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HISTORY OF HACKING



Tomáš Vobruba SE | Check Point EE

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CYBER SECURITY

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What is hacking?

the activity of illegally using a computer to access information stored on another computer system or to spread a computer virus

Today, mainstream usage of "hacker" mostly refers to computer criminals, due to the mass media usage of the word since the 1980s. "wiki"



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1903

Marconi wireless transmitting hacked



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RATS



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1930



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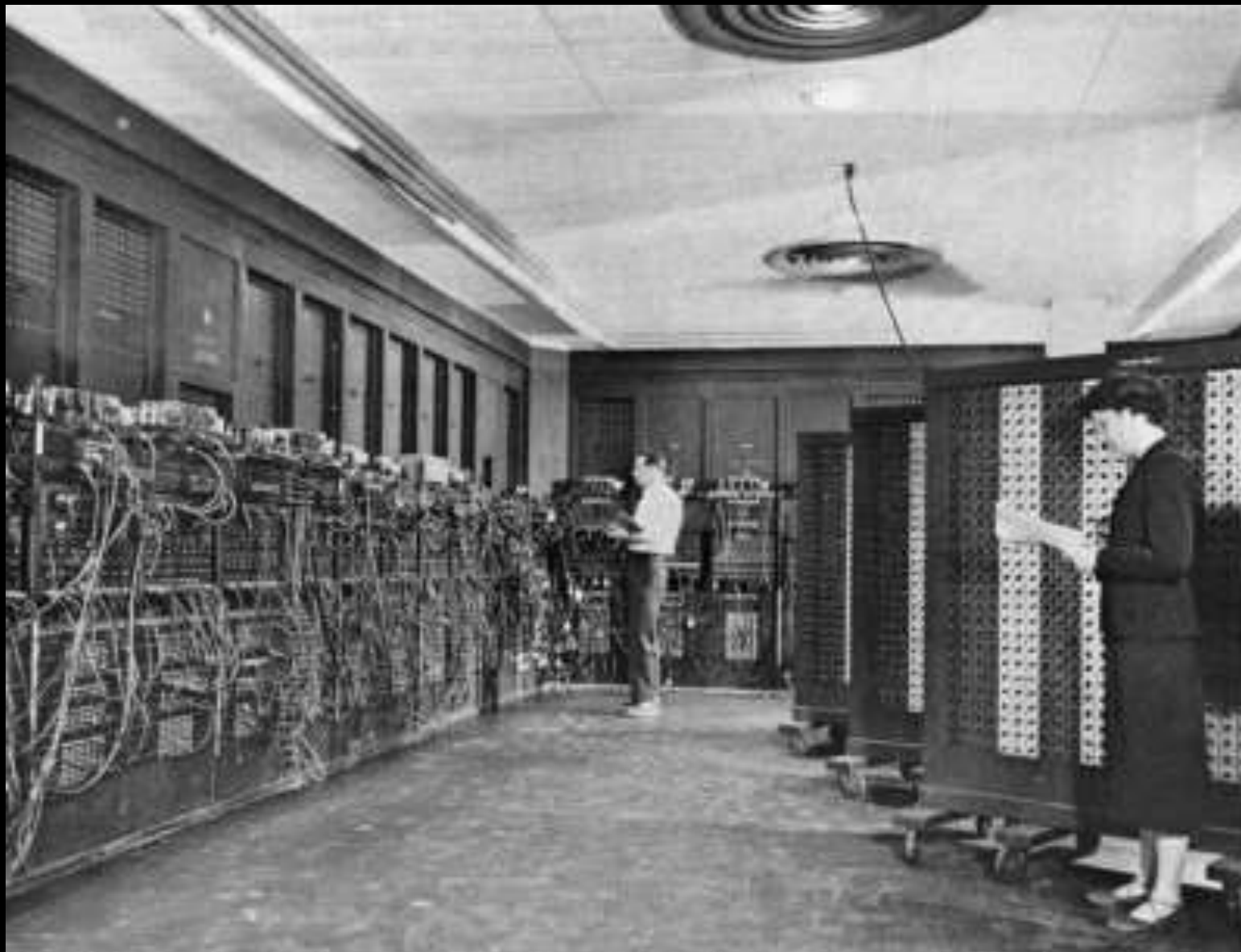


