

Chapter VI

Key Topics in the Ethics and Economics of Cyber Security

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ABSTRACT

Cyber security is the significant issue for customers, sellers, and discipliners since hackers who utilize vulnerabilities can make considerable damage. In this chapter, we study key topics in a nascent literature on a cyber security. We first concentrate on how inducements influence the major topics in information security. Three significant topics pertinent for a cyber security concerns are: an exterior security, the internet consequence and information sharing which make effect in the information security. The budding literature has started to study the relationships between vulnerability revelation, patching, manufactured goods prices and profits.

INTRODUCTION

It becomes normal to receive security alerts concerning killer **viruses**. Few of them are **hoaxes**, but many of other viruses have made large damage. As the Economist magazine reported that the **Blaster worm** viruses in 2003 caused \$35 billion damages. (Weaver and Paxson, 2004) reported that the worst case of state **worm** may detriment from \$50 billion to \$100 billion. It seems that a time from the announcement of **asset** vulnerability to the time that the **threat** is started has dropped considerably. Also, the economist magazine re-

ported that the period from revelation to **attack** for the **Slammer worm** is three months in January 2003, whilst the period from revelation to attack is just two weeks for the Blaster worm in August 2003. The **Slammer** and Blaster worms utilized vulnerabilities even if security updates removing the vulnerabilities then after that freed again by Microsoft programs. This is, despite the fact that the security updates is extensively available, fairly some entities applied them. In fact, the survey of (John Markoff, 2004) showed the following facts:

- 80% of all computers connected with the net are reported that they infected by **spy ware**.
- 20% of all computers are reported that they have **viruses**.
- 77% of those surveyed they are safe or fairly safe from online attacks.
- 67% of the computers do not have updated antivirus programs.
- 63% of the computer users without **firewall protection** software

In this chapter, we study key topics in the nascent literature of the intersection between computer science and engineering concerns, and also, the trade inducements that related with cyber security and software stipulation. The initial focus will be on the **trade** inducements that change the key concerns and topics in information security. An introduction research to the subject can be observed at (Ross Anderson, 2004)

Also, for a wealth of articles on information security see Bruce Schneiers(2005).

KEY FACTS

Three important key of fact relevant for the trade of cyber security concerns are as follows:

- The *exterior security*
- The **Internet Consequence**
- **Information Sharing**

The Exterior Security

Insecure computers are indeed very weak and can easily used by opponent to attack many other computers. There is a lack of inducement for every entity in the system to sufficiently defend versus viruses in their system, because the detriment of the spread of the virus is taken by others. Namely, information security is properties by a **confident** an *exterior* security. However, when we choose

more safety measures to protect the information in computer, this means that we improve the security of own and also the security of other entities as well. Such situations guide to a typical free difficulty. In the lack of the promotion for security, entities will select minimum security than the community most favorable. Solutions to the free difficulty are directed in many situations.

The Internet Consequence

The internet consequence appears in **software applications**. The advantages of software applications usually based on a total number of clients that buy licenses of the software applications. The direct internet consequence is present after raises in the number of clients on the internet increase the value of the trades for each entity on the internet. The most common instances are contact through internet for example chats, phones and e-mails. The internet consequence also presents if the entities use **hardware** with standard software applications. In such approach, the importance of the hardware good raises as the diversity of well-matched software applications raises. Rises the number of entities in fitting hardware will causes grows in the need for standard software applications, which gives positive motivations to software sellers to increase the supply of software application types. This will raise the advantages to all clients of the hardware, software, and the use of vitality of **network** for instance, trading goods by **roaming** the **sites** through the internet. This vitality will results in arise the e-purchasers, for example **operating systems** with applications programs and CD players with compact disks. Set the significance of interrelation in information security networks, the **business** of standardization will become the main current business. Thus (Gandal, 2002), and (Church and Gandal, 2006) they provide an introduction to internet consequences and to policy concerns.

Internet consequences are characteristically concept to benefit customers and companies that

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