

# Analysis of Computer Network Security and Preventive Measures in the Data Age

Zhi Li\*

Xi'an Aeronautical University, Lianhu District, Xi'an City, Shaanxi Province 710077, China. 252601586@qq.com

**Abstract:** With the development of science and technology, the network in human society continues to be improved and enriched, as well as the ability of database technology, which is of super cloud computing ability and extensive data sharing and brings great convenience to the whole country. But at the same time, the data that is used improperly in the network environment not only poses a certain threat to the network system, but also gradually erodes people's lives. For the computer network security problems in the era of big data, this paper first analyzes the location of the problems, and then puts forward the means to solve and prevent the security problems.

**Keywords:** Computer; Massive Data; Security Issues; Preventive Measures

## 1. Introduction

With the continuous development of science and technology, big data came into being. In the current network environment, big data has its obvious advantages, but there are also lawbreakers taking advantage of network loopholes, stealing the data information that should be correctly distributed, disturbing social life and seriously hindering the progress of the whole network security. Therefore, it is urgent to evaluate the security of computer network and give advice for the future development of network security, and the task of ensuring information security in the era of big data is arduous.

## 2. Internet security issues in the era of big data

### 2.1 Poor awareness of network security

At present, the most important problem is that people pay less attention to network security. Nowadays, the computer system has been equipped with a relatively perfect security environment. However, the low security awareness of network users themselves, such as setting simple passwords and disclosing security keys to others easily, makes the network security with an irreplaceable gap under strict monitoring<sup>[1]</sup>.

### 2.2 Insufficient security of network software

Under the current conditions, with the help of network tools, people can better carry out daily life and work by using some network software. There are some problems in the design of software programs. When using certain software functions, they will be asked to fill in personal information with certain privacy. Users only believe in network software when considering the possibility of all network threats. Some program developers sacrifice part of security modules in order to enhance convenience, which also provides an opportunity for criminals to steal information. Once information is used, it will bring great damage to the personal life.

### 2.3 Computer virus and hacker flooding

The continuous development of computer technology is the most fundamental reason for the maximization of social convenience. With the continuous updating of database technology, there are also security problems in the network

environment, which is the computer network virus and the network hacker who makes virus. According to different program security vulnerabilities and settings, viruses are all pervasive. With the characteristics of strong infectivity and adaptability, the network virus with changing forms gradually damages the network environment and steals personal information in daily life.

### **3. Internet security precautions in the age of big data**

#### **3.1 Strengthen the attention and supervision of enterprises on network security**

For companies and related organizations that develop and deal with major issues through the Internet, it is far from enough to rely on the improvement of users' personal capabilities. A wide range and perspective of cognition is an effective way for companies and organizations to deal with network security issues. Enterprises should comply with the requirements of the era of big data, contact and help each other with various powerful network security protection platforms and institutions, timely update the internal database security precautions of the company, and timely optimize the current lack of network security regulations<sup>[2]</sup>.

#### **3.2 Apply monitoring procedures**

For the protection of the network security environment, it needs the timely response of science and technology under the continuous and perfect supervision of the whole society. At present, the preferred approach for the maintenance of network security is a variety of security software systems and firewall technologies on the market. It is not enough to prevent the invasion and destruction of network virus for the updated computer network environment. In order to deal with the changes of virus after it attacks the computer, it is necessary to constantly give feedback for network prevention, that is, to feed back the successful network virus interception information to the big data, and to promote the use of the feedback information from the big data transmission by all kinds of anti-virus software in the society to predict the possible changes of the virus. With the help of the advantages of big data to deal with its shortcomings, this is how the development of science and technology progress can be achieved.

#### **3.3 Improve network information transmission security**

Although wireless transmission technology brings people a convenient way of computer network, there is a certain security threat. There is a virus program on the USB flash disk. Every time the user uses it on a different computer device, the virus will continue to spread endlessly. The only way to eliminate the virus will cause the loss of important data in the hard disk at the same time. However, as the wireless network technology corrodes the network environment in silence, only the link to the WiFi network will cause the personal information leakage. Through effective use of encryption technology on the network to transform the important personal information into the key, storing it in a large database, and at the same time improving the way to read the database encryption, people can protect personal data while using big data, and avoid it to be stolen in the process of data transmission<sup>[3]</sup>.

### **4. Conclusion**

The progress of computer network technology brings not only the convenience of life, but also some threats that are difficult to eliminate. In today's era of big data, it is necessary to improve personal awareness of network security, enhance the protection of network security, analyze and research while processing and prevention. Using the advantages of big data to gradually eliminate the threats and make up shortcomings brought by big data is the most effective solution and measures to protect the computer network security.

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