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1945

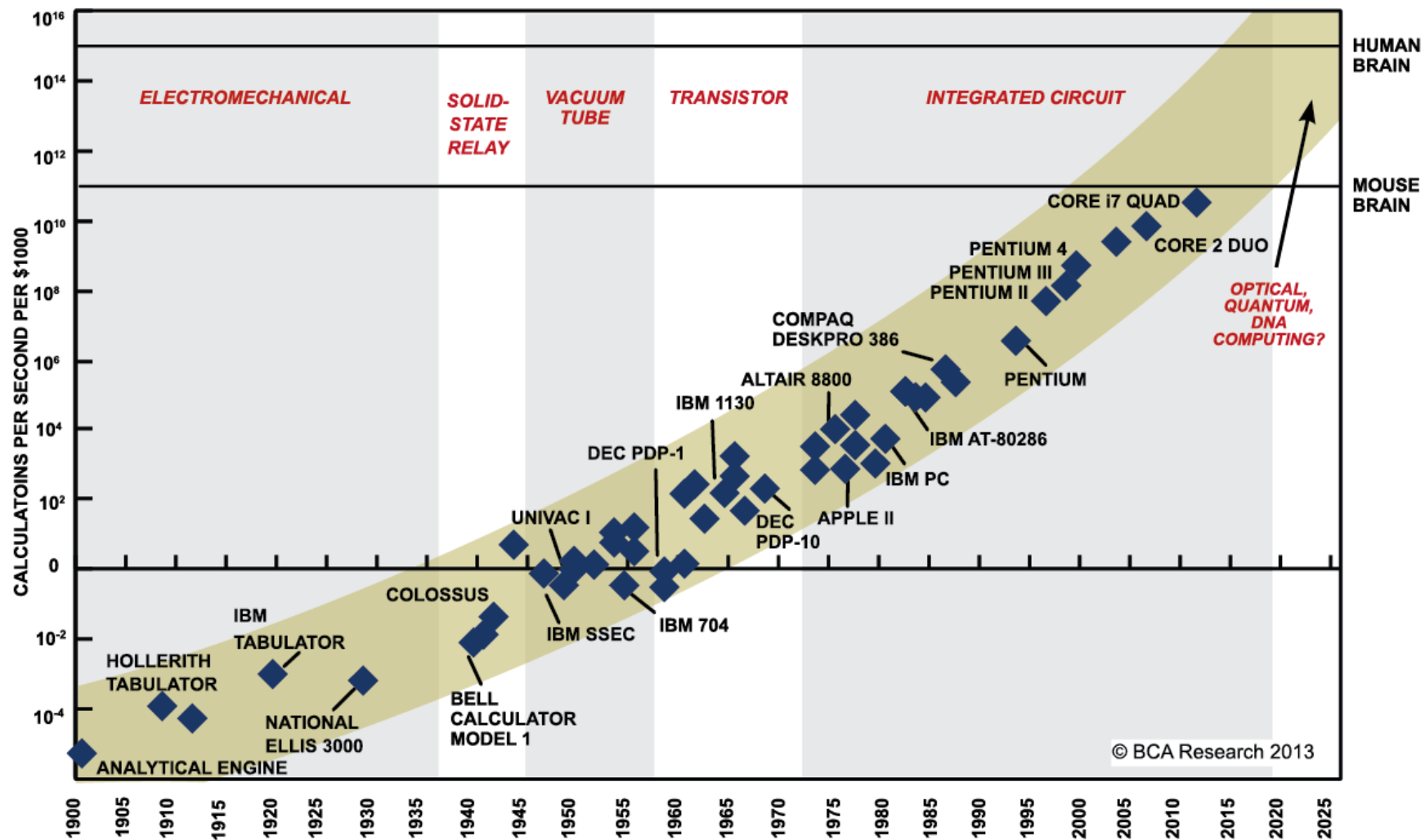


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Used for:

- Atomic bomb development
- Ballistic trajectories
- Number theory
- Weather prediction
- And more..

