A BRIEF HISTORY OF MALWARE

1987

1989

1991

1993

1995

1997

1999

2001

2003

2005

2007

1986

1988

1990

1992

1994

1996

1998



BRAIN

First virus for the IBM PC platform and the first to use stealth mechanisms, Pakistani Brain infected the boot sector of floppy disks, spreading globally in a matter of weeks.



Developed by Robert Tappan Morris Jr., son of a former NCSC scientist. Often cited

as the first worm, the virus spread across thousands or perhaps tens of thousands of minicomputers and workstations running VMS, BSD and SunOS.



it was grotesquely bloated and awfully inefficient. One researcher at the time

described Whale's main replication method as "anti virus researchers sending specimens to each other." Unfortunately, malware authors have learned a lot since then.

TRIDENTS POLYMORPHIC ENGINE (TPE)

A polymorphic engine can transform a program to a new version using different code but keeping the original functionality. This can be used by viruses in an attempt to avoid detection.



unbootable. LAROUX Although not the first spreadsheet virus,

WM/Laroux was the first Excel macro virus seen in the wild. The actual virus code consists of two macros, "Auto_Open" and "Check_Files", hidden in a datasheet named "laroux".

and the system would become

AUTOSTART

AutoStart 9805 was arguably not a virus, but a worm; that is, it replicated by copying itself, but didn't attach itself parasitically to a host program. The original variant took hold rapidly in Hong Kong and Taiwan in April 1998, and was soon reported on at least four

continents.

LOVELETTER Another email worm that is said to have

attacked tens of millions of Windows PCs. Sometimes referred to as ILOVEYOU, The virus would arrive as an attachment disguised as a love letter, capable of accessing the operating system, secondary storage, system and

user data

MYDOOM

One of a rash of mass-mailer worms that spread during the first decade of the 21st century. The original version was noted for its rapid spread, but is

probably best remembered for carrying out DDoS (Distributed Denial of Service) attacks on SCO Group and Microsoft - which both offered \$250,000 for information leading to the author's arrest.

VB.NEI

Also known as Nyxem, Blackmal or Mywife, it received a lot of attention because it used a counter which allowed researchers to track the number of infected hosts. VB.NEI was also notable because it deleted files a throwback

to the earlier days of data-destroying viruses



tracing was a pointer to future developments.

Did ever a botnet spread so wide, for so long, and attract so much media attention, without actually doing very much? Even so, its use of fluxing algorithms in order to hamper

STUXNET The first military grade worm that really hit the news big while the affecting a relatively low volume of systems. It targets industrial control systems and

it was used against Iranian nuclear

facility.



stealing AutoCAD documents. ESET's team discovered and analyzed this threat to find out

that it was developed to steal

blueprints from private companies mostly based in Peru.



Sophisticated malware components

were designed to hijack servers, infect computers that visit them and steal information.

KLEZ A mass-mailer worm propagating a polymorphic virus. Once executed on an infected computer, it sends itself to addresses found in the system. It was notable for its "sender forging" technique, replacing the email address of the original sender with an alternative but real address. Many misunderstandings and false accusations followed.

of the unfortunate victim.

2000

2002

2004

2006

2010

2008

2009

2011

Since the Brain virus first hit in 1986, worms and trojans have continued to attack and infect our devices. But of all the threats faced by users, each year can be defined by one significant virus.

STONED

Early boot sector virus initially propagated across New Zealand and Australia. Infected

computers would display pro-drug slogans on start-up, including "Your PC is now Stoned" and "Leagalise Marijuana". The Stoned virus had many variants and remained very common in the early 1990s.

DISK KILLER

One of the earliest destructive viruses, this boot sector infector would slowly corrupt disks. It's sometimes referred to as the Computer Ogre, which is the message that would flash on the

screen of infected PCs.



MBR on hard disk drives. Spending most of its time dormant, infected computers could go years without

detection if not booted on March 6.

DARK ANGEL'S **MULTIPLE ENCRYPTOR** (DAME) Another polymorphic engine,

published by a Canadian virus group Phalcon/SKISM. It was distributed as commented source code.

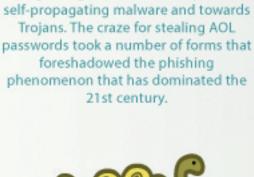
WM/CONCEPT

The first Macro Virus to spread through Microsoft Word - WM/Concept caused many problems. Microsoft did not initially release the format of the Office Files (OLE2) and the streams (WordDocument). At an EICAR Conference in Linz, CARO members sat

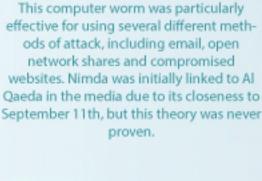
down to reverse engineer the formats together to make a proper detection and remediation.

AOL TROJANS

1997 could be said to have seen the real beginning of the trend away from



MELISSA Mass mailing worm with widespread impact, infecting Microsoft and Intel networks through the MS Outlook email client. The virus was delivered via an MS Word attachment that would forward to the victim's first 50 Outlook contacts when clicked.



NIMDA

packet, this worm exploited a vulnerability in Microsoft SQL Server and spread rapidly - infecting most of victims within just ten minutes. The entire Internet became very slow that day.

SQL SLAMMER

Basically a self-replicating network



TDL3

KELIHOS A likely successor of the Storm worm, this botnet was primarily used to run

HESPERBOT

the malware.

This espionage malware was detected mostly in Ukraine, Russia, Georgia and Belarus. Stealed passwords and sensitive information in order to offer

(es et

COMMWARRIOR The first mobile phone virus able to spread via MMS messages and Bluetooth, Commwarrior targeted Symbian Series 60

Detecting by ESET as Nuwar, the infamous Storm worm began infecting

smartphones. Its impact was small, but its implications to AV experts were great.

Innovative, adaptive, TDL3 rootkit and its successors (TDL3+, TDL4) have proved irritatingly successful in terms of persistence. It has also introduced new twists on old ideas like P2P networks and hiding malware - just as previous malware has used sectors marked as bad, slack space, or streams, TDL has made effective use of a hidden file system.

spam campaigns and steal information.

This advanced trojan targeted online banking users with very credible-looking phishing-like campaigns related to trustworthy organizations. Attackers obtained login credentials by luring their victims to run

2013

2012

2015

2014

ENJOY SAFER TECHNOLOGY™

computer.

POTAO

them to the attackers' remote