

What are viruses, worms, and Trojans?

Viruses, worms, and Trojans are malicious programs that can cause damage to your computer and information on your computer. They can also slow down your Internet, and they might even use your computer to spread themselves to your friends, family, co-workers, and the rest of the Web. The good news is that with a little of prevention and some good common sense, you are far less likely to fall victim to these threats. Read on to learn about the characteristics and differences of viruses, worms, and Trojans.

What is a virus?

A virus is a piece of computer code that attaches itself to a program or file so it can spread from computer to computer, infecting as it travels. Viruses can damage your software, your hardware, and your files.

Virus (n.) Code written with the express intention of replicating itself. A virus attempts to spread from computer to computer by attaching itself to a host program. It may damage hardware, software, or information.

Just as human viruses range in severity, computer viruses range from the mildly annoying to the downright destructive. The good news is that a true virus does not spread without human action to move it along, such as file sharing or sending an e-mail.

What is a worm?

A worm, like a virus, is designed to copy itself from one computer to another, but it does so automatically by taking control of features on the computer that can transport files or information. Once you have a worm in your system it can travel alone. A great danger of worms is their ability to replicate themselves in large numbers. For example, a worm could send out copies of itself to everyone listed in your e-mail address book (unless protected with the appropriate antivirus software), and their computers would then do the same, causing a domino effect of heavy network traffic that would slow down business networks and the Internet as a whole. When new worms are unleashed, they spread very quickly, clogging networks and possibly making you wait twice as long for you (and everyone else) to view Web pages on the Internet.

Worm (n.) A subclass of virus. A worm generally spreads without user action and distributes complete copies (possibly modified) of itself across networks. A worm can consume memory or network bandwidth, thus causing a computer to stop responding. Because worms don't need to travel via a "host" program or file, they can also tunnel into your system and allow somebody else to take control of your computer remotely.

What is a Trojan?

Trojans are computer programs that appear to be useful software, but instead they compromise your security and cause a lot of damage.

Trojan (n.) A computer program that appears to be useful but that actually does damage. Trojans spread when people are lured into opening a program because they think it comes from a legitimate source. Trojans can also be included in software that you download for free. Never download software from a source that you don't trust.

How do worms and other viruses spread?

Virtually all viruses and many worms cannot spread unless you open or run an infected program. Many of the most dangerous viruses were primarily spread through e-mail attachments—the files that are sent along with an e-mail message. You can usually tell if your e-mail includes an attachment because you'll see a paperclip icon that represents the attachment and includes its name.

Photos, letters and even spreadsheets are just some of the file types you might receive through e-mail each day. The virus is launched when you open the file attachment (usually by double-clicking the attachment icon).

Tip: Never open anything that is attached to an e-mail message unless you were expecting the attachment and you know the exact contents of that file.

If you receive an e-mail message with an attachment from someone you don't know, you should delete it **immediately**. Unfortunately, you're no longer safe opening attachments from people you do know. Viruses and worms have the ability to steal the information out of e-mail programs and send themselves to everyone listed in your address book.

So, if you get e-mail from someone with a message you don't understand or a file you weren't expecting, always contact the person and confirm the contents of the attachment before you open it. Other viruses can spread through programs you download from the Internet or from virus-ridden computer disks that you borrow from friends.

How can I tell if I have a worm or other virus?

When you open and run an infected program, you might not know you've contracted a virus. Your computer may slow down, stop responding, or crash and restart every few minutes. Sometimes a virus will attack the files you need to start up a computer. In this case, you might press the power button and find yourself staring at a blank screen. All of these symptoms are common signs that your computer has a virus—although they could also be caused by hardware or software problems that have nothing to do with having a virus.

Beware of messages warning you that you sent e-mail that contained a virus. This may mean that the virus has listed your e-mail address as the sender of tainted e-mail. This does not necessarily mean you have a virus. Some viruses have the ability to forge e-mail addresses. Unless you have up-to-date antivirus software installed on your computer, there is no sure way to know if you have a virus or not. If you don't have current antivirus software or if you're interested in installing a different brand of antivirus software, visit our software recommendations page.

Reducing your virus risk

Nothing will guarantee the security of your computer 100 percent. However, you can continue to improve your computer's security by keeping your software up to date and maintaining your antivirus software.