New Technology Aims to Bore Impatient Spammers

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Spammers are impatient, so a Canadian company has developed new technology to capitalize on that impatience to cut the volume of unwanted e-mail messages flooding the Internet.

For spammers, volume is king; the more e-mails sent advertising penny stocks or miracle cures, the higher the odds that someone, somewhere will open the message and buy the "product." Thus, the spammers focus on sending as many unsolicited e-mail messages as possible in the shortest amount of time.

MailChannels of Vancouver, Canada, found that by forcing e-mail programs to wait a few seconds before being allowed to communicate with Internet servers handling the recipients' incoming mail, most spammers give up and move on.

Normally, when an e-mail server receives a request to accept incoming messages, it quickly agrees. But MailChannels' product, Traffic Control, changes that dynamic by meting out that digital handshake very slowly, a few bits at a time. The receiving server normally would acquiesce to the incoming request in less than two seconds, but Traffic Control's software lets e-mail administrators extend that communication gap anywhere from 10 seconds to a couple of minutes.

Based on data collected after deploying Traffic Control, MailChannels co-founder Ken Simpson said 90 percent of spammers give up trying to send their message after 10 seconds of being "on hold"; legitimate e-mail senders, however, tend to persevere and eventually get their message through.

"Even after eight minutes [of waiting], 60 percent of legitimate e-mail senders are still hanging on trying to get their message delivered." Simpson said. "This is the technique spammers are really only going to get hurt by, because if we just build a better spam filter, the spammers will respond by increasing the amount of junk mail they're blasting out. But if you throttle them, there really is nothing they can do except persist like legitimate senders, but if they do that then the economics of spamming goes out the window."

The company has secured customers in a wide range of fields since its founding in 2003. The city of Richmond in British Columbia reported halving its spam volume after deploying the company's software across its government networks. Cornell University and Northeastern University also are clients.

The service has been a boon to Frank Wiles, information technology manager for Sunflower Broadband, a cable-based Internet service provider. Wiles said his Lawrence, Kan., company is locked in a daily battle against junk e-mail, noting that spam makes up 97 percent of the average one million e-mails his company's 20,000 customers receive daily.

Without MailChannels' software, Sunflower would have had to invest at least $50,000 in new hardware to deal with the huge increase in spam over the past year, Wiles said.

Forcing e-mails to wait around for many seconds to determine their legitimacy can quickly create a backlog of messages, especially since many e-mail networks receive hundreds or thousands of messages per minute. To get around that problem, Traffic Control offers the added feature of helping e-mail servers operate more efficiently.

E-mail servers operate by addressing sequentially each message's meet-and-greet. That means that tiny pauses in the communications process on either end can quickly add up and slow the receiving mail server to a crawl. Think of it as a digital square dance where each dancer's hand hovers in the air for a brief moment before grasping onto the next partner's hand. MailChannels' software looks for those handshake gaps. It then reassigns each message in the queue to a different incoming connection until the original connection is completed.

If more and more companies deploy Traffic Control, the technology could fall victim to its own success, as some experts maintain that MailChannels' technology is effective only if it is *not* widely adopted. Lawrence Baldwin, chief forensics officer for myNetWatchman.com, a company investigating malicious software that often usurps PCs for nefarious uses, said spammers are constantly tweaking their networks to evade the latest anti-junk mail techniques.

"I'm of the mindset that every action we take to fight these guys just serves to make the attackers smarter," Baldwin said.

New Hampshire resident Bill Stearns, a spam researcher and volunteer for the anti-spam group SURBL.org, attended a talk by Simpson at the Massachusetts Institute of Technology's Spam Conference last month. Stearns said he was impressed at the volume of spam that Traffic Control was able to filter out.

Stearns said even if a large number of companies begin adopting the software, the technique should remain effective in the short run.

"In one sense this is a little bit like your house being the only one with a locked door on a street full of nice homes, because the spammers are just going to start ignoring you and move on to the next target," Stearns said. "It's going to take a long time before a technique like this becomes useless."

As the recipient of the MIT conference's Best Paper prize, MailChannels was awarded a decorated can of SPAM. Simpson said he is grateful, but that he has no plans to consume his trophy: He is a lifelong vegetarian.

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