы факторы, влияющие на появление вирусов и средства решения этой проблемы. Предложены подходы к использованию антивирусных программ.

Keywords: computer virus, anti-virus programs, process, method, infection, Assembler, Pascal, C++, PC, software, Kaspersky, Avast, Avira.

The relevance of this work lies in the fact that nowadays almost everyone has a computer that he or she uses every day. People use it for various purposes, but the computer system is in danger of being infected by different viruses.

The aim of this research paper is to follow the development of the computer viruses and to study the main anti-virus programs.

The objectives of this paper are: to learn deeply the process of infection of computer systems by means of computer viruses; to analyse the different types of computer viruses; to study the latest ways of curing and preventing infection of computer systems.

A computer virus is a computer program that can copy and spread itself from one computer to another damaging file system, memory locations or completely destroying the computer system [1]. Computer virus is an executable code able to reproduce itself. Viruses are an area of pure programming, and, unlike other computer programs, carry intellectual functions of protection from being found and destroyed. They have to fight for survival in complex conditions of conflicting computer systems [2].

There are different types of computer viruses. The main ones are Overwrite Virus, Boot, Macro, Polymorphic, Encrypted Virus, File Infectors, Network Virus and others [3].

Each of them works in different ways, but they all have one goal - to destroy your computer system.

The most common and wide-spread viruses are: Trojan horse, Worm, Zombie.

The Worm is a program that is duplicated on the hard drive of the computer and spreads across the network. They do not carry any harmful stress apart from propagating, which aims at littering of the memory, and as a result, the lockup of the operating system [2].

The Trojan horse is a program that is located inside the other legitimate program. When running a computer system the program written for one purpose only is installed. This purpose is to cause damage to the target computer by performing unauthorized actions such as: theft, data removal, computer malfunction, etc [2; 4].

The Zombie is a virus program that penetrates the computer connected to the Internet. It is controlled externally and used by hackers to launch attacks on other computers.

Thus, the Trojans are the viruses of the most dangerous type of malicious software [2; 4].

Virus infections increase with the use of communication channels and the exchange of information from your computer with the outside world. The use of the Internet, e-mail communication using media (CD, DVD, USB-Flash, memory cards), all this leads to an increased risk of virus infection for your computer [2; 4].

Keeping in mind the above-stated some words should be said about the protection of the computer from viruses. Anti-virus programs have been created for computer system treatment, prevention, and security. Thus, Anti-virus software is the software that is used to prevent, detect, and remove malware such as: computer viruses, adware, backdoors, malicious BHOs; dialers, fraudtools, hijackers, keyloggers, malicious LSPs, rootkits, spyware, trojan horses and worms. Computer security, including protection from social engineering techniques, is commonly offered in products and services of antivirus software companies. This work analyzes the software used for the prevention and removal of malware threats, rather than computer security implemented by software methods. The principle of anti-virus programs is detection and removal of the malicious code using all known technologies [2; 4].

Nowadays the best known anti-virus programs are Kaspersky Anti-Virus, Avast, Avira, Dr. Web, ESET NOD32 Anti-virus [5].

Kaspersky Anti-Virus is an antivirus program developed by Kaspersky Lab. It is designed to protect users from malware and is primarily designed for computers running Microsoft Windows and Mac OS X, Linux [5].

Avast is an antivirus computer program developed by AVAST Software.

Avira periodically "cleans out" the virus definition files, by replacing specific signatures with generic ones, resulting in a general increase in performance and scanning speed [5].

Dr. Web is a Russian anti-virus company. Dr. Web anti-virus software includes anti-rootkit, anti-spyware, shield, SpiDer-Mail components, and features a system tray interface [5].

ESET NOD32 Antivirus, commonly known as NOD32, is an antivirus software package made by the Slovak company

ESET. ESET NOD32 Antivirus is sold in two editions, Home Edition and Business Edition [5].

In conclusion it should be stated that this work reveals the basic knowledge about viruses and antivirus programs. It is necessary to understand the work of antivirus software for the correct choice of anti-virus solutions. The antivirus protection should include the full range of technologies to neutralize any type of threat.

Наук. керівн. Максимова І. О.

References: 1. Handless N. N. Computer virology. Part 1: General principles of operation, categorization and catalogue of the most widespread viruses in operating system MS DOS / N. N. Handless. – Kiev, 1990. – 384 p. 2. Mark Ludwig. The Giant Black Book of Computer Viruses / Mark Ludwig. – American Eagle Publications, Inc. 1995. – 198 p. 3. Types of computer viruses [Electronic resource]. – Access mode : http://files.recovery.blogspot.com/2010/06/20common_types_of_computer-viruses_and.html. 4. List of computer viruses [Electronic resource]. – Access mode : http://en.wikipedia.org/wiki/List_of_computer_viruses. 5. Antivirus software [Electronic resource]. – Access mode : http://en.wikipedia.org/wiki/Antivirus_software.