# WHAT ARE COMPUTER VIRUSES?

**How to they work? What other types are there**

It seems every time you flick on your computer these days, there's another unwelcome virus to battle. It's a common story to hear that people bought anti-virus software when they buy their computer but they now complain that it's letting the new viruses slip through.

The bad news is that fighting viruses is an ongoing battle. There are around 200 new viruses every month. They're getting smarter and trickier. They spread around the Net in Internet time. That means almost instantly. At NetGuide, we continue to receive virus emails even from companies. When we point this out, the sender is often in disbelief because they had no idea they were spreading a virus.

**What is a virus?**

They are called computer viruses but it's not always an accurate description of what's happened to your computer. At least the term virus helps give a mental picture as we are more familiar with the spreading of medical viruses like the common cold and understand how they can spread quickly.

One common description of a computer virus is that it's a programme which can attach itself to files to make your computer act in a way you don't expect or don't want. It can reproduce itself when its code is attached to files on your computer. In more technical language, its executable code which attaches itself to, overwrites or replaces another program in order to reproduce itself on your computer without your knowledge. The virus spreads when you launch a programme or from an infected disk.

There are other problems with names like Trojan horses and worms that also can infiltrate and cause problems on your computer.

**What is a benign virus?**

It's one that doesn't usually cause much harm. It usually hides away and then at some stage displays an annoying or stupid message on your computer. A "malignant" virus is one that can do damage especially altering something in your computer so it doesn't work as it should.

**How do viruses work?**

They usually attach themselves to a file usually an executable application such as a word processing programme. It maybe an attachment with .exe in the name.

**What are worms?**

These are programmes which replicate or copy themselves as they move from file to file. They don't need to be attached to any programme to replicate themselves. Most worms spread as an email attachment. Once you opened the attachment, your machine is infected and every time you sent out mail, unknown to you, the worm replicated itself and went out as an attachment as well to the person to whom you were sending mail. Some worms have their own email engine and they do not need your email programs to send themselves out.

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### What are Trojan horses?

Named after the famous horse of Troy, these pretend to be programmes but actually contain code which can in effect see something of what going on in the computer and return details to the sender. In the worst scenario, the sender than might be able to figure out a person's password or other confidential information. The programs carry out some covert or malicious act - for example some load obscene graphics onto the hard drive.

### What is a time bomb?

This is a programme which sits on your computer and waits for a specific date - then "explodes' and usually deletes files or tries to create some sort of havoc. How many viruses spread? Not all the 200 or so new viruses every month get very far. Email is now an easy way for them to spread. For companies receiving large volumes of email, regular updating of anti-virus software and thorough scanning of incoming email are essential steps but still viruses slip through.

### What damage can a virus do?

This differs from virus to virus. The first thing is don't panic. We heard from terrified readers who shipped off their machine to the service centre when they discovered they had received a virus. This wasn't necessary. It could have been fixed easily by the computer user in minutes.

Some viruses are just nuisances, and make a minor change to your computer. One doing the rounds pops up on a day of the month and tells you that you are a "jerk." Some format or overwrite the hard disc such as the Michelangelo virus. You may lose some work. The more damaging viruses destroy your backups or make changes that you are unaware of until too late - or confuse you so you aren't sure what data has been changed.

### How dangerous are discs?

Like a medical infection, sharing of something can result in something bad being passed on. Sharing any disc such as a floppy or zip is one of the easiest ways to spread a computer virus. A disc may have picked up a virus from a machine and then put it on your machine when you insert the same floppy.

You should first run anti-virus software to make sure the disc is virus free. I learnt that the hard way one day when I started a new job. I found a spare floppy disc in the drawer and used it. It contained a virus and destroyed my first few days of work. Also dangerous is pirated software. If you are handed discs containing computer programmes that have been copied off be careful. Not only might they contain a virus but there are also the copyright issues.

### How dangerous is email?

Virus is easily spread by email - when attachments are opened. There are hoaxes which claim that simply downloading and reading a text email letter can give you a virus but you actually have to open an attachment to run a virus risk.

### What are the first general precautions you can take?

You can create a boot disc on a floppy or zip disc which is virus free. This enables you to start your computer in an emergency. You need to back up your data files regularly. Buy anti-virus

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software and keep it up to date. If you have bought a software programme, you usually are given some period of time when you can visit the company's Web site and update free the latest virus protection to cover new viruses. After that period, you will have to pay for regular top ups - but it's worth it. Above all, don't be complacent.