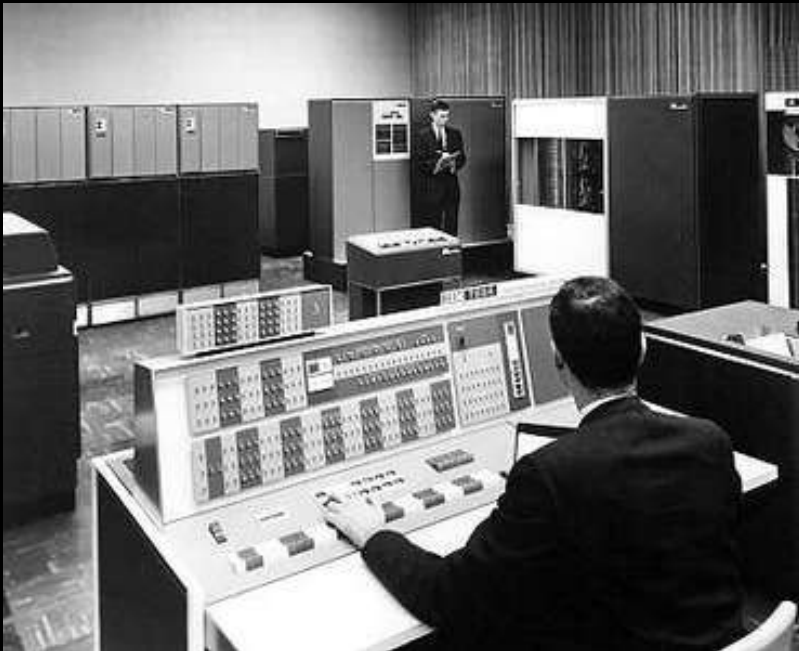


SOURCE: RAY KURZWEIL, "THE SINGULARITY IS NEAR: WHEN HUMANS TRANSCEND BIOLOGY", P.67, THE VIKING PRESS, 2006. DATAPOINTS BETWEEN 2000 AND 2012 REPRESENT BCA ESTIMATES.



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1960



- The term “hacker” originates, based on a nickname for model train enthusiasts at MIT who hacked their trains to perform better.



- One of the first reported vulnerabilities is here, on the Multics CTSS running on an IBM 7094. (When multiple instances of a test editor were invoked, the password file would display.)

```
17 string sInput;
18 int iLength, iN;
19 double dblTemp;
20 bool again = true;
21
22 while (again) {
23     iN = -1;
24     again = false;
25     getline(cin, sInput);
26     system("cls");
27     stringstream(sInput) >> dblTemp;
28     iLength = sInput.length();
29     if (iLength < 4) {
30         again = true;
31         continue;
32     } else if (sInput[iLength - 3] != '.') {
33         again = true;
34         continue;
35     } while (++iN < iLength) {
36         if (isdigit(sInput[iN])) {
37             continue;
38         } else if (iN == (iLength - 3)) {
39             continue;
40         }
41     }
42 }
```

- The DoD creates ARPANet, which is used in research and academia as a way to exchange information. This is the initial carrier network which later became the internet.
- Ken Thompson develops UNIX, widely thought of as the most hacker friendly OS because of its accessible tools and supportive user community.
- Around the same time, Dennis Ritchie develops C. (Enough said.)



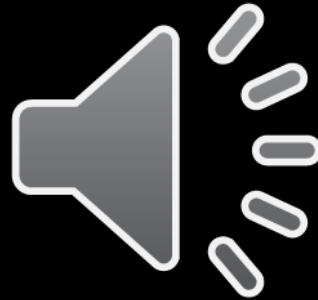
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1970



- John Draper, aka “Captain Crunch”, finds a way to fool payphones into allowing free calls.





