Research on Influence of Cloud Environment on Traditional Network Security

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Abstract: Cloud computing is a symbol of the progress of modern information network, cloud computing provides a lot of convenience to the Internet users, but it also brings a lot of risk to the Internet users. Second, one of the main reasons for Internet users to choose cloud computing is that the network security performance is great, it also is the cornerstone of cloud computing applications. This paper briefly explores the impact on cloud environment on traditional cybersecurity, and puts forward corresponding solutions.

1. Introduction
Modern information society continues to develop rapidly, cloud computing was born in this high-speed development environment. Cloud computing is one of the signs of information technology development of network technology, it is a convenient, network of new business computing model. Compare with other applications, network security performance is one of the main reasons for Internet users to choose cloud computing.

Cloud computing is the application composed by the virtualization technology, network technology and distributed computing technology. Cloud computing applications are more widely used, the most common use is to share the information to the public Internet users, the open network environment has provided accurate calculation and a powerful storage function for the use of cloud computing users. However, with the continuous development of information, cloud computing also appears with the drawbacks, one of the cloud security issues is more prominent, the traditional network security field caused a sort of a small impact. How to prevent local data.shared data is intrinsically illegal access or tampering; how to use the cloud platform to effectively detect the virus, ad intrusion system; how to deal with the security issues in the process of data transmission; how to ensure that the revocation of data in the cloud is not illegal use, so the application of cloud computing must pay attention to the problems in the field of network security issues.

2. Impact of Cloud Environment on Traditional Network Security
Modern information-based risks defense security systems mostly are firewall systems, intrusion prevention (IPS) and virtual private network and other defense system mechanism. Most of these multi-layer security defense systems are for the external environment, the traditional network of the internal environment can easily be ignored, So it was threatened by the security field usually. This can be seen, the market's original risk defense security system does not take the risk of the cloud into account, the original risk defense security system are mostly hardware-based, and not together with the cloud methods. There is also the original risk defense security system in most cases is for the threat to intrusion what is caused by a common network, there is no custom for the cloud and the...
unique defense. These are all aspects of risk defense security systems that can not be touched. Here are some of the effects of cloud dangers on traditional cybersecurity:

2.1 Internal Security Environment Affecting the Network
Network application software is constantly upgrading, risk security defense system is more and more complete, but these defense systems are only for the external network of the risk of invasion. Traditional internal environment network security has not received the attention to people, people focus on the external network of virus attacks but ignore the internal network security environment guardian. For example, some of the important information technology staff of the network have the authority on some information that people do not have access, it is easy to use this authority to disclose information on the situation. The technology staff of important network information is extremely easy to cause damage to the information and the threat to leakage because of their using authority. The safety of these information, whether the integrity of the individual, has a significant impact on the enterprise and the individual.

2.2 Impact of Cloud Storage and Access Security
Cloud storage applications allow users to manage the data, in the traditional network environment, the Internet users are mainly do the data storage, analysis, sorting and other means of processing. In the cloud environment, so that users can store the original data that cannot be stored on the cloud shared on the client. The convenience of storing and managing data information also brings some test of the security of data information.

Whether or not the cloud computing users in the cloud computing cloud storage take some time threatening to the network security, which has brought a problem of the development of cloud storage function: how to build a stable and safe cloud storage security defense mechanism. At present, there is a way to access the data information password defense means, which is the access to the data access visitors. Cloud storage in the network security has been the initial defense measures, but still needs to continually improve, keep up with the needs of the times progress.

When visitors read, extract the data information they must enter the correct extraction code or password. This method at that time can play a role in ensuring the security of data information, but with the rapid development of network technology, this password authority defense mean no longer work. Some people ignore the password permissions, directly through a number of means to extract, steal the inside data information about the cloud storage space, bring security risks to the enterprise, personal network. Although the surface of the cloud storage accesses to the password permissions to ensure that the data information is not accessible to all, but in the cloud computing users through the network transmission of data information uploaded to Baidu cloud, although users enjoy access, but in order to facilitate the management, Baidu Cloud dealer itself is a management authority, you can freely access Baidu cloud users storage space. Some Internet users may use this special access to seek benefits, steal the user's security information by some illegal means, resulting in the information disclosure of Baidu cloud users, but also in the process of transmission of information about the network lead to the situation of incomplete information transmission. As shown in the following security guard center it is one of the places that is more prone to information security flaw, which caused a greater impact to Baidu cloud storage data information security.
2.3 Network Security Incidents Occur Frequently
As the saying goes, the network is a double-edged sword. It brings the convenience of progress of people, at the same time it also brings people with information leakage and other network security issues threat. Baidu cloud resource sharing integrity has a very important position in the network, people do not to get their own data, most people will turn to Baidu cloud shared resources. Resource sharing with Baidu cloud users is a kind of enjoyment, but also is a threat. However, when the traditional network security fields in the cloud environment under the impact on some important information stored in Baidu cloud which, even some of the main core information is also stored in the network when the impact is a major disaster, it will give people and the development of enterprises significant losses. So when use Baidu cloud of the case of the threat by the usage of modern information technology we need to protect the data and other appropriate protection measures. At present, the global network security companies are concerned about the security of cloud computing, it is shown in the following figure:
Figure 2: Corporate users' core concerns about cloud computing

