

Analysis on the Security of Accounting Information under the Cloud

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Abstract: Cloud accounting provides a new way for the realization of enterprise accounting informatization. But whether the security of accounting information is one of the most concerned problems for the enterprise to choose cloud accounting. Based on the description of the cloud accounting and accounting information security relations on the in-depth analysis of the existence of accounting information accounting under the cloud storage and transmission and use of security issues, and from the perspective of technology management and technology proposed capture cloud key technology, accounting information security research and development high channel cloud accounting information system, establish cloud accounting accounting information security risk assessment mechanism, establish credible safety management measures to improve the accounting information of four measures.

Key words: Cloud accounting; Accounting information; Accounting information

1. Introduction

With the development of global economic integration and the business environment, the fierce market competition makes the enterprise management has been no longer satisfied with the reliability of accounting information, but began to pay more and more attention will help provide the financial status and operating results analysis, prediction and assessment of the accounting information. In recent years, cloud computing "on-demand, on-demand pay" technology and the idea that the majority of small and medium enterprises can use a lower cost, which can be convenient and fast to obtain professional and efficient information services.

The accounting information security problem in the cloud accounting environment has aroused wide attention from the academic circles. Discusses the security problems of the relevant standards of domestic scholars from the standard formulation, the security system of laws and regulations, the construction and development, cloud computing services platform, cloud service providers accounting of accounting information, and puts forward some macroscopic suggestions and improvement measures. But these researches are rarely focused on the micro level of accounting information, such as the storage, transmission and use of accounting information. Based on this background, this article will be on the basis of cloud accounting and accounting information security relationship on the basis of in-depth analysis of accounting information in the accounting information security problems, and put forward the corresponding countermeasures. It is expected that the research of this paper can provide reference for solving the problem of account

information security in the cloud accounting enving information security in the cloud accounting environment.

2. Cloud Accounting and Accounting Information Security

The concept of "cloud accounting" was first proposed by Cheng Ping, He Xuefeng and other scholars in the "Application of cloud accounting" in the accounting information of small and medium enterprises in January 2011. It is defined as "building on the Internet, the virtual accounting information system and accounting, management accounting and accounting decision-making services to the enterprise, which is constructed by using cloud computing technology and the concept of accounting information infrastructure and services". Enterprise application cloud accounting can be based on their own accounting information needs Xiang Yun accounting service providers to customize the requirements of the accounting software function template, and pay the use of the use of the cost of. Cloud accounting provides a virtual resource pool, which can dynamically allocate and manage physical and virtual storage resources, while meeting the individual needs of enterprise accounting information storage.

Cloud accounting has been widely concerned by domestic scholars, especially in the specific application of enterprises and accounting information security issues have become the focus of research. In the cloud accounting system and accounting information security issues are closely related to the software that is services, data that is, the basic implementation of the three levels of service. The SaaS layer in the three levels in the use of cloud computing technology and the concept of accounting, to

build cloud accounting management and accounting accounting decision-making of cloud services, significantly affect the safe use and other related business information system of accounting information; construction and integration.

The DaaS layer on the accounting information and economic information as the core resources of the enterprise and the construction of data storage and data center cloud accounting and use hardware IaaS layer service application environment to build server cluster, which has a significant impact on the accounting information storage and transmission security.

3. The Security of Accounting Information in the Application of Cloud Accounting

Cloud accounting can accelerate the process of accounting information. But cloud accounting will make the storage of enterprise accounting information and the physical location of the separation of the emergence of space, which makes the enterprise application of cloud accounting often involves a large number of accounting information storage, transmission and use. Although cloud accounting service providers can also provide a more complete security management mechanism, but it does not guarantee the absolute security of accounting information.

3.1. Storage security of accounting information

The application of cloud accounting makes it easier for enterprises to obtain and deal with accounting information. Cloud storage resources can be called at any time when there is a burst. However, due to the use of cloud computing virtualization and distributed storage technology, so the accounting information stored in the end user is not clear. Cloud accounting service providers may have some special permissions, which makes accounting information in the cloud storage management technology is not perfect will cause the security of accounting information.

