

Research on Computer Network Information Security Protection Measures Based on Big Data

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Abstract: Owing to the rapid progress of China's society and economy, science and technology is changing with each passing day, and big data technology has been widely used in various fields. Internet technology makes people's production and life more convenient. However, computer information security problems also arise. According to the specific situation of computer network security in China, this paper analyzes the characteristics of computer network information security, puts forward the influencing factors of computer network information security based on big data, and formulates the computer network information security protection measures based on big data.

1. Introduction

Facing the big data environment, the computer industry should also follow the social progress. Facing the increasingly fierce market competition, modern enterprises need to focus on the improvement of their competitiveness and expand the scope of influence if they want to be invincible. In addition to providing more efficient computer network information services to users, they also need to ensure the security performance of user network information and fully protect the interests of users. In the work of computer network information security protection based on big data, the network information protection technology is fully utilized, which makes the level of network information security protection strengthened.

2. Characteristics of Computer Network Information Security

Computer network information security includes many aspects of characteristics, and the crucial ones are scale, invisibility and cross-border.

In terms of scale characteristics, it mainly depends on the number of Internet users. In China, there are a large number of population and a relatively high total number of Internet users. As for the network operation behavior of all network users, it will eventually change to data. Due to the large number of network users in China, it will produce huge network information content. Therefore, all sectors of the society attach great importance to the security protection of network information^[1].

In terms of invisible characteristics, because the network has a certain degree of virtuality, the generation of network security problems is invisible. In people's daily life, Trojans and viruses are

relatively common network problems, which are mainly composed of codes. These codes are invisible, which can cause serious threat to computer network and affect the security protection of computer information network to a great extent.

In the aspect of cross-border characteristics, owing to the rapid progress of network technology, its application scope is constantly expanding, which makes the communication between users and enterprises, users, as well as countries become closer, and greatly promotes the construction of network globalization. Meanwhile, many multinational enterprises and e-commerce also emerge as the times require. The network technology greatly promotes the progress of the whole society and economy, but the computer network information security risks also arise.

3. Influencing Factors of the Information Security of Computer Network Based on Big Data

Facing the big data environment, the network media in the computer market becomes more diversified. Using the relevant channels, network users can not only develop information transmission activities, but also ensure the smooth realization of information sharing. Although it provides very convenient services for network users, the difficulty coefficient of network information security protection increases accordingly.

3.1 Network Openness

Computer network is widely used in all walks of life. Using computer network will generate massive information. Therefore, many illegal elements will rely on the openness of computer network and make some behaviors, which will affect the information security performance of computer network. Through TCP / IP protocol self protection, the security of computer network can be guaranteed. However, the self-protection effect of the protocol is not ideal, and it is easy to intercept the transmitted information, significantly reducing the security of computer information.

3.2 Hacker Attack

Facing the background of big data, massive data information generates in the computer network operation, and most of the information has high value. Therefore, in the process of using computer, the intranet is likely to face hacker attack and produce illegal stealing of personal information. Some hackers send viruses and Trojans to relevant enterprises due to revenge mentality, so that the enterprise network will be paralyzed. Some hackers will sell the stolen information to others or enterprises, or disclose the information, which will increase the loss of enterprises ^[2].

3.3 Human Operation

In the aspect of computer network information security, there are many reasons. One of the crucial reasons is human factors. In the process of using computer, to fully reflect the role of computer network, network users need to have relevant application ability. Most of the network information security problems are caused by the lack of sufficient knowledge and scientific operation behavior. When using computer, some users have low security awareness, which leads to the vulnerability of computer system and easily causes virus invasion and information leakage.

4. Protection Measures of Computer Network Information Security Based on Big Data

In the whole society, big data technology plays a vital role. The progress of all walks of life will be affected by big data, and the computer industry is no exception. While developing the computer

network information security protection work based on big data, more and more people begin to focus on it. It is necessary to carry out the system consideration work from a diversified perspective.

4.1 Strengthen Account Security Protection

In the view of computer users, the account belongs to the category of personal property. The users' personal information, property and other aspects of the content exist in the personal account. Once the account is stolen, the loss will be incalculable. At present, owing to the rapid progress of Internet technology, the application scope of diversified applications is expanding. Online banking, Tencent, microblog and other accounts are beginning to be used in people's life and work. In terms of the above personal accounts, users can further strengthen the account security protection, focus on using relevant measures, and realize the improvement of network security and account use awareness. In the design of account password, the password designed by the user should be more complex, which can be combined with characters, numbers, letters, etc. In the process of account security management, users also need to pay close attention to the design of password security. If the network account login environment is relatively strange, the login information needs to be cleared. The development of account security protection can effectively control the emergence of computer network information security problems.

4.2 Fully Use Network Intrusion Detection Technology

In the process of developing computer network information security protection based on big data, in order to quickly intercept and eliminate the intrusion of hackers and network viruses, we need to fully use network intrusion detection technology. In the face of the network environment, on the detection of computer network intrusion, the access control system is designed in the boundary LAN location of the computer, so that it can quickly detect foreign attacks, which is relatively highly scientific. While developing the computer network information intrusion detection system construction, we should also reasonably determine the network security boundary. As for the clear network boundary information, we need to seriously carry out the relevant protection work. On the basis of ensuring the role of firewall, we need to carry out the design of logical isolation and access control measures for computer LAN, and make clear all network areas with different security levels, so that we can develop the interception work independently in the face of external intrusion ^[3].

4.3 Formulate and Perfect the Computer Network Management System

Government departments can further strengthen the communication activities with market enterprises, and give full play to their guiding role to ensure that the computer market can formulate the computer network management system, and perfect it according to the specific situation, so that it can play a certain role in standardizing the operation of computer users. Market enterprises can also build computer technology platform through scientific network information security protection measures, so as to ensure the stability and security of network system operation. As for the daily computer operation behavior of the staff, we need to further strengthen the standardized management. We can organize professional training activities on a regular basis, and strive to foster excellent network information security protection ideas, make these staff have a certain computer security protection awareness and be able to understand all information security protection software, so as to enhance the quality of computer data information security. Enterprises can also fully use data authentication technology, scientifically control the access times of computer network information, expand the channels of enterprise computer network digital authentication technology, and effectively prevent the illegal theft of network information.

4.4 Strengthen Computer Network Management and Control

The main reason for the decline of computer network security performance is human factors. In other words, network management staff pay less attention to computer network security maintenance. Therefore, in the process of computer network information security protection based on big data, in order to enhance the security performance of computer network, the relevant staff can further strengthen the management and control of computer information security. For computer information security management staff, relevant departments can also regularly organize relevant training and education activities, so that enterprises can have a correct understanding of the vital role of network maintenance. With the promotion of safety awareness of management personnel, we can accelerate the progress of computer network management and control.

5. Conclusion

Owing to the fast progress of computer network, the problems of network information security become more prominent. In the face of big data environment, to promote the protection of computer network security, we need to fully use computer network security protection measures. The development of computer network information security protection based on big data can promote the efficient protection of huge computer network information, enhance the reliability and security of computer users' network information, truly protect the interests of the majority of network users, and lay a more solid foundation for the sustainable and stable development of the whole computer industry.

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