ENSURING COMPUTER DATA AND MANAGEMENT SYSTEM SECURITY

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Abstract: Intrusion and data management detection systems, firewalls and other security devices ensure the secure operation of the network. In a computer system but with the widespread use of the network, viruses, hackers and other security incidents are increasing, which are security devices sends out tens of thousands of alerts in a very short period of time, network management staff are hard to find useful this is based on data from big signals. In addition, the ever-expanding network, mobile network, data management, Information related to SMS, MMS messaging service system, unified security device cannot detect all attacks, so we need to think about how and we need to create a secure system for these devices to work together. In this article, based on the above issues, mobile data network security the integrated management system is studied and the research and implementation of the security incident management mechanism was discussed in detail. The event management proposed in this article can be considered as an extension of the network concept and management, which enriches the content of the five functions of network management. In addition, the traditional network management and system management are two independent concepts. Two control systems can be combined together and in the system network security can be further improved through incident management. The purpose of the security event modeling is understood as the process of formatting events from various event sources to facilitate further processing. This article is object oriented the modeling method is adopted, it is scalable and at the same time, the difference of all types of phenomena is fully taken into account. For the system description of the model, this article uses the XML,HTML language, which is universal. Network damage of a computer virus security management is getting bigger and bigger, features and typical symptoms of computer virus and its harmfulness is analyzed and the security of the mobile communication network is analyzed. A recommended system modification is installed in the process control system to prevent the virus. The implementation of a common security management system in the mobile data network is the focus of this paper, mainly three aspects of mobile data network audit log management, security event monitor and account password management involves the involvement of several business systems in the implementation of an integrated security management system. In this article we will take computer systems rule-based hierarchical system architecture, the degree of connection of each module is relatively loose, and it is a system with great flexibility will consist of placement.

Keywords: Security technologies such as computer virus prevention, security protocol, encryption, digital signature, firewall, network data transmission for security management, security auditing, illegal theft, tampering, counterfeiting.

Introduction

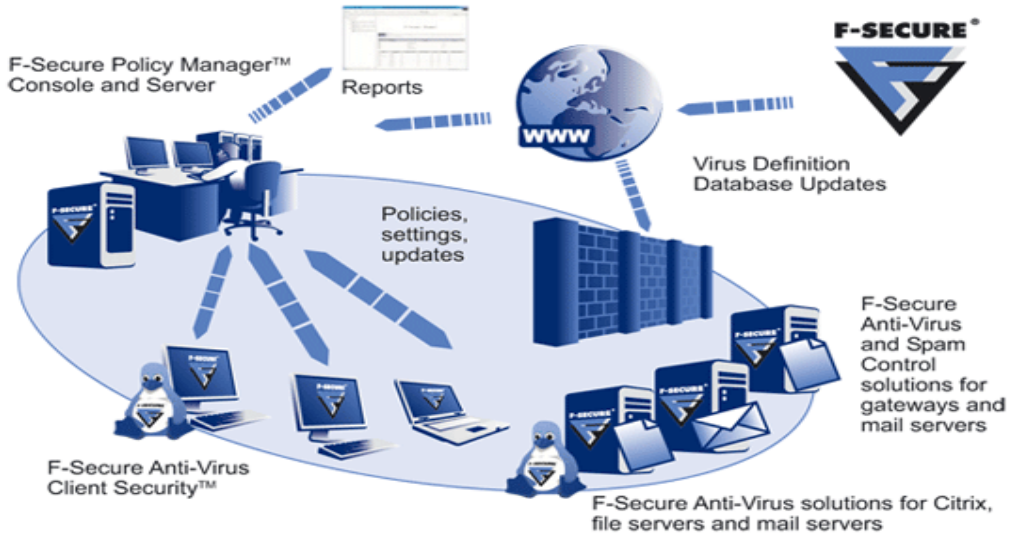
By now, with the rapid development of modern computer technologies and communication technologies in the world the traditional telecommunication network is rapidly developing into an information network. Humanity in computer systems a new era of information is in the process of development. The political, military, financial, trade, transportation, telecommunications, education and other aspects are increasing. Society's trust in computer networks is increasing and computers are being used in every field. This is especially the construction of information infrastructure, computer technologies and communication technologies have a joint construction with the formation of infrastructure becomes a proof of the most important features of the information society. Complete information systems of all types established, some of the secrets and riches of human society are highly concentrated works on the basis of a computer system. But all of these information systems rely on a computer network to receive and process information and accomplishes the tasks of achieving their mutual relations and managing and controlling the goal. Information acquisition and sharing information through the network has become one of the important features of the modern information society. The network has gradually changed the way people work and live, and has become the subject of social development. With that the openness of the network, the level of sharing, interconnection, especially the emergence of the Internet, the network's importance and impact on society is also increasing. With the proliferation of new services on the Internet, electronic commerce, electronic cash (Electronic Commerce) (Electronic Cash) (Digital Cash), digital currency, Internet banking (Network Bank), as well as the importance of computer systems in building all kinds of special networks, for example, financial network, network security is increasingly important, and the main thing is to ensure security. Therefore, it became important and the direction of research and development in the field of data communication network security was prepared on the basis of network research. Security technology has now become a hot spot in the computer and communication industry, and it an important research area of information technology science, people pay more and more attention. The development of the mobile phone the network is gradually moving from the development model of traditional telecommunication operations to the development of IP network performance, although the IP of the cellular communication network has just started, but it is developing rapidly, and the computer network has become popular in the Republic of Uzbekistan, the network has penetrated into all areas. In a few years it happened and many cases of crimes committed against the use of computer networks, the state, enterprises and individuals were a major reason and economic losses hurt. Especially with industrial characteristics of crime, for example, the financial sector more surprising. In the face of such a serious threat to computer networks and the importance of the computer network security, I think we should take strong measures to ensure the security of the computer network. But most of the existing security systems computer networks ignored security issues at the beginning of the enterprise, and not only that considered security, but also a security mechanism based on a physical security mechanism. Therefore, with a network system the extent of the interconnection network expansion, the security mechanism was considered useless for the network environment. In addition, the current network on the use of the contract, for example: in the formation of the TCP/IP contract security is not considered, so security is assumed to be absent at all. The TCP/IP protocol has many security issues, security systems that cannot meet network security requirements will be assigned to a non-upgradable system. Openness and sharing of