Accounting information is stored in the cloud environment, its data integrity, confidentiality and security are the most worrying. The usual solution is to use the method of data encryption. In order to ensure the effective data encryption needs to consider the reliability of the encryption algorithm used, but also need to consider whether the encryption can ensure the safety of accounting information. Since users usually do not have enough expertise, they are typically entrusted with the cloud accounting service provider to manage the key. Cloud accounting service providers need to provide encryption guarantees for a large number of users, which leads to the management becomes more complex and difficult. Increasing the difficulty of management and increasing the number of people and the openness of the Internet will inevitably lead to some problems. The cloud service provider related personnel accounting disclosure of impor-

tant accounting information, hackers or competitors use professional viruses and spyware, ask around financial software level to enter the accounting information database, the stored in the cloud will be intercepted a message and malicious tampering. The emergence of these problems will become the enterprise application cloud accounting concerns.

3.2. Transmission of accounting information

When the accounting information is transferred inside the enterprise, the transmission usually does not need to be encrypted or just a simple encryption algorithm is used to encrypt the data. However, when the accounting information is transmitted to the cloud through the cloud accounting service provider, the security and integrity of accounting information should be guaranteed. The accounting information is transmitted to the cloud, enterprise users in the accounting information security and integrity of the party subject to its cloud server provider height. Therefore, on the one hand, the cloud service provider shall adopt the encryption algorithm more complex in order to prevent data leaks to unauthorized users, on the other hand, the enterprise also need to increase the integrity check according to the accounting information in the transmission protocol. At the same time, due to the transmission of all kinds of accounting information is generally required through the Internet, the carrier of information transmission has changed, which makes the confirmation means of information flow appear in a variety of ways. The enterprise accounting information transmission process in the cloud service provider and accounting ask competitors may be illegal interception, modify and delete; accounting information may leave some traces in the process of transmission through Internet, leading competitors can trace through tracing, access to valuable accounting information to him. All these circumstances threaten the security of accounting information transmission. However, the security of accounting information is not only a problem in the process of information transmission, but also in the use of accounting information.

3.3. The use of accounting information

Accounting information as the core business secrets of the enterprise, its use is generally the financial and financial and closely related to the manager. If the use of accounting information in the process of major issues, which are often the impact of the enterprise is fatal. Therefore, how to further strengthen the accounting of the cloud security and how to eliminate the enterprise and questioned the cloud accounting guarantee enterprise accounting information is not stored in the cloud from unauthorized use, and how to ensure that the accounting information in the process of using no leakage is the current accounting cloud service providers and enterprises

facing problems. The enterprises in the application of cloud accounting daily work may appear in the following problems: the role assignment and permissions confidentiality of financial personnel, financial personnel in the work of the man-machine separation, the user password is too simple, user settings, software defects make improper key accounting information access should not leave some traces and unauthorized use USB etc. these situations will make the accounting information security risks exist in the process of using. Accidental disclosure of accounting information to non related personnel or intentionally steal, which is undoubtedly fatal to any enterprise. In the face of the increasingly serious problem of accounting information security, it is urgent to solve the problem of accounting information security in the cloud accounting.

4. Suggestions on Strengthening the Security of Accounting Information under Cloud Accounting

Aiming at the security problems of current accounting information under cloud accounting, from the perspective of technology management and technology can be overcome by the development of key technologies, cloud accounting information security high credible cloud accounting information system, establish accounting cloud accounting information security risk assessment mechanism, establish credible safety management measures to improve the accounting information of the four ways of improvement and perfect.

4.1. To overcome the key technologies of cloud accounting information security

Cloud accounting is a kind of accounting information application based on cloud computing. The accounting information users identity management and access control, accounting information security audit, data protection, virtualization security, centralized access, load balancing and so on accounting information security technology is applied to the premise of cloud accounting.

