



# ARE YOU INFECTED?

Most of the information flying around the internet is unsolicited spam sent out by infected home computers

IF A VISITING alien were to judge humanity by the traffic on the internet, he'd think we were sexual deviants suffering a chronic impotency crisis, with a strange fascination for Amazing Replica Rolex Watches.

As much as half the internet traffic in the world is spam, according to some guesses, and McAfee, a computer security company, reckons that as much as 78% of all emails are junk. Most of this garbage comes from infected home computers, which makes it much harder to combat. A source at one of the world's biggest software companies says that he and his colleagues are fighting a losing battle against online security.

Even so, few of the big software or antivirus vendors have publicly admitted defeat yet, but lots of consumer-facing organisations are already there in practice. "Financial institutions must assume their customers are compromised (infected with malware) and they must continue doing business anyway," according to a recent blog post by Jeremiah Grossman, who is the founder and chief technology officer at WhiteHat Security. "If we operate with

this assumption, that the client is compromised (again not unreasonable), then the good guys have ceded victory in the desktop security battle. With over 1 billion people on the internet, that is no small loss. What's worse is there are signs that the loss of the home network could be permanent."

Malicious software is already starting to target home routers, says Grossman, which means that networks could become permanently infected, regardless of the desktop security measures that home users take. That's a scary prospect and a huge potential problem for banks that provide secure online services.

## HOW DID WE GET HERE?

Electronic spam is as old as the internet itself, but it continues to find new outlets in internet messaging applications, social networks and smartphones. Wherever the internet goes, spam and malware will surely follow, growing like bacteria into every nook and cranny of the virtual world.






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## SPAMS CARBON FOOTPRINT

McAfee's research into the effect of spam on our planet included these key findings:

- An estimated worldwide total of 62 trillion spam emails were sent in 2008
- Globally, annual spam energy use totals 33 billion kilowatt-hours (KWh), or 33 terawatt hours (TWh). That's equivalent to the electricity used in 2.4 million homes in the US, with the same emissions as 3.1 million passenger cars
- The average greenhouse gas emission associated with a single spam message is 0.3 grams of CO2. That's like driving three feet in equivalent emissions, but when multiplied by the annual volume of spam, it's like driving around the planet 1.6 million times
- A year's email at a typical medium-size business uses 50,000 KWh; more than one-fifth of that annual use can be associated with spam
- Filtering spam is beneficial, but fighting spam at the source is even better. When McColo, a major source of online spam, was taken offline in late 2008, the energy saved in the ensuing lull — before spammers rebuilt their sending capacity — equated to taking 2.2 million cars off the road
- Much of the energy consumption associated with spam (80%) comes from end-users deleting spam and searching for legitimate email (false positives). Spam filtering accounts for just 16% of spam-related energy use

Gary Thuerk, a marketing manager at Digital Equipment Corporation back in 1978, is credited as the father of spam after coming up with the novel idea of sending a marketing message to all 600 California-based users of Arpanet, a network of government and university computers that grew into the internet. The invitation to check out DEC's latest computers didn't go down well with the Arpanet crowd and, even today, Thuerk is sometimes ashamed to own up to his dubious claim to fame.

But the term "spam" came later and is a reference to a famous Monty Python sketch called Spam, after the luncheon meat, which became ubiquitous in postwar Britain. Set in a greasy spoon in Bromley, the word spam is repeated more than 100 times in the sketch and several more times in the show's end credits: "Spam Terry Jones, Michael Spam Palin, John Spam John Spam John Spam Cleese", and so on.

Nerds adopted spam as a term in the 1980s, but also pasted the sketch's dialogue as a form of early spam, sometimes to push other users off the bottom of the screen on chatboards or simply to annoy them.

The origin of malware is similarly nerdy. Most internet crime is conducted using botnets — vast networks of zombie computers that operate without their hosts' knowledge — yet the first bots were created for entirely innocent purposes. Greg Lindahl's GM bot first appeared on internet chat channels in 1989 and amused its creator by playing a game called Hunt the Wumpus.

Nobody is laughing anymore. In its ninth Security Intelligence

Report, published in October, Microsoft focuses its attention on the problem of botnets and describes efforts to clean infected computers and take down existing botnets. The report includes a global overview of infections, showing that botnets are prevalent around the world, with places such as the US, Brazil, Spain and Korea showing the highest rates. Hong Kong is more or less in line with the worldwide average.

On the face of it, Microsoft is optimistic about the current state of affairs. It has teamed up with a number of universities and other organisations to go to war with the bots, creating what it calls honeypots and darknets to find their enemy and then destroy it.

Microsoft's recommendations for fighting malware are directed at businesses, but include some basic precautions that all home users should follow too — after all, most botnets live on home computers, without the user's knowledge, and got there due to some basic failures in home security.

Keep all computers up-to-date with the latest security updates from Microsoft and other software vendors, including updates for browser add-ins, and make sure that Automatic Update is enabled and connecting to the Microsoft Update service.

Make sure that your antivirus definition files are up-to-date on all computers and remember to change all of your passwords regularly — not only Windows and domain passwords, but passwords for instant messaging applications, external websites and other passwords that may have been stored or cached on any infected computers.



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