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1980



- On the technical side, the telnet protocol for ARPANet gave public access to ARPANet. (Also arguably the most insecure protocol out there!)
- Jobs and Wozniak made the first personal computer and began marketing it for home users.
- USENET is created, hosting bulletin-board-style (BBS) systems for communications between users. This quickly become the most popular forum for online communication.
- Asymmetric encryption is developed (Diffie-Hellman).

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THE MINUTES OF A MEETING OF THE TECH MODEL RAILROAD CLUB AT THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY STATE "MR ECCLES REQUESTS THAT ANYONE WORKING OR HACKING ON THE ELECTRICAL SYSTEM TURN THE POWER OFF TO AVOID FUSE BLOWING"

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2015

2020

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ITALIAN CYBER SECURITY FIRM 'HACKING TEAM' IS HACKED AND HAS 4000+ OF SENSITIVE DOCUMENTS PUBLISHED, CLAIMING TO SHOW 'HACKING TEAM' HAD SOLD SOFTWARE TO REpressive REGIMES.

]HackingTeam[

2013

Every single day

ACCORDING TO SOPHOS LABS, THERE ARE AN ESTIMATED 30,000 WEBSITES HACKED EVERY SINGLE DAY.



Spending increases
IN 2015, GLOBAL SPENDING ON CYBER SECURITY \$77 BILLION, IT IS ESTIMATED TO BE \$170 BILLION BY 2020. THE US FEDERAL GOVERNMENT PREDICTS IT WILL SPEND \$500 MILLION ON CYBER SECURITY BY 2020.

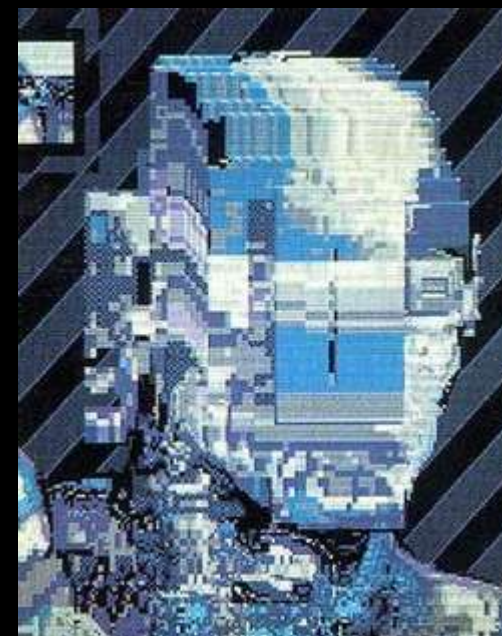
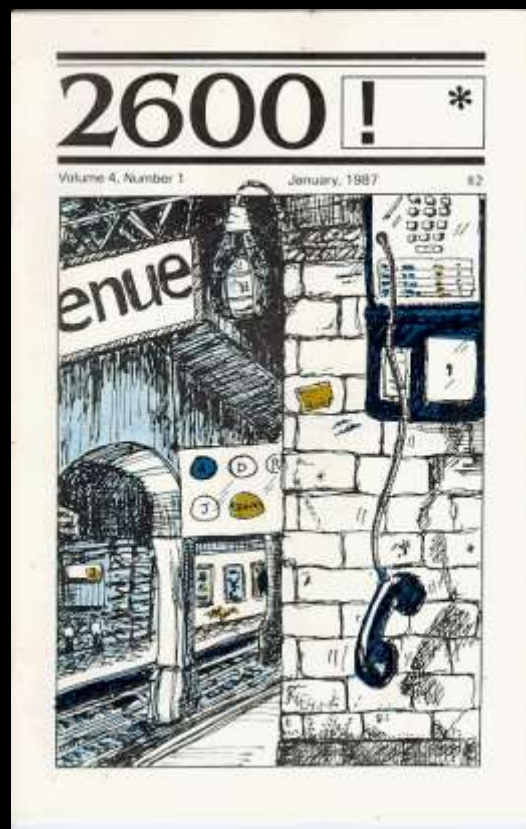
- The advent of the personal computer (closely followed by the modem) in the 1980's led to a rise in computer hacking groups; the earliest is the Chaos Computer Club (in Germany).
- In 1981, the Warelords form (in St. Louis), founded by Black Bark. They broke into many large systems, including the White House and Southwestern Bell.
- In 1982, the 414's broke into 60 computer systems such as Los Alamos to Memorial Sloan-Kettering Cancer Center; this attack led to a Newsweek front cover "Beware: Hackers at Play", as well as emergency hearings and several new laws.