### What is a boot disc?

It's a floppy or zip drive on which has been placed the computer's operating system. It means if something goes wrong with your computer, you can use the disc to "boot " your machine and attempt to fix the problem.

### If you have a virus what do you do?

Don't panic! If you have an anti-virus package run it. If that doesn't solve it, seek expert advice. Take note of the name of the virus if it lists one. If you work in an office, check if other machines are affected and warn anyone if you have recently sent them an attachment or given them a file on a floppy disc.

### If my computer plays up, could it be a virus?

Yes but lots of things make your computer misbehave from time to time. A virus may slow your computer, cause unexpected messages to run or cause hardware to run in a strange manner - but because these things happen it doesn't mean the problem is caused by a virus. There are other explanations.

### How much damage have viruses caused?

This is not easy to determine because companies often keep news of virus incidents in-house. Many viruses are relatively harmless and are more a nuisance. There is no reporting mechanism if a home owner gets a virus so it's impossible to determine how common they are.

While viruses do spread fast these days because of email, they can also be quickly contained because word about them also travels fast. Although the Melissa virus appeared to emerge on a Friday, IT managers of many US firms heard about it in time to go in during the weekend and put mechanisms in place in case any employees had email with the virus when they arrived at work on the Monday. These precautions included issuing warnings to all staff to be aware of what to watch for in their email.

If damage is caused, it can hurt - especially lost data, the time involved in cleaning up the mess and trying to retrieve lost material and even the cost of buying improved anti-virus software.

### Does anti-virus software always work?

Hopefully usually but you can't depend on them to be 100% accurate. A virus check may miss a virus - especially if the virus is new and you haven't updated the programme. It can get fooled. Sometimes it sends out a false alarm telling you there is a virus in a file when in reality there isn't. This can be nerve-raking as it is better to believe your programme than disbelieve.

If you then run a virus check to solve the "problem" but it can't then find a virus, you may wonder whether it was a false alarm. There's always that nagging doubt about whether there was or wasn't a virus. Some people use two different anti-virus programmes so they can cross check if such an alarm occurs.

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**What software should be used?**

There are several major anti-virus software products available at your local computer store and it's often a personal choice which one to use. Our next article also contains a list of virus software.

**Are Macs immune?**

Macs have been relatively immune compared to those machines using a Windows platform. Last we heard there were 35 Mac-specific viruses. One called the [AutoStart worm](#) was doing the rounds last year.

**Do some people pretend to be giving you a virus?**

There's a lot of humour on the Net and a lot does the rounds in email. You may get a message pretending to have put a virus on your machine but it may be a joke. Hmmm, just what you need on a Monday morning to get the blood rushing. You can never account for some people's idea of humour!

**What are virus hoaxes?**

There must be very few people on email who haven't received a chain letter with the subject line warning of a virus doing the rounds. These are often hoaxes and meant to scare people and have fun at their expense. The warnings encourage you to pass the warning on which people do - and besides clogging mailboxes, it means hoaxes soon take on an air of credibility.

**How do viruses get their name?**

Usually anti virus software makers give them the name - or they may be named by the person who created the virus. The word Melissa appeared in the code involved in the virus.

**Why do people spread viruses?**

Why do people graffiti walls or vandalise property? They probably think they are clever, like to cause havoc or distress, get a thrill especially from the media attention they draw, think they are being anti-authority or don't care. As few are caught (the FBI did charge someone for the Melissa virus) it's hard to know.

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**Examples of viruses that have been spread are:**

**Bill Gates Tracking Chain Letter:**
>Claims to enrol you in a Bill Gates beta software programme which tracks email.

**Bud Frogs warning:**
>Claims a screensaver will destroy your machine.

**Cancer chain letter:**
>Various variations of this, all claiming not to be a hoax and designed to help some child dying of cancer.

**Christmas tree:**
>Claims something called tree.exe will explode on Boxing day and destroy your files.

**Disney world:**
>A chain letter which says you'll get a free trip to Disney world if you pass the letter on.

**Good Times:**
>Virus warning about a non-existent hoax called Good Times which also goes by other names such as Deeyenda Maddick.

**Join the Club/Crew:**
>A hoax that has been going since around 1997 warning that someone got an email headed "Join the Club" or "Join the Crew" and it deleted files.

**Penpal greetings:**
>This has been going since about 1996 and like Join the crew falsely warns that an email headed "Penpal greetings" can cause damage to your computer.

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