The establishment of user identity authentication and access control mechanism, which is to ensure the effective separation of accounting information of different enterprises. And its legitimate access is one of the key technologies of cloud accounting environment accounting information to improve the security. In the cloud accounting environment, because the accounting data is no longer stored in the enterprise internal server, which makes the enterprise of their own accounting data loss of physical control. Therefore, in the accounting information for access to the first security audit. Cloud accounting using virtualization technology to achieve the dynamic management of physical resources and deployment, which provides an isolated accounting information application environment for enterprises. At this time, the secu-

urity of the virtual machine, the virtual network and the super user will directly affect the security of the cloud platform. How to ensure the confidentiality, integrity or availability of storage accounting data from the perspective of security attributes of the data itself is a key problem to be solved in the application of accounting information security. In addition, due to the accounting business process of domestic enterprises are generally uniform, so the accounting period of the enterprise may also be the same. Such as the annual report at the end of each year, etc.. This will cause the same cloud accounting service providers in a centralized processing business, which will result in a sharp increase in the amount of accounting information transmission, and caused a large load of hardware facilities, network congestion. How to realize the reasonable and efficient allocation of resources and load balance is one of the key issues to solve the security of cloud accounting information.

4.2. Research and development of highly trusted cloud accounting information system

Accounting information security depends on the security of the accounting information system to a large extent. At the same time, its security is closely related to the function and credibility of the accounting information system. At present, the domestic cloud accounting service providers to provide information security technology and software functions are basically unable to fully meet the needs of users. So we can be led by the government and the set director of cloud accounting service providers form a complementary consideration, and the joint development of relevant information system under cloud accounting, in order to reduce the development difficulty and risk provider alone.

Accounting information is the output of the accounting information system. If the enterprise is not "trust" to the accounting information system provided by the cloud accounting service provider, then the security of the accounting information is more secure. The credibility of accounting information system has a significant impact on the security of accounting information. The credibility of the accounting information system is a kind of subjective psychological feeling of the enterprise to choose the time to "trust" of the system. But the psychological feeling of "trust" in the system depends on the predictability of the software behavior, the objective key characteristics of the target conformity and reliability, security, usability and so on. Credibility is composed of a set of interrelated and mutually influenced trusted attributes, which usually includes the availability, reliability, security, real-time, maintainability and survivability, and the sub attributes of these attributes. Enterprises choose accounting information systems from the cloud accounting provider often through its system has a set of facts to express their trusted attributes. The behavior of trust accounting in-

formation can achieve the goal of its setting. In order to provide users with a reliable accounting information system needs to be customized function module after the completion of its credibility to assess.

4.3. To establish a credible evaluation mechanism of accounting information security risk under cloud accounting

Whether the enterprise is willing to use the cloud accounting often depends on the security of the accounting information on the cloud. And different enterprises to the degree of credibility is not the same. Therefore, to establish credible accounting information security risk assessment mechanism of cloud accounting, and transparency to the enterprises after the application of cloud accounting information security is credible, it can eliminate the enterprise accounting information on safety concerns. Cloud accounting service providers generally provide authentication, information encryption, security detection, security warning, security assessment and other information security technology or systems. However, in the face of cloud accounting users complex, volatile information security needs are often not enough. Different enterprise management mode, business often has the difference, and because of market competition and constantly changing, which makes various accounting cloud services cloud accounting service providers according to their business needs, security needs and customized combination of its security will often change. This leads to difficult to allow users to its security has been trust". Therefore, it is necessary to establish the accounting information security evaluation mechanism of the accounting information to the user, and to provide users with the security of accounting information. In this process, it is very important for the cloud accounting service providers to make clear the security requirements of the accounting information of the enterprise.

4.4. Develop and perfect accounting information security management measures

Accounting information security involves the security of servers, storage devices, network devices and users. It is very necessary to set up a practical accounting information security management system according to the actual accounting information security management needs of enterprises. Cloud accounting service providers focus on the security of hardware and network infrastructure after the enterprise choose cloud accounting. And the enterprise will focus on the security management of the user's accounting information security management.

5. Conclusions

Cloud accounting as a new type of enterprise accounting information model, which provides a complete solution for the enterprise to implement accounting information, which is a low cost and high income. However, the security of accounting information under the cloud accounting has become the most worried about the company's choice of cloud accounting issues. This paper analyzes the enterprise cloud accounting most worried about accounting information storage, transmission and use, and put forward to the research and development of key technologies, cloud accounting information security high credible cloud accounting information system, establish accounting cloud accounting information security risk assessment mechanism, establish credible safety management measures to improve the accounting information four measures from the perspective of technology management and technology. I believe that with the continuous development of information security technology and progress, as well as the global economic integration, there will be more manufacturers into the cloud accounting market, while accounting information security issues will be gradually be resolved.

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