Morris Worm

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Dr. Reagan

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Computer worms have been around for almost as long as the internet, and most of them can be deadly if not caught within a timely manner. Many computer worms will destroy files and harm what is on the computer, and cause the loss of hard work. Worms can also go undetected until the creator of the worm wants it to be found, and by that time it could already have harmed files or the computer itself. Unlike a virus, computer worms do not need software to host it, the worms can exist on their own. One of the first, if not the first computer worms was the Morris Worm, created by 23-year-old, Robert Morris.

Morris was a graduate student at Cornell University studying computer science, when he began to develop a program that could spread slowly and without notice across the internet. He was talented when it came to computers, and graduated with his undergraduate degree from Harvard in June of 1988. He had grown up around computers his whole life, because his father worked as an innovator at Bell Labs. While at Harvard Morris was known for his expertise, especially in Unix. Also during his time at Harvard he was known as quite the prankster.

Morris released the worm on the internet from a computer at MIT on November 2, 1988. It recently just marked 30 years since the publication of the worm infected thousands of computers. The worm did not harm any files but it did make the infected computers come to a screeching halt. Within 24 hours of the release of the worm it had infected 6,000 of the 60,000 computers that were connected to the internet at that time (FBI). Fortunately, the program was released a year before the invention of the World Wide Web. The worm was first discovered by a student at the University of California, Berkeley, by writing an email the stated “We are currently under attack”. Even though it was discovered at Berkeley, that was far from the only place that was affected by the worm. The worm infected a number of colleges and research centers that made up the early electronic network. Among the infected places included Harvard,

Princeton, Stanford, Johns Hopkins, NASA, and the Lawrence Livermore National Laboratory (FBI).

The worm only targeted computers that ran a specific version of Unix, but spread so vastly because it had multiple ways to attack, it was designed to stay hidden, and there was a design flaw that resulted in the program creating more copies of itself than Morris estimated. There were many vital government and university functions that were slowed to a crawl. After the worm was discovered they then had to figure out how the worm worked and how to get rid of it. Institutions wiped their systems while some disconnected the computers from the network. Although there is not an exact number on the cost of damages it is estimated that it started at $100,000 and went up all the way to $10 million (FBI). Experts were desperately trying to find a fix, and the question on who was responsible still hung in the air.

Not long after the attack Morris admitted to some friends that he launched the worm. After this he asked his friends to release an anonymous message on his behalf with an apology and guidance on how to remove it. Unfortunately, many places did not receive the message in time due to the damage to the network. One of Morris' friends then contacted the New York Times, saying that he knew who built the program and that it was meant as a harmless experiment and spread as the result of a programming error (FBI). The friend inadvertently referred to the worms creator, Morris, by his initials RTM. Morris's father, Robert Morris, who is a co-author of UNIX OS and a chief scientist at NSA's National Computer Security Center was actually the one who convinced Morris to confess about the worm that he has released. Morris admitted that he did release the worm but he didn't mean to have caused so much damage. He only intended to see how big the internet was. Soon after the interview the Times confirmed and reported that Morris was the culprit.

When the incident became public the FBI launch an investigation on whether Morris had broken federal law or not. It was soon confirmed that Morris was behind the attack, by finding plenty of incriminating evidence on his computer files. During the investigation it was found out that Morris did break the law by violating the 1986, Computer Fraud and Abuse Act, which outlawed unauthorized access to protected computers. Morris was then indicted in 1989, and was found guilty, which made him the first ever to be convicted under the law. Fortunately for Morris he was not sentenced to jail time, but was fined to $10 thousand dollars, put on three year probation, and had to complete 400 hours of community service. This punishment turned out to be convenient for Morris because after this experience he became a very respected member of the computer society. Among his accomplishments are the production of one of the main internet business stages, Viaweb which was sold to Yahoo and rebranded as Yahoo Store in the future, the making of the startup support Y Combinator, the investment in the advancement of new programming dialects and he earned a PHD at MIT.

Before this internet security was just theoretical and software companies thought of security flaws as extremely low priority (Kelty). After this incident, software companies were then forced to take security flaws in their products seriously. It also increased the need for more people in the computer security field, and the demand for people in these professions increased. Today the world of the internet and electronics is plagued with malware and worms just like the one that Morris released.

The release of this worm had an enormous impact on the nation, and how vulnerable computers and the internet were. This is when the idea of cybersecurity became a serious though in the eyes of the country. Even though this outbreak sparked the idea of cybersecurity, it also inspired a new generation of hackers that continue to be a problem for the digital world to the

day. Viruses have turned out to be exceptionally basic nowadays, it is prudent to have an antivirus programming introduced on your PC to remain safe from infection assaults. At the point when your PC is tainted, it requires an infection evacuation to return to the ordinary state. Along these lines, it is imperative to have an infection security set up to avert such issues. We may never know if this attack was an accident or not but the first attack on the internet woke us up to the idea of how vulnerable the cyber world can be. In the event that Morris hadn't propelled his anonymous worm, another person would have accomplished something comparable, maybe with authentic noxious goal. Given that he was still basically a child and didn't mean the damage he actually caused, his discipline was most likely fitting and it was a lesson learned. It definitely does not seem to have harmed his career.

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