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THE FUNDAMENTAL PRINCIPLES OF LABOUR AND THE DANGERS OF COMPUTER VIRUSES

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ABSTRACT

Computer users including students, home and corporate users, system administrators, corporate managers, and even the antivirus manufacturers. The viruses are written by people with malefic intentions to bother innocent users. There are many sorts of viruses are boot sector viruses, file viruses, worms, Trojan horses, macro viruses, etc. Each of those has many various variants. Some viruses were transmitting through floppies, boot sector viruses are very rare, but nowadays as nobody boots from floppies. Today, viruses transmit more through networks and emails. Macro viruses are most prevalent within the current days. The viruses generally attempt to exploit the ambiguities of the OS, application programs, windows sockets, and even anti-virus programs. Some viruses are so dangerous that they will make the system completely unusable and irreparable. Nowadays the detection of computer viruses has become common place. In this paper I will like represent principle on which virus is work, how it's spread through one machine to another and awareness.

Key words: Virus, computer, e-mail, virus risk, awareness of virus.

I. Introduction

Computer Viruses may be a program that copies itself, a bug can infect your computer and slowing down your computer and it also spread computers to computers. The one that sends out the pc (personal computer) virus may use networking of the web. The pc (personal computer) virus can also be spread via disk, CD, that DVD or flash drive or other devices. Computer viruses are usually small, which are designed to spread from one computer to a different computer and to enter and interfere with machine operation. Worm or Trojan is slightly different from another virus it appears harmless, this is often the sort of virus that enters the programs exploits security that may have spread through other networks or Internet users. The virus might corrupt your windows or might delete the important data on your computer, normally virus is often spread through e-mails program to a different computer which may even delete everything on the hard disc. This paper focus on firstly, main principle of the virus and various well-known virus, secondly how the virus spread and finally, the steps which can help to resolve this issue.Principle of computer virus

II. Principle of computer virus

Computer viruses spread enormously because they are asymptomatic. In other words, they are difficult to detect. A virus is known as a worm, unwanted computer bug designed to cause damage to computers on a big scale. It widespread like a traditional email attachment, card, or funny image, people are likely to click thereon, and the virus spreads. Additionally, computer viruses also are available in the shape of audio, video, and even anti-virus programs.

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III. How does a Virus Attack?

Virus attached to a program, file, or document. It will be hidden until circumstances cause the pc or device to execute its code. The virus can remain dormant on your computer, without showing major signs or symptoms. However, once the virus infects your computer, the virus can infect other computers on an equivalent network. Its holdup passwords or data, logging keystrokes, corrupting files, spam your email and contacts. In addition, it takes up on your machine are just a few of the devastating and aggravating things a prevalent can do. Viruses often spread through email and text message attachments, Internet file downloads, and social media fraud links. Mobile devices and smartphones are infected through viruses through app downloads. Viruses can hide disguised as attachments of socially shareable content like funny images, greeting cards, or audio and video files. While some viruses are often playful in intent and effect, others can have profound and damaging effects. This includes erasing data or causing permanent damage to your hard disc. In worse cases, some viruses designed with financial gains.

IV. Virus Detection

A possible new virus is detected on a client system. The client can't decide whether the file or other object is actually infected, however the heuristic orsignature detection raised enough suspicion. Further analysis is necessary. A sample of the suspicious object is extracted, packaged in a harmless way, and sent to an anti-virus administrator system over the organization's internal network.

V. Administrator System

The administrator system allows control and auditing of what leaves and enters the organization's internal network through the immune system. If the administrator system can't handle the sample, it can forward the sample higher in the immune system hierarchy for analysis. Also, the administrative system keeps track of the status of various samples - waiting to be submitted, submitted but not yet analysed, analysis complete and updated virus definitions ready, etc. All of these functions can be implemented automatically in order to make sure quick response to a new virus. Also, the administrator can configure the system to request human intervention and choice in deciding whether files need to be stripped, in prioritizing samples for submission or in submitting the samples themselves.

VI. Active Network

An active network processes samples and transports samples via the Internet for potential analysis by a central virus analysis centre, once samples are submitted from the administrator system. This active network is constructed to handle epidemics or floods by dealing with as many submitted samples as possible in the network. So it leaves the analysis centre to focus on a single copy of a new virus rather than its many siblings. Standard Internet transport and security protocols are used to make sure reliable and safe transmission.