resources is a key resource and the security of the computer network and the security of its data mainly encryption, network user identity authentication, access control policies and other technical tools are in place. Network security measures are generally divided into three categories: logical, physical and political systems. In the face of increasingly serious threats to computer security effective computer crime prevention using network, physics and method is very limited and difficult is a policy. Therefore, it is necessary to take logical measures and research and develop an effective network and security technologies such as computer virus prevention, security protocol, encryption, digital signature, firewall, network data transmission for security management, security auditing, illegal theft, tampering, counterfeiting prevention, guarantee confidentiality and integrity; measures must be taken to prevent unauthorized user (or program) intrusion, to ensure the protection of confidential information, it is necessary to take measures to restrict user access to the network (or program). In addition to this for privacy and integrity, a secure computer network must also consider identity authenticity. (Authenticity) and availability of data (Availability) must be protected on a system-wide basis.

Creation and control of computer network system security technology

Network security national security and social stability, and the development of national culture, but also includes computer science, network technology, communication and technology, cryptography, information security technology, applied mathematics, number theory, information theory and is related to other disciplines of science. The importance of network security has become clear to everyone, especially stages of development of the global information infrastructure and information base of each country are provided. The information itself time means wealth, life and productivity. Therefore, countries began to use electronic space, unbounded and uninformed, previous to achieve strategic goals, the security of the system networks must be ensured. In addition, due to fast and universal networking, collaborative computing, resource sharing, open, remote management, e-commerce, financial computerization, known as important is the product of the network period. So it brings a lot of new topics. How to solve the problem of network security, big a number of facts show that: ensuring network security is becoming an urgent issue. It is assumed that the network will be the future computer network security issues are considered more serious than the nuclear threat. There are many network security issues it is a very complex technological system with important theoretical significance and practical information. A threat to the security of an organization or an individual with information and an attack on a network depends on the protection of the technical system. There are two types security threats: passive and active threats. Passive threat: usually a passive threat does not change the data and system, or a passive threat is only to read data on the system for profit. Because it is there it is not self-generated information, a passive threat to leave a trace, or simply not to leave a trace, so it is a difficult and complex technical process to detect. passive threat detection is a complex process. However, passive threat is preventable and prevention is the most important tool it is the use of networks connected to different protection systems of the threat. A passive threat in the network includes two aspects: hacker access to the system, leaked news IP address and identity through content or reading data. Technical system source side and destination will be visible. The main method of combating a passive threat is the use of encryption technology, if there is no decryption key, the received information will not be understood. Cryptography can be easily automated and often used by computer and network security systems. Key

management is the task of selection and assignment the control key in the password system must be set in a complex manner and changed frequently. In this process, you need to properly protect the key to prevent data theft by outsiders. Encryption can be used in a traditional password system or a public key password system. Active Threat: Active threat is more more serious than a passive threat because an active threat does not simply read data, but often deliberately modifies and copies data, replaced by a control signal or intentionally created false data. An active threat can appear almost on the line of communication anywhere, although only in the implementation of an active threat to physical access, but we can imagine, stop the activity and technical attack security is very difficult for the system, so the security objectives can only overcome the technical attack on active information, which is the collapse of the information delay and the system can be quickly detected and recovered due to an attack.



