

# Computer Viruses By: Eyad Al-Hazmi



- Introduction : Computer Viruses in brief
- Danger of Virus attacks
- Virus Attacks and Ethics
- Economic Impact of Viruses
- Example of Computer Viruses
- Conclusion

# Introduction

**Computer Virus** is a software that copies itself and infects the victim's PC without his knowledge.

Infects the victim by:

1- Floppy disks, CDs and Flash memories

2- Emails

3- Another methods, Fraud..

### **Virus Attacks Danger**

- Not a one-time damage, keeps increasing
- Damage in tens of billions of dollars
- Difficult to be contained
- Hard to capture the attacker



#### **Computer Viruses and Ethics**

- Three key points in virus attacks
  - Attacker
  - Victim
  - Purpose
- Attacker: individual or group
- Victim: individual or group
- **Purpose**: where ethics lies



## **Computer Viruses and Ethics** cont.

- Private pleasure
- Better security
- Kind of advertisement
- Defensive measures

# **Computer Viruses and Ethics** cont.

- False, when was other's time and money a game ?!!
- False, causing damage never was a way to correct mistakes
- False, clear case of fraud and deception
- Pure act of self-defense



### **Economic Impact of Computer Viruses**

- Labor costs for analyzing and repairing infected systems
- Loss of user productivity
- Loss of income
- Huge investments in anti-virus technology
- Secondary costs, e.g. stealing private info



# **Economic Impact of Computer Viruses cont.**

#### Financial Impact of Malware Attacks 1997–2006

| Worldwide I                      | mpact (U.S. \$) |
|----------------------------------|-----------------|
| 2006                             | \$13.3 Billion  |
| 2005                             | 14.2 Billion    |
| 2004                             | 17.5 Billion    |
| 2003                             | 13.0 Billion    |
| 2002                             | 11.1 Billion    |
| 2001                             | 13.2 Billion    |
| 2000                             | 17.1 Billion    |
| 1999                             | 13.0 Billion    |
| 1998                             | 6.1 Billion     |
| 1997                             | 3.3 Billion     |
| Source: Computer Economics, 2007 | Figure 1        |

#### Examples of Computer Viruses

- ILOVEYOU Virus (2001)
  - Spreads through emails and chat clients
  - Affects web development and media files (JPEGs, MP3s ...)
  - Estimated damage of 10 to 15 billion dollars

| 🖬 ILOVEYOU - Message (Rich Text) 💦 🔲 🗙 |                                   |                             |                            |                  |  |
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| 的复数形式运行的复数形式         | N.S.M.      | - 1 × 1 × | 1000   |  | 0 00 00-6D 73 62 6C msb1  |
|----------------------|-------------|-----------|--|--|---|
| Virus                | Year        | Esti      | mated [  | Damage   | 0 6A 75-73 74 20 77 ast.exe I just w<br>9 20 4C-4F 56 45 20 ant to say LOUE   |
| CIH                  | 1998        | 20M       | 20M to 80M \$  |  | 0 62 69-6C 6C 79 20 YOU SAN!! billy<br>0 64 6F-20 79 6F 75 gates why do you   |
| Melissa              | 1999        | 300       | /I to 600M   | \$   | 3 20 70-6F 73 73 69 make this possi   |
| Code<br>Red          | 2001        | 2.6B      | \$   |  | 0 20 6D-61 6B 69 6E ble ? Stop makin<br>E 64 20-66 69 78 20 g money and fix<br>7 61 72-65 21 21 00 your software!!<br>0 00 00-7F 00 00 00 $\clubsuit$ $♂♥►$ H $\land$ |
| SQL<br>Slammer       | 2003        |           | shut down South Korea's online capacity for 12 hours |  | 0 00 00-01 00 01 00 ð <sub>-</sub> ð <sub>-</sub> ⊕ ⊕ ⊕<br>0 00 00-00 00 00 46 á⊕ L F<br>C C9 11-9F E8 08 00 ◆]êèù-r4fP<br>0 00 03-10 00 00 00 +≻H`⊟ ☆ ♥≻             |
| Blaster              | 2003        | 2B to     | 2B to 10B \$   |  | 3 00 00-01 00 04 00 b♥ õ ã♥ ☺ ♦<br>Image Copyright © F-Secure Corporation   |
| Sobig.F              | 2003        | 5B to     | 5B to 10B \$   |  | Blaster   |
| MyDoom               | 2004        |           | •  | wed global Internet performance by<br>Web load times by up to 50 percent             | ₩ HELLO! - Netscape   |
| Sasser               | 2004        | Tens      | Tens of millions of dollars                          |  | File Edit View Go Communicator Help   |
|                      |             |           |  | System Shutdown  |   |
| Subject              | 🔒 Sender    | Date      | Priority   | This system is shutting down. Please save all  |   |
| _                    | • feedback  |           | Normal   | work in progress and log off. Any unsaved<br>changes will be lost. This shutdown was | Welcome to http://www.worm.com !  |
|                      | Husolino    |           | Normal   | initiated by NT AUTHORITY\SYSTEM   | Hacked By Chinese!  |
| _                    | • info@mar  |           | Normal   | Time before shutdown : 00:00:55  |   |
| -                    | • msccatus  |           | Normal   | Message  |   |
| _                    | • sitesales |           | Normal   | The system process<br>'C:\WINNT\system32\lsass.exe' terminated                       |   |
| 🖄 Re: Your applicati | -           |           | Normal   | unexpectedly with status code 128. The<br>system will now shut down and restart.     | 🖆 =0= Docu = 💥 👫 🚳 🖾 🏑 //   |
|                      | • rghansen  |           | Normal   | system will now shut down and restalt.   | CodeRed   |
| 🖄 Thank you!         | • ericpan@  | 15:35     | Normal   | L  |   |

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#### Sobig.F

#### Sasser

## Summary

- Computer viruses in brief
- Importance of virus attacks
- Ethical PoV of virus attacks
- Impact on the economy
- Some computer viruses



# Thank You...