

Research Article

Food Information Management and Security Strategy of Computer Network

Yiran Wang

School of Computer Science and Technology, Zhoukou Normal University,
Henan Zhoukou, 466001, China

Abstract: The rapid development of computer network technology and application made the network very vulnerable to be attacked by computer viruses, hackers or malicious software. In the face of the various threats to the security from the network, the information security of food enterprises is becoming more and more urgent. In this study, it takes the connotation of food enterprise information as starting point, discussing the food information security management technology and safety protection strategy of computer network, by means of having analysis on the meaning of food enterprise information security, so as to explore food information security management as well as strategy.

Keywords: Enterprise information, food information management

INTRODUCTION

With the rapid development of computer network technology and its application, the following such as: E-commerce, portal, Enterprise Resource Planning (ERP) system, marketing system, fixed assets management system, network management system and so on has become the necessary environment for the normal operation of enterprises (Coles-Kemp and Overill, 2007). However, due to the feature of openness, connectivity and connection and diversity of computer network, as well as the uneven distribution feature of the terminal, plus with the inherent weakness in the technique and human negligence, which can make the network very vulnerable to be attacked by the computer virus, hacker or malicious software. Facing the threats of the invasion of network security, food enterprise information security problem becomes more and more urgent. Moreover, the lost of the important information resources as well as the damaged and leaked information must bring great harm to the food enterprises, which can even make food enterprises into a dilemma or bankruptcy.

MATERIALS AND METHODS

The connotation of food enterprise's informationization: With the rapid development of information technology, informationization technology has always been the focus of people. The concept of informationization was firstly proposed by Japanese scholars in 1970s, but because then informationization technology is always changed, informationization

technology itself is always in the process of dynamic change and development, so is difficult to give it a complete and rigorous definition. But generally speaking, informatization refers to the process of informationization technology is widely used in economic and social life, reflected in the technical level with the popularization and application of modern information technology, on the level of knowledge, it can be embodied with the development and utilization of information resources, on the industrial level, it can reflect the growth of the information industry (Jones, 2007). Therefore, informationization can be involved in all aspects of economic and social life, including enterprise information, education information, government information and so on. As the cell of the national economy, the enterprise has been impacted by the informationization technology, which can have a direct impact on the level of the whole society. Enterprise informatization can use the modern information technology, through the in-depth development and widespread use of information resources, so as to improve the efficiency and level of production, operation, management and decision-making continuously, which can improve the economic efficiency of enterprises and competitiveness of the process at the same time.

The connotation of food enterprise's information security: The information security of food enterprises refers to the whole process of food production in the enterprise including: receiving data information, processing, distribution, filing and so on, which can cover all aspects of files in the life cycle, it covers the security needs from the following aspects, namely,

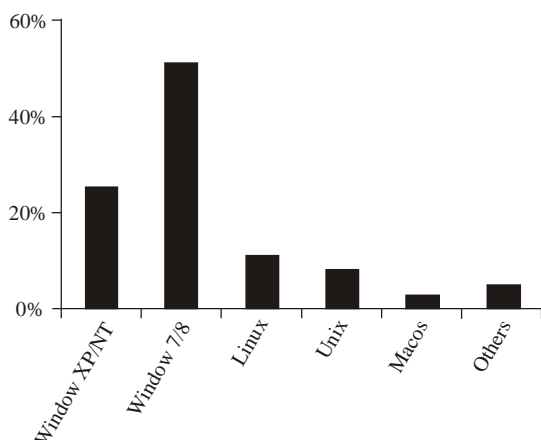


Fig. 1: The situation of operating system of food enterprises in China

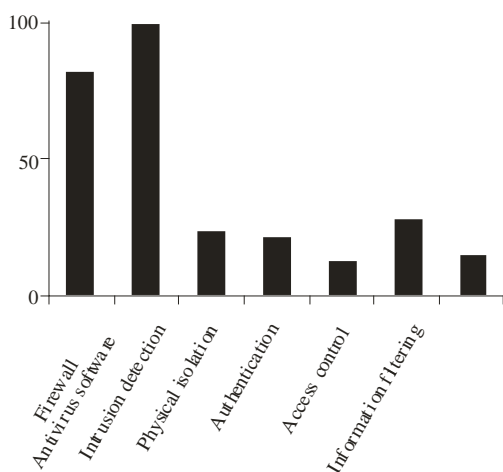


Fig. 2: The situation of network security products of food enterprises in China

information environment, information network and communications infrastructure, media, data, information content, information application and so on. Moreover, it refers to a situation of enterprise security posed by the relationship between network technology and enterprise information system, which can be composed by information system security, data security and information content security; in certain range of enterprise environment and established security conditions (Fig. 1 and 2), thus, this situation can be described from the outside of the accident or malicious threat to information security, which can maintain the comprehensive security capacity of food enterprises by means of strengthening the information security.

RESULTS AND DISCUSSION

Food information security technology of computer network:

Firewall technology: Firewall is mainly composed by routers, it is a kind of special hardware equipment

between the internal network and external network, at the same time, the internal and external links must pass through the firewall, so as to realize the corresponding control and management. How can the inside and outside network isolate? Using firewall. Because firewall can effectively restrict the random access to the internal network, which also can ensure the security of the internal network. At the same time, the firewall can prevent the internal network from random access to the sensitive information and unhealthy information from the external network (Guttman and Herzog, 2005). Moreover, monitoring network cannot be separated from the firewall; the firewall can effectively monitor all the activities of the internal network and the external network, which can effectively control the network activity. In order to play its role in the management of network security, we must make full use of its topology structure. In fact, it is a combination of filters and agents.