Picture 1. Schematic structure of computer systems Antivirus structure

Viruses that enter a computer system cause serious or irreparable damage to computer users. To effectively prevent the virus to reduce the damage, the main thing is to detect the virus early and eliminate it. There are two ways to detect and eliminate this computer virus protection. One of them is the manual method; two are based on an automatic method. This method requires an operator and a computer very familiar with the system, and the operation is complicated, error-prone, and there is a certain risk after the operation lead to unintended consequences. This method is often used to eliminate new viruses that may or may not be present. Eliminated automatically. Automatic detection and removal of specific types of viruses or different types viruses using a specialized anti-virus program or an anti-virus card will automatically detect and eliminate the virus. This the method does not destroy the system data, the operation is simple, the operation speed is fast, uniform relatively ideal, while the method of detecting and eliminating the virus is widespread. Network a server is the center of a computer network, it is the main part of the network. Network paralysis is what it is is an important feature of a network server. Once a network server is hit, the damage caused is catastrophic, data storage and recovery difficult to obtain and cannot be estimated. Currently, most of the methods of virus prevention and neutralization are based on and the server accepts an anti-virus download module that provides real-time virus scanning.

Conclusion

Information and networking is the trend of global economic and social development and is the main factor. In the information system connectivity is necessary to promote national economic and social modernization. Further development of the information system and its use information resources and public administration, production and use of enterprises, public services, fiscal and financial information and networking in the country has been a rapid expansion of the entire society and that it is necessary to increase the popularity of computer system network applications and wide use of information technologies. At the same time, the network due to the openness and generality of the computer network crime is getting worse. With the rapid development of the network, it has suffered in some countries, causing great danger and loss. Network protection in information technology, technology and equipment of the Republic of Uzbekistan and as technology networks expand to other countries, network security issues become especially prominent. Network security national security and social stability, national cultural heritage and its further development, an important issue, therefore, to increase the security awareness of the whole society, increase the technical level and promote computer network security and computer network security innovation, improve computer security network has become an urgent issue of today. The complex problem of network security is broad, cannot be solved by technology or system, so we need to apply network security technology.

References:

1. Nuraliev F., Safarov S., Artikbayev M. Solving the problem of geometrical nonlinear deformation of electro-magnetic thin plate with complex configuration and analysis of results //2021 International Conference on Information Science and Communications Technologies (ICISCT). – IEEE, 2021. – С. 01-05.
2. Nuraliev F. M., Aytmuratov B. S., Artikbayev M. A. Solving the vibration of magnetic elastic plates with sophisticated form //2019 International Conference on Information Science and Communications Technologies (ICISCT). – IEEE, 2019. – С. 1-4.
3. Nuraliev F., Safarov S., Artikbayev M. A computational algorithm for calculating the effect of the electromagnetic fields to thin complex configured plates //2020 International Conference on Information Science and Communications Technologies (ICISCT). – IEEE, 2020. – С. 1-4.
4. Eshmuratova A. A. MATCAD DASTURIDAN FOYDALANIB IKKI VA UCH OLCHOVLI GRAFIKLARNI QURISH //Journal of Integrated Education and Research. – 2022. – Т. 1. – №. 5. – С. 534-539.
5. Artikbayevna Y. A. et al. MINE BLASTING PROCESSES OPTIMIZATION STAGES OF DIGITAL TECHNOLOGY OF DETONATORS. – 2023.
6. M. Aripov, A. Tillaev. Web sahifalar yaratish texnologiyalari. — T., 2006-y. 170 b.
7. M. Aripov va boshqalar. A xborot texnologiyalari. — T., 2009-y. 368 b.
8. U.Sh. Begimqulov, M .E. M am arajabov, S. Tursunov. FLA Sh M X dasturi va undan ta ’lim da foydalanish im koniyatlari. — T., TD PU . 2006-y.
9. S.S.G ‘ulomov va boshqalar. Axborot tizim lari va texnologiyalari: Oliy o'quv yurti talabalari uchun darslik / A kadem ik S.S. G 'ulom ovning um um iy tahriri ostida. — T., «Sharq», 2000. 529 b.
10. А гапонов С.В. и др. С редства дистанционного обучения. — БХВ Петербург, 2003. 336 с.

11. Компютерны е сети. У ебный курс: Официальное пособие Мисрософт для самостоятельной подготовки. Пер. С. А нгл. -2 изд., — М., «Русская редакция», 1999. 568 б.
12. Нейпевода Н.Н. С тили и методы програм мирования. Л екции, 2004 г. — М., Ижевск: И нститут ком пю терны х исследований. 2004 г. 328 с.
13. Н ейпевода Н .Н ., С коп ли н И .Н . О снование п програм м ирования. — М., И жевск: И нститут ком пю терны х исследований. 2003 г. 864 с.
14. И ванова Г.С. О бектное ориентированное програм м ирование. Учебник. - МГТУ. 2003 г. 320 с.
15. Ш ики н Э.В., Боресков А.В. Компютернаяграф ика(динамика реалистическая изображ ение), — М., 1996 г. 288 с.
16. Kaipbergenov A. T., Utemisov A. O., Yuldashova H. B. K. STEADY OF AUTOMATIC CONTROL SISTEMS //Academic research in educational sciences. – 2022. – Т. 3. – №. 6. – С. 918-921.