

Discussion on data security scheme in big data cloud computing environment

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Abstract

Big data cloud computing technology is a new kind of technology development of network information technology, the application in practice, because of advanced technology to undertake large quantities of data processing tasks, so the data information security efforts also need combined with practical application requirement of reasonable control, the specific data security in the process of work, It is necessary to combine the basic characteristics and practical requirements of big data technology to develop targeted security management programs. Big data access control, focus on effective isolation of data sharing, enhance data storage encryption to achieve the goal of data security. Relevant technical personnel also need to do overall platform maintenance and daily data maintenance based on the characteristics of the big data platform, so as to improve the application effect of the big data cloud computing technology.

Keywords

Big data technology; Cloud computing technology; The safety management.

1. Quote:

In the practical application of big data cloud computing technology, professional platforms are needed to play the role of data information management and control. In practice, in order to give full play to the role of this technology, it is necessary to analyze the security problems in the process of data processing, clarify the basic data processing functions of the big data platform, and take targeted measures to maintain and manage the data platform.

2. Analysis of typical advantages of big data cloud computing technology

(A) Can meet the requirements of large quantities of data calculation

With the support of big data platform, the application of cloud computing technology contains a large number of computing resources in practice. During the application of cloud computing technology, as long as a reasonable channel is used to log in to the cloud platform, different data computing resources can be combined in specific data computing. At the same time, in the context of cloud platform application, Time and space factors do not affect the overall data transmission and storage. Under the background of cloud platform operation, large quantities of data information can operate and interact pertinently to meet the application requirements of different users for diversified data information. In the current application environment, a large number of data computing in the cloud platform support can not only ensure security, but also work efficiency and technical content synchronization guarantee^[1].

(2) It can meet the requirements of data information circulation and utilization

Circulation utilization is an important basis for data information to play a role. Under the background of big data cloud platform, a large amount of data information can be freely

circulated on the platform. In addition, different types of platforms and information content can also be guaranteed and processed based on corresponding technologies, typical technologies include clustering technology and distributed technology. It can help users to complete information access better and faster, and process data information accurately and effectively. Under the background of wide circulation and utilization, the application of this technology plays a very important role in promoting the better results of data processing.

(iii) Able to accurately locate user needs

The structure of user needs is closely related to the specific content and type of data information. Supported by the operation of the big data cloud computing platform, the actual differentiated needs of different users can be accurately captured based on the operation of the platform. This is also the main reason why some e-commerce platforms and online sales of enterprises use this technology to locate customer needs. In practical application, the actual effect of cloud computing technology in specific application can be ensured as long as users' privacy is precisely protected and user demand reports are gradually formed in the process of technical application^[2].

3. Data security analysis of big data cloud computing technology

Under the background of mass data processing, data security will have a direct impact on the development of data processing and practical application. Once the data security problem occurs, it will directly affect the follow-up practice. Based on big data cloud computing technology based on the characteristics of network platform construction. Data security is a key problem that needs to be paid attention to. The following is a detailed analysis of typical data problems that may occur.

(I) Risk analysis in the data access stage

In the application of big data cloud computing vouchers, security risks may occur in the basic link of data access. Specifically, the typical performance of access risk includes the following aspects. ① During data access, due to the user's own reasons, malicious access problems occur, or in the process of data operation, there are violations with potential security risks. Causes fundamental problems in data processing of cloud computing vouchers. ② Malicious data information leakage occurs during access. Specifically, due to the personal reasons of technical operators lead to operational errors, resulting in information errors, in addition, including the running status of the network maintenance system problems and deficiencies^[4]. The specific data information is missing and displayed incorrectly in the process of operation. ③ Data security problems occur due to the running status of the access server. This mainly has a direct relationship with malicious hacker intrusion. In order to steal enterprise information or information in the cloud computing storage platform, some criminals invade the original data storage platform from the operation stage of the access platform and steal the corresponding data information.

(II) Risk analysis in the data isolation stage

Data office isolation is also a more common and typical risk in the context of the evolution of cloud computing vouchers. In the practical application of big data technology, the problem of data isolation mainly refers to that in the process of specific data information sharing, data in different departments and application platforms are isolated in the process of sharing, and some data may lose information. This will not only directly affect the rational application of data, but also lead to the effect of data information in specific application. Once quarantined, the privacy of quarantined data has a very direct impact. At the same time, under the background of unified computing of large area of data information, the incidence of data isolation will increase. In practice, the integrity of security performance will be reduced, and ultimately threaten the operation security of network platform^[5].

