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Computer Virus



Outline

- Definition of Computer Virus
- Types of Computer Virus
- Damages Caused by Virus
- Working of Computer Virus
- Step of life of computer virus
- Protect the computer from computer virus

1.Definition of Computer Virus

A computer virus is a program that may disturb the normal working of a computer system". Virus attaches itself to files stored on floppy disks, USBs, email attachments and hard disks. A file containing a virus is called infected file. If this file is copied to a computer, virus is also copied to the computer.



Cont.

The structure of Computer Virus can be divided into four phases:

1. **Search:**

   Search for the Host program.

2. **Copy:**

   Copy itself into the executable program.

3. **Anti-Detection:**

   Routines to prevent viruses from being detected.

4. **Payload:**

   Performs the function(s) for which virus was designed.



2.Types of Computer Virus

A. **Melissa:** it intended to spread the virus through e-mail messages. The virus prompts the recipient to open a document and by doing so the virus gets activated. The activated virus replicates itself and will be transferred to 50 persons whose address is present in the recipient's e-mail address book.

B. **ILOVEYOU**: it was a standalone program which was capable of replicating itself. The virus initially traveled through the e-mail, same way as Melissa virus. The email had a subject which says that the message was a love letter from the secret admirer. Attachment with this e-mail caused all the trouble.

C. **Browser Hijacker:** It can be spread while downloading; it affects the browsers functioning of basically redirection of the user to certain sites.

Cont.

D. Trojans: can un approved tracing of important login details of users online. Email Virus. This is a virus spread through an email. This virus hide in an email and when the receiver receives the mail it is spread widely.

E. Jerusalem [1998] - This was the first **MS-DOS** virus that caused enormous destructions, affecting many countries, universities and company worldwide. On Friday 13, 1988 the computer virus managed to infect a number of institutions in Europe, America and the Middle East.

3.Damages Caused by Virus

Computer virus cannot damage computer hardware. A virus can:

1. A computer virus can damage data or software on the computer.
2. It can delete some or all files on the computer system.
3. It can destroy all the data by formatting hard drive.
4. It may display a political or false message very few times.
5. Computer speed or performance has slowed.

4.Working of Computer Virus

Computer viruses have a life cycle that starts when they're created and ends when they're completely eradicated. See the Figure 1.

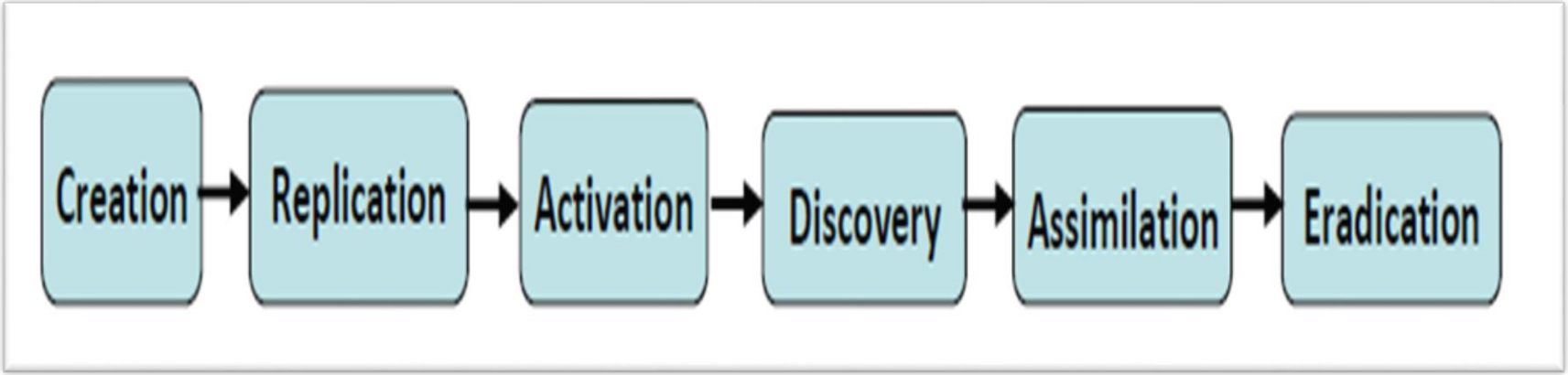


Figure 1: step of life of computer virus.

5.step of life of computer virus

- **Step 1- Creation:** The Computer viruses are created by misguided individuals who wish to cause widespread, random damage to computers
- **step 2: Replication:** Computer Viruses replicate by nature means it copies itself from one PC to anther PC.
- **Step 3-Activation:** Viruses that have damage routines will activate when certain conditions are met. Viruses without damage routines don't activate, instead causing damage by stealing storage space.

cont.

- **Step 4- Discovery:** This phase doesn't always come after activation, but it usually does. Discovery normally takes place at least a year before the virus might have become a threat to the computing community.
- **Step 5- Assimilation:** At this point, Anti-virus developers modify their software so that it can detect the new virus. This can take anywhere from one day to six months, depending on the developer and the virus type.
- **Step 6 –Eradication:** If enough users install up-to-date virus protection software, any virus can be wiped out. So far no viruses have disappeared completely, but some have long ceased to be a major threat.

6.Protect the computer from computer virus

- There are many ways to protect and prevent a computer virus such as:

1) Don’t open unknown email attachments
2) Don’t disable UAC on Windows
3) Don’t use your computer as an admin
4) Keep your browser updated
5) Keep your operating system updated
6) Only install software you know and trust
7) Ensure you have up-to-date anti-virus
8) Don’t trust your email account