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- The movie WarGames came out and introduced the hacker phenomenon; mass paranoia about computer vulnerabilities was the main result.
- The magazine 2600 began in 1984, followed closely by the online 'zine Phrack. Both allowed the dissemination of tips and instructions for would-be hackers, as well as address relevant issues and intensifying the subculture.
- William Gibson popularized the term "cyberspace" through his science fiction novels. Novel "Burning Chrome"



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Presents....
--Phrack Inc.--
Volume One, Issue One, Phile 1 of 8
Introduction...

Welcome to the Phrack Inc. Philes. Basically, we are a group of phile writers who have combined our philes and are distributing them in a group. This newsletter-type project is home-based at Metal Shop. If you or your group are interested in writing philes for Phrack Inc. you, your group, your BBS, or any other credits will be included. These philes may include articles on telcon (phreaking/hacking), anarchy (guns and death & destruction) or cracking. Other topics will be allowed also to an certain extent. If you feel you have some material that's original, please call and we'll include it in the next issue possible. Also, you are welcomed to put up these philes on your BBS/AE/Catfur/ Etc. The philes will be regularly available on Metal Shop. If you wish to say in the philes that your BBS will also be sponsoring Phrack Inc., please leave feedback to me, Taran King stating you'd like your BBS in the credits. Later on.

TARAN KING
2600 CLUB!
METAL SHOP SYSOP

This issue is Volume One, Issue One, released on November 17, 1985. Included are:

- 1- This Introduction to Phrack Inc. by Taran King
- 2- SAM Security Article by Spitfire Hacker
- 3- Boot Tracing on Apple by Chess Shades
- 4- The Fone Phreak's Revenge by Iron Soldier
- 5- HCI International Cards by Knight Lightning
- 6- How to Pick Master Locks by Gin Fizz and Ninja NYC
- 7- How to Make an Acetylene Bomb by The Clashmaster
- 8- School/College Computer Dial-Ups by Phantom Phreaker

Call Metal Shop and leave feedback saying the phile topic and where you got these philes to get your article in Phrack Inc.



The Morris Internet Worm source code

This disk contains the complete source code of the Morris Internet worm program. This tiny, 99-line program brought large pieces of the Internet to a standstill on November 2nd, 1988.

The worm was the first of many intrusive programs that use the Internet to spread.

The Computer History Museum



- Robert Morris launched his worm on ARPAnet, providing the first prosecution under the Computer Fraud and Abuse Act. He is sentenced to 3 years probation and a \$10,000 fine, and he is dismissed from Cornell.
- The Computer Emergency Response Team (CERT) is formed by U.S. defense agencies at Carnegie Mellon University; it is tasked with investigating the growing area of network-based attacks on computers.
- Other worms follow, such as Father Christmas.