Data and information encryption technology: Data encryption technology is the most common security technology in the network, which is mainly encrypted by the data of network transmission to ensure its security. Encryption technology is kind of technology that the network can upload data so as to have access rights. The original data encryption devices (hardware or software) as well as key encryption and encoding data can be called as cipher text. Decryption is the reverse process of encryption, making the encrypted text reduced to the original text; people must use the same type of encryption and decryption key, decryption. Encryption technology is an efficient and flexible security method, which is worth promoting in the enterprise network.

Access control technology: Access control technology is the legitimate users of computer system to verify the authority of using information resources, so as to prevent the intrusion of illegal users, preventing the unauthorized illegal user resource from being leaked. The purpose of the implementation of access control technology is to protect the object, so as to determine the access rights and authority as well as the implementation. Under the premise of ensuring the safe operation of the system, the information resource can be shared as much as possible. Access control can not only ensure the integrity of the information inside the machine, but also can reduce the risk of virus infection, propagation delay as well as infection, which also can protect the computer storage of personal information security and privacy, protecting the important business, so as to achieve the function of confidential information. Access control is based on the user's identity, so as to give the appropriate using authority.

Constructing safety management team: In the computer network system, there is no absolute safety, making perfect safety management system is an

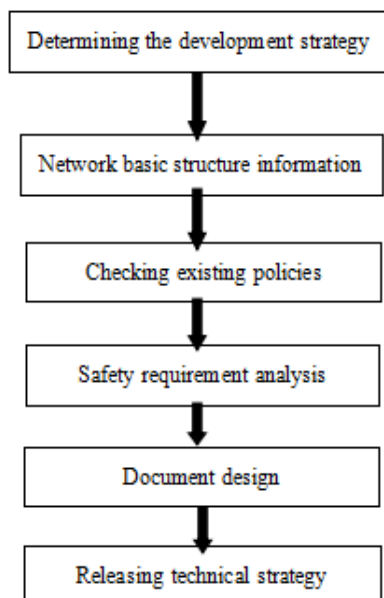


Fig. 3: The process of setting technical strategy

important guarantee for the security of computer network, only through the efforts of the network management personnel, by using all the tools and techniques that can be used, doing everything possible can control and reduce the illegal conduct as far as possible, so that the unsafe factors can be reduced to minimum.

Analysis on food information security technology strategy of food enterprise:

Analysis on food information security strategy of computer network:

Analysis on security protection strategy based on role access control: Supported by the current technical conditions, the security strategy of computer network and information security management can be divided into two types, which also can be based on rules and role based (Rycroft and Tully, 2007). As for a closed computer and CD-ROM interface, it should depend on the situation based on the closed type of computer USB and CD driver interface, in some degree, it is more practical to chose the type that is based on role-based access control. With the support of this kind of protection strategy, when end users accept roles, they are also given the appropriate authority. User role can be regarded as a form of access control strategy for the semantic structure, with the change of user privileges, it can have the equivalent transformation (Fig. 3).

Access control security strategy based on certification: As for the existed computer network's architecture, considering its security, generally speaking, every office building of each story can have

independent application switch, through the main line, it can be connected to the computer information center by means of the core switch, it is suggested that the issued X.509 certificate be used under the PKI environment, which can be used as the access control security of the whole computer network information management (Takanen *et al.*, 2004). The access control system of computer network system will read the related information submitted by the users, reading information query and submitting the queries. At the same time, it can read the certificate information of the directory server, so as to access the resource of permissions that are defined according to the demands of customers. Simply speaking, in this process, access control system can determine what kind of identity can have access to the resources of this resource.

CONCLUSION

With the rapid development of modern science and technology, as well as the modern economic and social construction development, plus the demands of growing social material culture and spiritual cultural demands, it has provided more comprehensive and systematic development for the development of computer network and system technology in the new era. The information management of computer network in the new era has become more and more diversified, becoming integrated and systematic, therefore, the information security problem is particularly outstanding, which also should got the concern from people. In this study, the writer has made a brief analysis and explanation based on food information management of computer network, paying special attention on the security problem, as well as the security strategy, so as to hope to provide some reference and help for the future research and practice.

REFERENCES

Coles-Kemp, L. and R.E. Overill, 2007. On the role of the facilitator in information security risk assessment. *J. Comput. Virol.*, 3(2): 143-148.
 Guttman, J.D. and A.L. Herzog, 2005. Rigorous automated network security management. *Int. J. Inf. Secur.*, 4(1): 29-48.
 Jones, A., 2007. A framework for the management of information security risks. *BT Technol. J.*, 25(1): 30-36.
 Rycroft, S. and M. Tully, 2007. Building an information security Meta standard. *BT Technol. J.*, 25(1): 37-40.
 Takanen, A., P. Vuorijärvi, M. Laakso and J. Rönning, 2004. Agents of responsibility in software vulnerability processes. *Ethic. Inform. Technol.*, 6(2): 93-110.