

Research on Computer Network Security Preventive Strategies in the Big Data Era

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Keywords: Big data, Computer, Network security, Preventive strategy.

Abstract: The arrival of the era of big data indicates that mankind has entered the information age. The widespread application of computer network is becoming increasingly prominent in daily life. The widespread application of computer network is becoming increasingly prominent in daily life. With the development and application of various software for mobile payment, data security has been severely tested. The problem of computer network security can not be effectively solved, which has a great impact on people's daily life. Based on this, this paper firstly analyses the existing problems of computer network security in the era of big data, and further puts forward specific precautions for computer network security in the era of big data, in order to provide theoretical basis for computer network security precautions in the era of big data.

1. Research background

1.1 Literature review

With the rapid development of science and technology in China, the era of big data has come quietly. Under the background of big data, computer network has been widely used in daily life (Wang, 2017). The development of computer network has brought great convenience to people's lives, but at the same time, it has also brought hidden dangers to people to a certain extent. Computer network plays an important role in daily life. The security of data will directly affect the security of personal information, national security and political stability. The development of big data has greatly changed the way people use data. Due to the explosive increase of data volume, the security of data has attracted much attention. Although big data can bring a lot of convenience to people, the potential safety hazards it can bring to people can not be ignored (Wang, 2017). With the wide application of computer network, computer science and technology has made revolutionary achievements, and the amount of data covered has become increasingly large. These data play a vital role in daily life, and the way of data utilization is efficient and diversified (Liu et al., 2018). However, various network security problems hinder the application of big data. Therefore, it is urgent to take effective protective measures against network security problems. Big data is applied to all aspects of life, and some enterprises also use big data for business management. In business management, big data plays a vital role, and it is an important driving force for the development of enterprises. Many network hackers and illegal elements use computer networks to disseminate bad information and steal personal information from others, which has brought huge losses to social and economic development. Data acquisition is becoming more and more convenient, which also facilitates network hackers and illegal elements with bad intentions (Sun and Feng, 2018). In order to protect data security, we must actively update network hardware and software facilities, and adopt various methods to protect data. An important prerequisite for the steady development of computer networks is to actively understand the hidden dangers that computer networks may bring to people, and to carry out detailed analysis of these security problems. Only in this way can people live in a secure network environment (Zhang, 2019).

1.2 Purpose of research

Although traditional computer networks are different from today's e-commerce, they all belong

to the platform of information and data exchange. With the application of network in daily life, the security of online payment and other transaction links has become the focus of public attention. Although online payment and other platforms have been constantly updated and improved on the issue of network security, the frequent information leakage and money theft problems still plague the public. The main factors affecting network security are human factors and natural factors. Once the network security problem occurs, it will directly lead to the paralysis of network business. It will not only bring losses to customers, but also bring potential safety problems to the company. Therefore, in order to avoid the network security problems, we must carefully analyze the security problems, and then targeted defense and virus detection. In addition to natural factors, more attention should be paid to the security and vulnerabilities of network protocols themselves. Network security refers not only to hardware security, but also to the security of network environment. How to treat computer network security correctly is a problem that computer network technicians need to think deeply.

2. Problems existing in the security of large computer networks

2.1 Users lack awareness of network security

Users will generate a lot of data information when they use the network every day, which also includes personal privacy information. If the netizens lack the awareness of network security and pay no attention to protecting personal data privacy when using computer networks, they will provide opportunities for bad hackers and bring security risks to their personal data privacy (Zhao, 2019). In the context of the big data era, various application software and web sites suitable for computer networks are becoming more and more diverse. In order to serve customers better in the follow-up, these applications and websites often let customers fill in personal information, such as personal name, telephone, address and so on. To some extent, this way of collecting customer's personal information has brought hidden dangers to user's personal information security. Some phishing websites, copycat virus payment applications will always make users defensive. At present, most netizens have weak awareness of network security. Lack of security awareness in daily browsing webpages and websites, always input personal information without checking whether the website is formal and safe, and click on links outside the site casually, all of these easily lead to personal information leakage.

2.2 Lack of strict supervision of network security

If we want to ensure the security of computer network, we need to establish a perfect computer network security supervision system. For the illegal network intruders, we must severely punish them, in order to deter the undesirable elements. With the arrival of the era of big data, the computer network environment is changing constantly, and network security problems emerge in endlessly. The most serious problem they face is the leakage of personal privacy. Many companies on the market will gain profits by illegally obtaining personal information through various channels. These companies will not only obtain personal information through illegal channels, but also use these personal information for improper benefits (Lai, 2014). As a result, some industries have formed an industry chain of personal data trafficking, and the situation of personal data trafficking is very serious. If we want to effectively improve and protect the leakage of personal privacy, the computer network security supervision system should take responsibility. Only by establishing a set of perfect network security supervision strategies and systems can we effectively protect the network information security in the era of big data. However, at present, China's network security supervision system still remains in the traditional network security environment, lacking of relevant documents for monitoring, standardization and solving the problem of computing network security under big data.