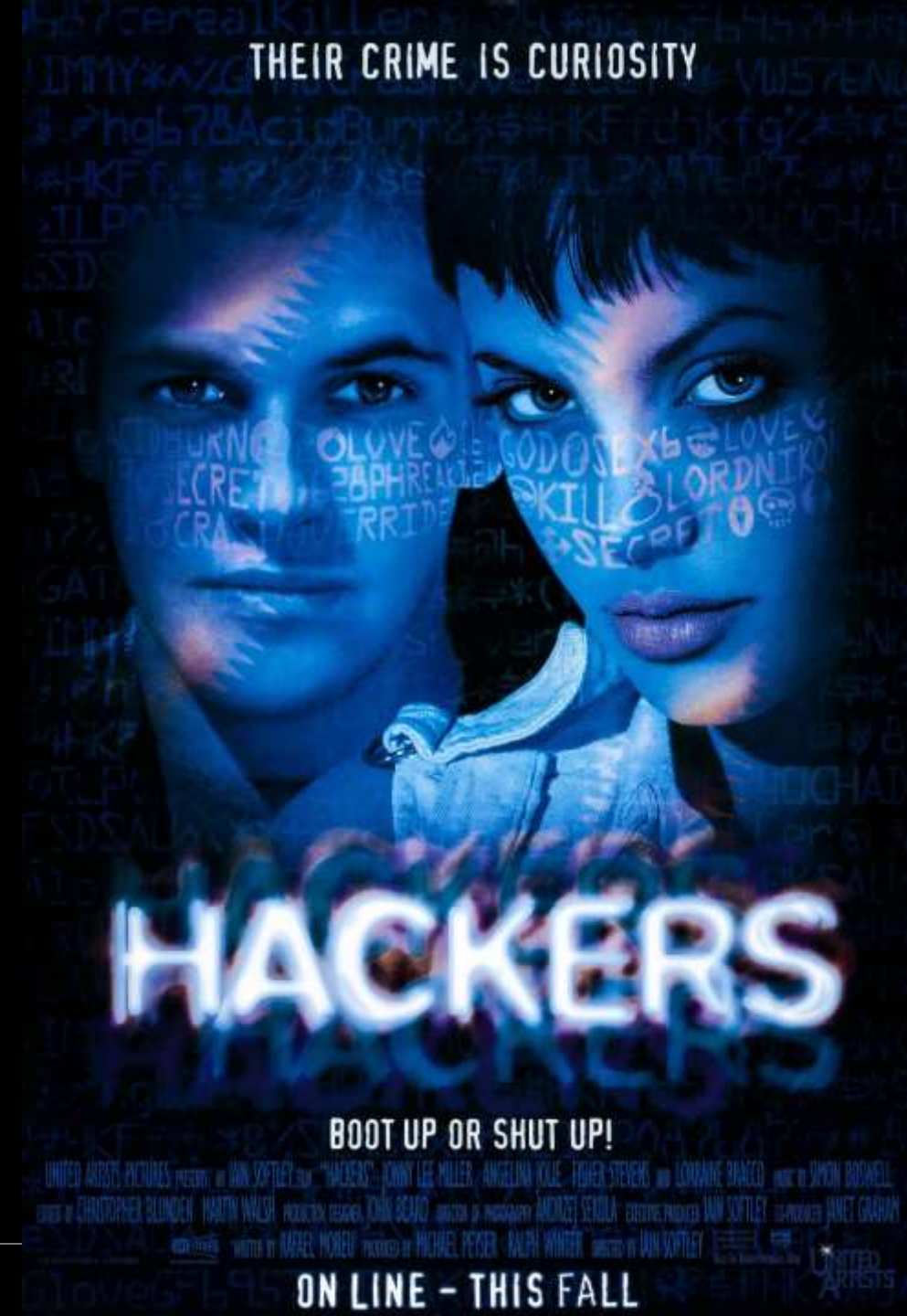
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1990



- Hacker Kevin Poulsen (along with friends) rigs a phone system to let in only their calls, and “win” tons of stuff. Poulsen is convicted to 5 years in prison.
- The hacking convention Defcon happens in Las Vegas for the first time. (Meant to be a one-time goodbye to BBSs, but it is so popular that it becomes annual.)

- Hackers is released! (A personal favorite)
- Perhaps more vitally, the famous hacker Kevin Mitnick is captured and charged with stealing 20,000 credit card numbers. He is kept imprisoned for 4 years without a trial.
 - Finally sentenced in 1999 and released shorter after.

