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Research and Implementation of Computer Data Security Management System

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Abstract

The intrusion detection systems, firewalls and other security devices provide a guarantee for the safe operation of the network, but with the wide application of network, virus, hackers and other security incidents are increasing, these security devices will send tens of thousands of a warning in a very short period of time, the network management personnel is difficult to find useful information from these massive alarms. In addition, with the increasingly large scale network, mobile network, data management, data related to SMS, MMS message service system, single security device cannot detect all intrusions, so we must consider how to make these equipments work harmoniously. In this paper, based on the above problems, the mobile data network security integrated management system is studied, and the research and implementation of security event management mechanism is discussed in detail. The event management proposed in this paper can be regarded as an extension of the concept of network 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. The two management systems can be combined together through the event management, so that the network security operation can be further improved. The purpose of security event modeling is to format the events from different event sources to facilitate subsequent processing. In this paper, the object oriented modeling method is adopted, which is scalable, and at the same time, the difference of all kinds of events is fully considered. For the description of the model, this paper uses the XML language, which is universal. Harm of computer virus on the network security management is more and more big, the characteristics of computer virus and the typical symptoms and its harmfulness are analyzed, and the security of mobile communication network is analyzed. The proposed system modification virus prevention. Implementation of general security management system in mobile data network is the focus of this article, mainly from the three aspects of the audit log management, security event monitor and account password management in the mobile data network involving multiple business systems in the implementation of integrated security management system. In this paper, we adopt rule based hierarchical system architecture, the coupling degree of each module is relatively loose, and it has great flexibility in the deployment.

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1. Introduction

With the rapid development of computer technology and communication technology at home and abroad, the traditional telecommunications network is developing rapidly to the information network. Mankind has entered a new era of information. In the information society, the role of computer communication network in the political, military, financial, commercial, transportation, telecommunications, education and other aspects of the increasing. The society's reliance on computer networks is increasing; especially the construction of information infrastructure, computer technology and communication technology combined with the formation of infrastructure construction has become a reflection of the most important features of information society. All kinds of complete information systems have been established, and some of the secrets and wealth of the human society are highly concentrated in the computer. But all of these information systems rely on the computer network to receive and process information, to achieve their mutual relations and the management of the target, control. Obtaining information and exchanging information by means of network has become one of the important characteristics of modern information society. Network is gradually changing people's way of work and life, become a theme of social development. With the openness of the network, sharing, the degree of interconnection, especially the emergence of the Internet, the importance of the network and the impact on society is also growing. With the rise of new services on the Internet, such as electronic commerce, electronic cash (Electronic Commerce) (Electronic Cash) (Digital Cash), digital currency, Internet Banking (Network Bank), as well as the construction of all kinds of special networks [1], such as financial network, the network security is more and more important, the key is. Therefore, has become an important research and development direction in the field of data communication network security, research on network security technology has become a hotspot of computer and communications industry now, and it has become an important research field of information science, people pay more and more attention. The development of mobile network is gradually turning from the traditional telecom operation development model to the development of IP network operation, although the IP of the mobile communication network has just started, but it is developing rapidly. And the computer network has been rapidly popularized in China, the network has penetrated into all fields of national economy, and it has penetrated into all aspects of our work and life. In just a few years, there have been many cases of crime against the use of computer networks, to the state, enterprises and individuals caused significant economic losses and harm. Especially with the industry characteristics of the crime, such as the financial sector, is even more shocking. In the face of such a serious threat to computer networks and the importance of computer network security, we must take strong measures to ensure the safety of computer network. But most of the existing computer networks have neglected the security problems at the beginning of the establishment, which is not only considered the security, but also the security mechanism based on the physical security mechanism. Therefore, with the expansion degree of interconnection network, the security mechanism useless for network environment. In addition, the current network on the use of the agreement, such as: TCP/IP agreement, in the formulation of the security is not taken into account, so there is no security at all. There are many security problems in TCP/IP protocol, which cannot meet the requirements of network security. Openness and sharing of resources is the main source of computer network security, and its security is mainly dependent on encryption, network user identity authentication, access control policy and other technical means. Network security measures are generally divided into three categories: logical, physical, and policy. In the face of increasingly serious threats to the security of computer network, it is very limited and difficult to effectively prevent computer crime by using the method of physics and policy (Law). Therefore, should also adopt logical measures, and the research and development of effective network security technology, such as computer virus prevention, security protocol, encryption, digital signature, firewall, safety management, safety audit, network transmission of information to prevent illegal theft, tampering, forgery, guarantee the confidentiality (Secrecy) and integrity (Integrity); to prevent the illegal user (or program) invasion[2], limiting the user on the network (or program) access, to ensure the privacy information storage (Privacy). In addition to the privacy and integrity, a secure computer network must also consider the authenticity of the identity (Authenticity) and the availability of information (Available).

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