Discussion on the Security Measures of Computer Information Network in the era of Big Data

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Abstract: In the era of big data, information scale is huge, data density is very high, massive features are significant, information security is challenged, and the current situation of computer information security becomes the focus. Therefore, we should take the big data era as the background, grasp the characteristics of information resources in the big data era, deeply analyze the shortcomings of computer information security, build a comprehensive development strategy, improve the level of computer information security in the big data era, and create favorable conditions for the efficient and safe application of computer information.

1. Introduction

With the development of the industry, we can correctly understand the main characteristics of information resources in the era of big data. Information resources present the trend of globalization and networking. Information security is challenged. Based on Internet technology, various resources present continuous innovation and development. Information resources are shared in the global scope. Globalization has become the trend and direction of Internet development. At present, information presents a massive scale, and information grows rapidly[1]. At the same time, the number of Internet users is increasing, and information security is facing higher requirements and standards, with huge challenges. Relying on the Internet, big data information adopts diversified means for communication, which is more open and requires more effective means for information security maintenance.

2. Information Security and Big Data Information Application Highlight Synchronization, and the Scope and Field of Influence Expand Rapidly

With the continuous development of big data, the influence of big data information resources has been extended to many fields to strengthen the promotion of the development of different industries. Only by making rational use of the information resources in big data can we show the value of big data era and ensure that our own development and the progress of the times are at the same level[2]. The development of any industry actively draws on the advantages of big data. Based on this, the problem of information security in big data also appears in various fields, which attracts the whole society's attention.

2.1. The Information and Data Resources are More Open and the Regulatory form is More Strict

In the development process of big data information resources, openness is its prominent feature, and the development degree of information resources is higher. Once the application of information resources is lack of science, it will inevitably lead to the abuse of information resources, and the security of user data and information cannot be guaranteed[3]. For the management of network information data, it has a strict regulatory situation. However, in the face of the decentralized state of data information, comprehensive management needs to be strengthened.

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3. Problems in the Construction of Computer Information Security in the Era of Big Data

3.1. Information Users and Managers have Weak Information Security Concept, and Their Operation and Application Highlight Randomness

Based on the era of big data, computer application has been widely spread, but the concept of information security of computer users has not been formed, and the concept of security is weak, especially ignoring the training and learning of computer technology, blind computer operation, it is easy to induce information security problems[4]. In addition, in Internet applications, the registration and use of personal information are arbitrary, and even ignore the consideration of web security. Personal information is exposed wantonly, and information security is threatened. For information management personnel, the security thinking is lagging behind, the management is lack of rigor, the probability of information leakage increases, and the security and reliability of data information cannot be guaranteed.

3.2. Computer Security Vulnerabilities Increase the Probability of Being Attacked and Cause Virus Spread

In the computer interior, the security loopholes mostly exist in the web page link, the lawless person by virtue of the system own loopholes, carries on the theft and the tampering to the user information[5]. In view of the openness of big data, computer viruses are also very common. At the same time, they are very latent, strong in execution, and have storage characteristics. Once embedded in computer programs, relying on download operations, viruses will spread and spread rapidly, causing network paralysis, with unimaginable consequences.

3.3. The Computer Information Security Management System is Seriously Lagging Behind, and the Synchronization with the Application has not Been Guaranteed

With the rapid development of the Internet, the laws and regulations related to computer information security are lagging behind, which is not synchronized with the development of the Internet. At the same time, in the face of the complex environment of data and information, it is difficult for management system and specification to adapt effectively and restrict the exertion of management effect. In addition, the supervision and management organization is not strong in execution, the information monitoring is not in place, the real-time supervision has not yet been realized, and the safety concept needs to be improved.

4. How to Strengthen Computer Information Security in the Era of Big Data

4.1. Enhance the User's Concept of Computer Security and Protection of Personal Information in an All-Round Way

Based on the era of big data, the primary task of computer information security is to improve the concept of user security. Specifically, in the process of using the Internet, especially when browsing the web, we should pay attention to the protection of personal information and reduce the unsafe disclosure of private information[6]. For information registration, we should carefully read the relevant terms, especially pay attention to the details. The computer should attach importance to the installation of anti-virus software, and do a good job in regular maintenance and anti-virus. For passwords, the setting level should be provided to ensure the highest level, especially the protection of key information. Once in public, reduce account login, reduce the frequency of free wireless network applications, and exclude unsafe information from the data source.