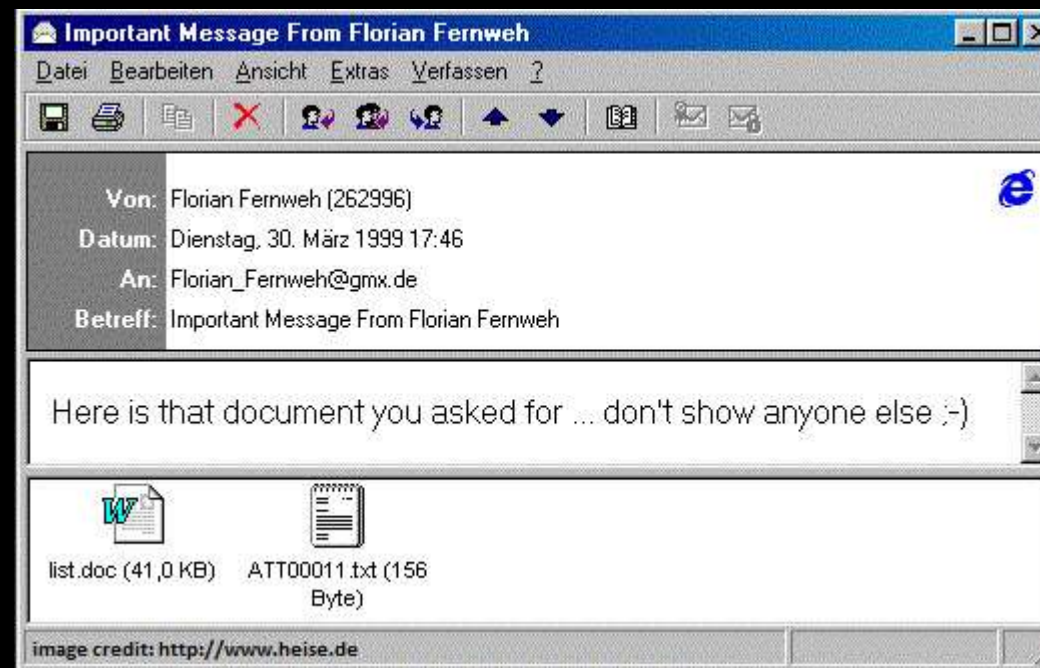




1995



- In 1994-1995, Russian hackers steal over \$10 million from Citibank and transfer it all over the world.
 - The ringleader, Vladimir Levin, used his work laptop after hours to manage the operation.
 - He is tried in the US and sentenced to 3 years in prison; in addition, authorities recover all but \$400,000 of the stolen money.
- In 1996, a group of hackers deface the DOJ, CIA, and Air Force websites.
- The US General Accounting Office estimates there are 250,000 attempts to break into the Defense department, and estimate that 65% are successful.



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- Mp3's are released and gain popularity in the mid-90's. This leads to a slew of new filesharing, as well as crackdowns led by the RIAA.
- In late 90's, security goes more mainstream. (Superbowl ads even come out!) The release of Windows 98 leads to a host of publicly shared vulnerabilities.
- AOHell, a suite of tools specifically targeting America Online, makes it easy for script kiddies to join the game on their favorite network.

More viruses and worms



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- In 1999, the Melissa virus became the most costly virus to date. (Ran inside Word 97 or 2000.)
 - Created by David Smith, and not originally intended to cause damage. However, the infected emails from the program overloaded the internet very quickly.
- Closely followed by the ILOVEYOU worm, which used VBS in an email attachment to run a program that would propagate the program.
 - Estimated to cost billions in the US alone.
 - The two Filipino men who wrote it were released by the local government, since there were no laws against malware at the time. (That quickly changed.)





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2000

In 2001, political tensions between Chinese and the US resulted in “The Sixth Cyberware”, where groups from both countries tried to deface websites in the other country.



In 2003, the group Anonymous formed. Originally focused on entertainment, but later (around 2008) began to focus on international “hacktivism”, acting in protest to many different issues.