VII. Virus Analysis

The virus analysis centreanalyses the virus sample, uses the results of this analysis to create and test a cure for the new virus, and packages that cure as a virus definition update that can be distributed to users.

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VIII. Overview

The role of the active network is twofold. In the case of average loads, it supplies a safe, reliable means of transporting virus samples from a customer to the virus analysis centre, and transporting the resulting new virus definitions back to the customer. In the case of peak loads like epidemics and floods, it has the critical responsibility of dealing with potentially huge volumes of traffic both ways without clogging up the analysis centre with demands to analyse the same virus (or the same clean file) over and over again. In nature, the virus analysis centre implements very computationally intensive tasks and can't feasibly keep up with the millions of potential files which the immune system can receive during an epidemic or flood. The active network must intermediate between these demands and the analysis centre.

IX. Safety and Reliability

A system which is intended to deal with virus emergencies must be reliable, especially in an emergency, and must not expose customers to risks like disclosure of their sensitive information or the delivery of a forged virus definition file from an unscrupulous source. In order to meet the objective of reliability, a system must have a transaction protocol which guarantees delivery of the sample to the appropriate gateway or analysis centre, makes sure an appropriate response is generated, and guarantees delivery of the updated virus definitions (or other response) back to the administrator system. In order to meet the objective of security, a virus protection systemmust encrypt the virus sample, virus definition files and any information which are sent along with them, to prevent disclosure of potentially sensitive customer information. IBM has created special-purpose transactions for use in the active network. These transactions send samples up, and send back status information and virus definition files

X. Virus Analysis Tasks

The virus can be analysed once enough samples have been replicated. In fact, some of this analysis has already been done as part of the replication task, because it had to know enough about the virus to determine whether it had replicated and that there were a sufficient number of good samples. If several different forms of a virus have been generated (e.g. up conversions of macro viruses), each form is analysed separately and can result in an additional virus definitions. Completing the analysis involves activities such as extracting a good signature string for the virus, constructing a map of all of its regions for verification, and creating disinfection information.

Once an updated virus definition file is available, the test task uses these definitions to make sure that all of the samples can be detected, and that all of the goat files can be returned to their original form by disinfecting them. The virus definition must properly detect, verify and disinfect all files. No exceptions are allowed. A virus definition file is packaged up and sent out by the supervisor system to the active network as a solution to the submitted virus once a virus definition file has passed test.

XI. Macro Viruses

Currently, the analysis centre can analyse Microsoft Word and Microsoft Excel macro viruses in Office 95, Office 97 and Office 2000 formats. It can handle Microsoft Word documents which are in any of ten languages:

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English, French, German, Italian, Spanish, Polish, Dutch, Brazilian Portuguese, Japanese and Traditional Chinese. A separate replication environment is used for each format and language, to make sure that viruses in these formats and languages execute and spread properly in the virtual machines. It means that the analysis centre can successfully replicate and analyse viruses which are specific to any of these versions of Microsoft Word or Excel, and specific to any of these languages. In tests to date, the analysis centreanalyses and produces complete definitions for over 80% of the macro viruses which are in the wild. It can typically complete analysis of a single macro virus from beginning to end in 30 minutes in its current configuration if the analysis centre is working on only a single macro virus. The analysis centre can complete analysis of four viruses per hour on average if many macro viruses are queued up for analysis simultaneously, so the worker machines are used most efficiently. Although the increase is not linear, when the number of worker machines is increased, the turnaround time will continue to decrease and the throughput will continue to increase.

XII. Conclusion

The computer virus is malicious software programs affecting the web and our computers nowadays. It's become common to possess for a bug found through an email or any sites. People accessing different sites a day should take care of the contents of the page is open. Viruses can damage to your computer or to yourself. Now it should be clear how important to use a computer and keep it safe from viruses. Whenever we use a pen drive or external hard disc you want to scan for viruses to stay your computer safe. Viruses are very destructive programs which will be devastating to companies and individuals. What viruses are, how they get into a computer, how viruses are often avoided, how you get preclude viruses, and therefore the best sort of software want to prevent viruses. We must take care of accessing on-line information, writing a report, and creating a power point presentation.

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