4. Measures to Impact to Traditional Network Security by Cloud Environment

4.1 Build Cloud Computing Security Defense Mechanism and Improve Its Work

For Baidu cloud users to enjoy the information processing and sharing with resources at the same time not subjects to the insecurity on the network factors, we must build a more complete cloud computing security mechanism, while avoid the situation of both external virus intrusion and internal information disclosure or damage arises. To ensure that cloud computing applications have a healthy and sustainable development, we need to help Baidu cloud service providers, help Baidu cloud system to monitor and manage, take effective defense for different viruses and other risk threats. Appropriate improves the efficiency of network transmission data information about Baidu cloud system, take appropriate measures to the issues may occur such as a variety of viruses and other risks, establish a unique virus defense system to reduce the data information is infected with the virus. The use of service providers to the monitor authority on the important data can monitor timely management and backup to prevent damage to data or loss of information which can be targeted when the initial recovery of the corresponding information. And build a set of network security defense system to prevent hacker attacks or attacks occurred in a timely manner in the Baidu cloud.

4.2 Strengthen the System of Vulnerability Risk Security Work

When using the computer, you can open a firewall against the defense system such as external risk threats to effective protection. In the use of Baidu cloud client, when the system vulnerabilities and other risks can be downloaded or updated by the patch for risk repair work to improve Baidu cloud client system security. These are mainly carried out in several ways:

4.2.1 Monitor the Deny Service Attacks

According to the application of Baidu cloud, the system has the characteristics of rapid flexibility, in the face of the threat of traditional network security, which Baidu clouds suppliers played a certain demand, suppliers have a very strong network and the server, and then monitor and management according to different business, and take appropriate measures in time to adjust the business which does not meet the status quo. All the business of Baidu cloud supplies can be investigated monitored
and analyzed by Baidu cloud staff, to carry out the maintenance and repair of its system in a variety of means.

4.2.2 Analysis and Management on the Network Traffic
The analysis and management of traffic on the network, it can find out whether some abnormal traffic situation poses a threat to the traditional network security field timely. In short, it is the Baidu cloud application center export link between the corresponding deployment and detection system traffic usage. The supplier in the flow of the summary of the timely analysis and processing, will be able to calculate the scope of the flow and the emergence of some abnormal traffic, and further make the appropriate management or defense measures. For the use of traffic detection management, we can know that these traffic in the use of the main focus on which aspects of the flow to monitor and change the analysis, you can find such as network misuse, network abuse, DDoS attacks, etc. abnormal traffic appears . To better avoid the unnecessary security threats traditional networks security in the cloud environment.

4.3 Improve the Law and Network Security Regulations
In the face of security incidents on the Internet, the most effective measure is the mandatory effect of starting the law. In the face of the current social Internet users for the network security awareness is relatively weak status quo, we need to put some effort in the legal aspects. Law is the basis of all applications that can run properly and force to support. From the national level, the establishment of a sound network security laws and regulations can be more effective maintenance of the network using green civilization, maintaining the safety and development of network security, which requires some uncivilized information processing and monitoring. For example: pornographic advertising, fraud information and other non-green civilization of the network phenomenon. Improve the law, improve the security of the network security laws and regulations can make the network users rely on the healthy development of enterprises, to ensure that the data storage on the network and data transmission in the case of network security in an orderly manner. From the enterprise level, the maintenance of network security will have to establish a corresponding enterprise security system, so that staff can comply with a variety of company security systems to ensure the safety of network information, do corporate information network security issues in a timely manner of the report processing to some of the threats, to do the follow-up processing the appropriate departments.

4.4 Build Cloud Computing Security Model, Classified Cloud Deployment
In order to ensure that the traditional network security domain is not threatened in the cloud environment, it is necessary to build a relatively complete security model and to classify the cloud. The performance of the computer is mainly through software and hardware, the main aspects of hardware are firewall and other security defense applications, then to deal with the traditional environment in the traditional cloud network environment problems under the software will proceed from the software to deal with. So in order to be able to effectively improve the security performance of cloud computing, we must build a cloud computing security model for Baidu cloud deployment classification. That means to establish public clouds, private clouds, community clouds and mixed clouds. Each cloud deployment class has a specific applicable object. For example, if the specific use of different cloud deployment plan, such as some data information is confidential, cloud computing users can establish private data to continue the way data management, which is the purpose of sorting out the private cloud. If some of the data information has the characteristics of sharing, in order to allow everyone to enjoy these data resources, Baidu cloud can be based on the organization to share a number of organizations to support a particular area, which is the general use of community clouds.
5. Conclusion

The emergence of the cloud environment symbolizes the progress of modern information society, the cloud environment provide a lot of convenience to the modern Internet users, but these facilities are accompanied by various risks. In this paper, the impact of the cloud environment on the traditional network security field is briefly explored, and the corresponding countermeasures are put forward to strengthen the network security system under the cloud environment.

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