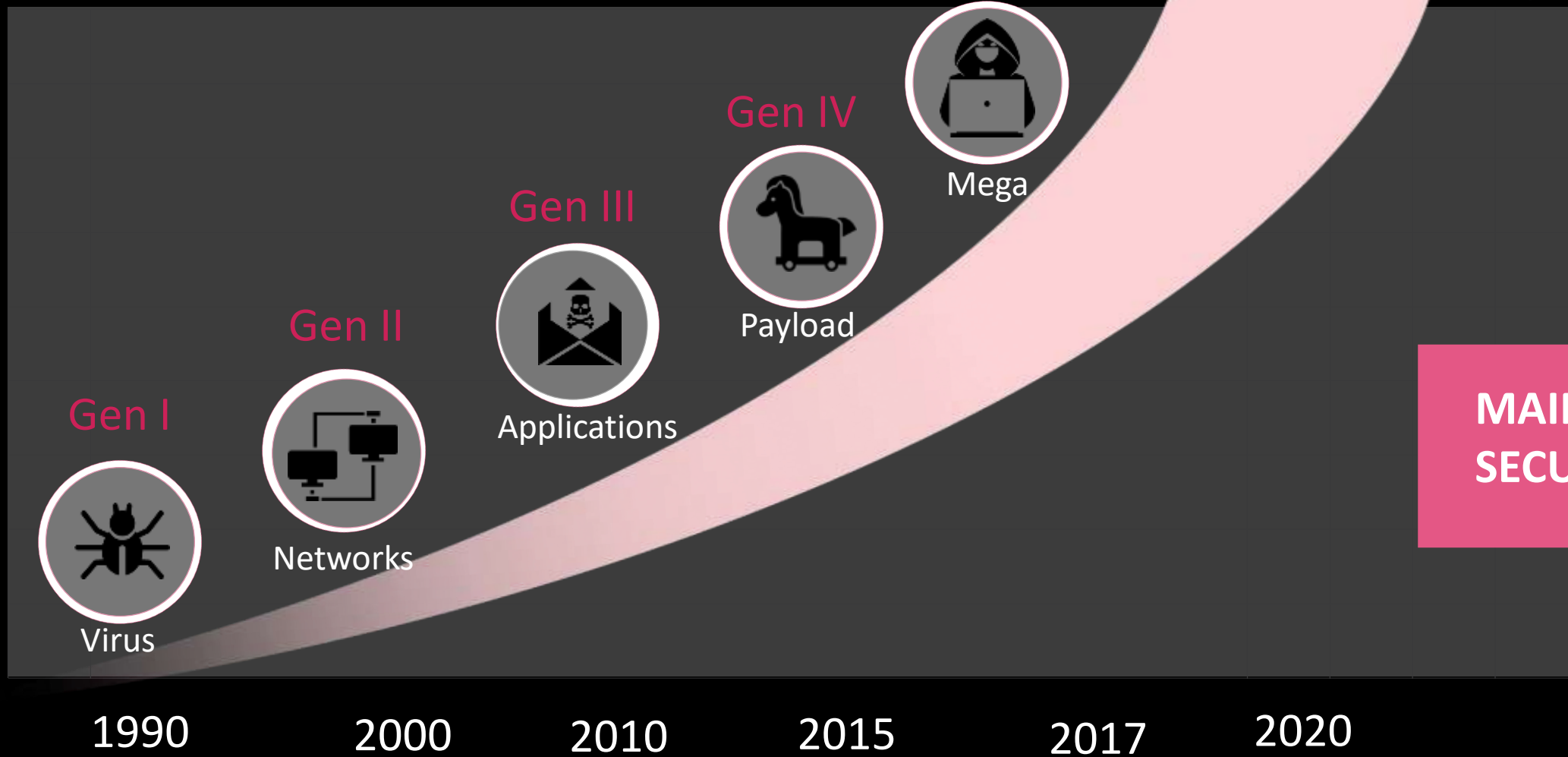
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2010

Evolving threats



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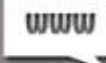
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