4.2. Enhance the Standardization of Network Operation, and do a Good Job in the Prevention, Control and Repair of Loopholes

For computer system loopholes, we should pay attention to the repair work and strengthen the effective control of security loopholes[7]. On the one hand, users should pay attention to the improvement of their own security thinking and correctly understand the consequences of network security attacks. In addition, the control of security loopholes should not be ignored. First of all, we

need to improve the concept of security, pay attention to the security upgrade of computer system, so that we can find system vulnerabilities in time and implement the repair work [8]. Secondly, with the enhancement of network security awareness, it is necessary to improve the standardization of network operation, prohibit access to illegal websites, achieve effective prevention of security threats, and avoid loopholes being used by illegal elements[9]. Thirdly, it is necessary to maintain and upgrade computer personnel in an all-round way, especially the maintenance and management of safety protection software, enhance the level of system safety protection, and ensure the safety of data and information. Once there is a problem in the software design, it is necessary to upgrade and update in time to improve the safety factor of the software. Finally, we should do a good job of regular scanning of computer system. Once we find the loopholes, we should repair them in time. In the face of high-risk loopholes, we should take manual measures to deal with them to avoid the illegal use of loopholes.

Table 1 Pre-school education personnel training

Restriction Conditions of Industrial Integration Theorem	Corresponding selected financial indicators
sales revenue	Main Business Income-Return of Sales-Sales Loan Discount and Discount
Variable cost	Operating Cost+Business Tax and Additional+Sales Cost+Management Cost+Financial Cost

4.3. Reasonable Choice of Security Firewall and Construction of Strong Security Protection System

At present, there are many types of computer firewalls, but when making the choice, we should combine the actual situation, strive to be reasonable and efficient, so as to build a more powerful security protection system. Specifically, in order to ensure the scientific use of firewalls, it is necessary to accurately grasp the basic principles of firewalls, so as to maximize the role of protective walls. In addition, in the firewall setting, to filter the external network security, especially in the face of external security risks, we should implement security precautions under the premise of filtering, in order to achieve effective maintenance of network security.

4.4. Implement the Data Security Monitoring Work and Reasonably Apply the Data Encryption Processing

Based on data transmission and storage, safety protection measures should also be paid attention to. Generally, data encryption technology is widely used, and data security protection measures are constructed to avoid data attack, loss and damage. In addition, data security monitoring should be implemented. In the face of the Internet open environment, security threats come from many aspects. Therefore, we should do a good job in the detection of data transmission environment and improve the level of data security. Thirdly, we should reasonably apply data encryption security technology, rely on a variety of encryption methods, and create a more reliable information application environment.

4.5. Actively Build a Perfect Computer Information Security Management System and Strengthen the Legality and Standardization

In order to maintain the security of computer network information, it is necessary to build a perfect information management system, enhance the security concept, establish a more extensive network security application system, and maintain the security and stability of data in combination with the development characteristics of the era of big data. In addition, we should speed up the construction of the legal system, improve the legal concept of information security of the whole society, and punish severely the users who endanger information security once they are found. In addition, it is necessary to build an efficient information security mechanism and set up a unified information storage volume with different LAN security levels. For professional departments and

institutions, we should strengthen cooperation, understand the needs of the whole society for computer information security, and build more applicable and practical norms.

4.6. Apply Diversified Safety Protection Technology to Enhance Protection Effect

First of all, pay attention to the construction of account security protection mechanism. At present, everyone has multiple accounts, which are used in all fields. Therefore, the account is very complex. At the same time, the security is also facing higher requirements. On the one hand, network service operators should use reasonable data encryption methods. For users, we should also improve the awareness of prevention, especially when it comes to personal privacy and assets, and increase the complexity of passwords. Secondly, at present, biometric technology has become a trend, which is a high-end technology form, involving face, fingerprint and other content, which is conducive to dealing with the problem of password loss of customers, plays an important role in improving the security of account information, is conducive to building a three-dimensional network security prevention mechanism, and has a good application prospect. Thirdly, with the development of big data and cloud computing, cloud virus detection technology has been applied, mainly to connect antivirus software engine and cloud server, with the aid of artificial intelligence technology, to identify and determine unknown viruses, and strengthen the comparative analysis of multi-channel high-risk information, which plays an important role in curbing the spread of viruses.

5. Conclusion

Based on the era of big data, computer information security has become the focus of the whole society. In view of the high openness and sharing of computer information, its probability of being threatened and destroyed is increased. Based on this, we should pay attention to the comprehensive protection of computer information security. On the premise of mastering the basic characteristics of data information in the era of big data, we should analyze the problems on the development road, form scientific and efficient solutions, achieve strong protection of information use, and create a more reliable environment for the application of computer information security.

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