(iii) Risk analysis in the data destruction stage

In the context of cloud computing, data information may be clicked repeatedly and frequently in the context of mass statistical applications. This means that the analysis and processing of data also need to implement frequent operations. In the process of data information reading and application, in order to better meet the requirements of data circulation, it is necessary to carry out planned and targeted destruction of historical data information. In the destruction stage, due to the mass characteristics of data information, a large amount of mobile data information also needs to spend a certain amount of time in the destruction stage. This part of data information may also be leaked in the process of rapid data information flow. When expired data is used by illegal operations, it will have targeted adverse impact on the computing technology and results of the cloud platform. As a result, the technology of cloud computing platform cannot play effectively.

4. Data security management and maintenance scheme supported by big data cloud computing platform

Security management in the practical application of big data cloud computing platform needs to take targeted measures for security management and maintenance based on possible technical problems and security risks. In specific security maintenance and management, the following points need to be grasped.

(1) Strengthen control of access links

The application control of cloud platform technology in the access link mainly refers to the research and development and application of data access control technology by relevant application enterprises in the work of data processing link in practice. In order to ensure that the fixed user group can access the corresponding data information in a normal and orderly way, the more typical access mode has two typical bases: forced access and storage encryption. In the specific permission and function design of forced access, it is necessary to control user permissions in detail according to the practical application requirements of employees of different positions in the enterprise. In addition, role access is also a common access control technology. Access control technology applications, to enhance the flexibility of access control and precision, and also need to be integrated into the household register sex more independent access technology, and combined with the practice of user requirements in the process of access to content and access access to accurate positioning, to ensure that cloud computing technology in the practical application of the pass of permissions, get better data information management maintenance effect. As for the effect of information security guarantee, the cloud computing function can effectively control the accuracy of access content for users of various roles and improve the security guarantee in the access process. In addition, the process of system operation should also strengthen the strength of risk warning, information interference in the system, to timely start the system early warning function, to achieve the goal of information security.

(2) Strengthen the development and utilization of information sharing and isolation functions

The cloud computing technology in the big data platform has relatively low restrictions on user information storage and information transmission in practical application. Independent users can store and send data information through the cloud computing platform. This is also the main advantage of cloud computing technology in practical application. In the process of practical application, in order to avoid the impact of data isolation on the function of the whole data information content. Third-party platforms need to be controlled and isolated to avoid data leakage. In addition, the application of new data information identification technology is also the main method to avoid the problem of sharing isolated data information. The introduction and application of some accurate identification technologies can increase supervision and

attention on links that may have security risks through the analysis and research of the form of data files and the analysis and research of the operation mode that can be executed. When it is discovered that data can be operated or that users have harmed data, it shall immediately ensure the security and stability of data transmission and data information acquisition by means of data isolation.

(3) Strengthen encryption for data storage function

Data storage is a key part of cloud platform and cloud computing technology. In order to ensure the data security of the storage link, it is necessary to strengthen the encryption processing of the storage platform itself and enhance the data security guarantee by raising the security level^[6]. Specifically, data storage encryption can be achieved by monitoring the phenomenon of illegal access to perform operations. In addition, changes in the way information is presented are also the way encryption functions. For example, if an operation or data theft operation is found during system running, you can adjust the display mode of related information. Avoid unauthorized access to obtain real and valid data information. In the application of encryption technology, the advancement of encryption will also affect the actual effect of encryption. For example, during encryption, ciphertext encryption is used to save and control data transmission. Encryption levels should be targeted to increase, through different levels of encryption Settings to ensure the security of data information to provide support. In addition, in the application of encryption technology, the application of more complex encryption algorithm is also an important condition to achieve good encryption effect. When cloud computing technology comes into play, on the one hand, the entity platform should be used to strengthen encryption; on the other hand, the data information supported by cloud computing technology should be effectively encrypted through effective key management or encryption based on virtual platform.

5. Concluding remarks

Comprehensive analysis shows that in the application process of big data cloud computing technology, the application of cloud computing technology needs to carry out targeted control for each link according to the specific situation of data information application. In the implementation of control work, the integration and application of advanced technology is an important condition to achieve good data and information security effect. As data platform users and system maintenance managers, they should combine the actual needs of different user roles to do a good job in data storage and analysis, and provide support for better data application tasks with the support of technology.

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