Northeastern researchers made the call on 'zombie virus'

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A new virus has struck Smartphones in China, an event Northeastern University researchers predicted last year in a paper.

Northeastern University researchers predicted last year that major Smartphone viruses will become a real threat to devices such as Blackberrys and iPhones once a particular operating system approaches a 10 percent market share. Based on news reports indicating that more than one million Smartphones in China have been hit with such a virus, it appears their predictions have been realized.

“This was exactly the type of thing that we described in our study,” said László Barabási, Distinguished Professor of Physics and director of the Center for Complex Network Research (CCNR) at Northeastern University.

Barabási, a pioneer in network science, coauthored a paper with other Northeastern researchers entitled, “Understanding the Spreading Patterns of Mobile Phone Viruses,” published in Science magazine in April 2009. The team wrote that Smartphones present fertile ground for viruses since they can share programs and data with each other, unlike traditional cell phones that lack a standardized operating system. The researchers predicted that a virus would run on the leading operating system on the market, and warned that the virus threat would rise as those devices’ popularity grew worldwide.

In the study, the team modeled cell phone users’ mobility to analyze the potential spread of both Bluetooth and multimedia messaging service (MMS) viruses. They found Bluetooth viruses would spread slowly because users must be in close physical proximity, while MMS viruses could infect users much faster since they share networks, such as contact lists and e-mail. Thus, they predicted a MMS virus was far more likely.

Now, the “zombie virus” has infiltrated more than one million Smartphones in China since September, according to news reports. Through this virus, hackers obtain users’ Smartphone information and contact lists, and the contacts have reportedly received text messages that also contain viruses and have collectively caused up to $300,000 per day in false texting charges.

Barabási said the virus is running on Symbian, the world’s most-used the operating system on mobile devices. He said preliminary data indicates Symbian has reached 6.4 percent of the market—sufficiently close to the figure predicted by his research team to trigger a viral process. The team included CCNR colleagues Pu Wang and César Hidalgo, at that time both PhD candidates, and postdoctoral researcher Marta González.

Barabási said that while anti-virus software for mobile phones is available, many users are unaware of its existence, while providers often

take reactive measures to viruses rather than actively thinking of preventative steps.

“I do think the world is truly unprepared for this,” Barabási said.

But, he added, “Many of these advances happen through crisis.”

CCNR is considered the leading university-based center for network science research in the world. The center focuses on how networks emerge, what they look like, and how they evolve, and how networks affect our understanding of complex systems.

Provided by Northeastern University