2.3 Low security coefficient of network software

Although computers are equipped with network security programs, and various computer

security software emerge in endlessly, only these two aspects of protection can not meet the daily computer network security (Wang, 2017). At present, computer applications are diversified, users often face various kinds of software will always be driven by curiosity to download applications. Faced with the use of so many users, if the software itself has vulnerabilities and low security factor, it will undoubtedly bring huge security risks to users and computer network security. In the era of big data, although the software development industry has made great progress and become an indispensable part of social development, security issues have gradually emerged. On the one hand, when individuals or enterprises use computer network software, they do not rule out the possibility that they will carry some viruses, which will pose a threat to computer network security. On the other hand, some of the software itself has low security factor, vulnerabilities and security problems, which will also lead to computer network operation hindrance, thus bringing security risks to users (Na, 2017).

3. Computer network security precautions in the era of big data

3.1 Improving user's network security awareness

In the context of the big data era, people's living standards have been improved, and the extensive application of computer networks in daily life has reached an unprecedented prosperity. With the popularity of computer networks, although people's lives have been relatively improved, work efficiency has also been greatly improved. Computer network security problems are common. The fundamental reason is that users are not aware of network security and lack of awareness of prevention. Therefore, improving users' awareness of network security is an important link to avoid network security accidents. In the context of the big data era, the amount of data generated by it every day is extremely large. Based on this, users should standardize the use of the network when using the computer network, do not browse spam websites and spam information, and develop the habit of standardizing the use of the network. Make timely data backup in daily work. When replacing computer equipment, destroy computer hard disk to avoid information leakage. In this way, network security incidents can be greatly reduced.

3.2 Strengthen network security management

With the popularization and application of computer network, its security has also been widely concerned. China's Internet security is facing threats from both inside and outside. And these internal and external troubles gradually show a diversified trend. Traditional computer network management measures can no longer meet the needs of computer network development in the era of big data, so it is necessary to formulate a set of network security management measures that meet the needs of the development of the times. Both individuals and enterprises need to establish their own network security awareness according to the development of the times, strengthen the protection of personal information privacy, and regularly carry out network maintenance. When users use the network, they should learn to standardize the way of using the network and then apply it in daily life, so as to avoid the consequences caused by delays in phishing websites and spam sites. When enterprises use the network, they should also fully understand the importance of computer network to the operation of enterprises and the correct way to use it. In the actual application process, we should strengthen the network security protection, optimize and improve the network management system. Only in this way can business management be smoother and enterprise and personal data security be guaranteed.

3.3 Strengthen the application of antivirus software

Under the background of big data era, the effective measure to ensure computer network security is to install firewalls and security monitoring system for users' computers. Firewall can divide data information management system into external management system and internal management system. In these two management systems, the internal management system security factor is higher than the external management system security factor. Therefore, when storing data, users can store data

information into content data management system, which can protect personal data security. In addition, the firewall can also detect the hidden security problems in the two systems, and can conduct real-time detection and killing, which can effectively avoid virus intrusion. The application of anti-virus software can not only ensure the safe operation of computer network, but also effectively block viral mail and short message. Antivirus software can be used at the same time with the firewall. It can not only correctly identify the spam information and virus software blocked by the firewall, but also correctly detect and kill the virus on the basis of intercepting the virus, thus eliminating the hidden security risks in the computer network.

4. Conclusion

In summary, with the arrival of the era of big data, people pay more and more attention to network security protection, and its means of protection are more and more comprehensive. But even with the current advanced defense means, it can not completely avoid the network virus and human invasion. Hacker attack and network virus are the main factors threatening network security. Especially with the wide application of diversified mobile payment, network security has become a permanent topic. In this paper, the existing problems of computer networks are discussed and analyzed, hoping that these discussions can provide some ideas for the follow-up study, but due to time and academic constraints, this study has not yet reached a thorough analysis. Although we have worked out a way to avoid falling into the trap of computer network, it still needs the joint efforts of computer technicians and users to achieve effective implementation. Therefore, in the follow-up study, the author will deeply explore the strategies of network security guards and increase the understanding of network security, in order to better understand the development model of network security and apply the world's advanced technology to the development of computer networks in China.

Acknowledgements

This research has been financed by The Education and Scientific Research Projects of Young and Middle-aged Teachers in 2015 of the Education Department of Fujian Province “Research on Android Malware Detection Based on Multi-feature Fusion” (JA15397).

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