IJESRT

INTERNATIONAL JOURNAL OF ENGINEERING SCIENCES & RESEARCH TECHNOLOGY

E-Commerce Applications Security Aspects in Cloud Computing

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Abstract
Cloud computing has attracted the IT enterprise attention especially the e-commerce enterprise. Cloud computing is a new Internet-based computer technology. The paper analyzed the current actuality of the application for enterprise E-commerce, and pointed the main issue of that application

Keywords: Cloud computing, E-Commerce, Network storage, Network security, MD5

Introduction

E-commerce in the Cloud: What and Why for Marketers?

While we e-Commerce marketing and operations types are consumed with planning for huge traffic spikes during holidays and other busy seasons with email campaigns, landing page design, merchandising strategies and inventory planning, our technical counterparts must ensure that the IT environment can support rapid increases in visits and database calls, that new projects are launched quickly and that systems are secure, all within carefully scrutinized budgets.

Problems in Developing an E-Commerce Application by Cloud Computing

Cloud computing is a new practice mode applied to e-commerce. The integration of cloud computing and ecommerce has not yet reached a mature stage and still needs the test of practice. At present, there are still many problems that need to be solved.

A. Security issues of cloud platform

The traditional security requirements, such as the legitimacy of authority, information integrity, no repudiation, authenticity of identity issues are easier to be solved in the cloud computing model. However, the confidentiality of information, network security and some other issues haven't been solved yet. What is more, some new security issues also appear.

B. Challenges

For some e-commerce companies, entrusting the work to the third party contains some elements of risks. Going too much, the risks may be greater than the benefits for the business.

C. Cloud data security

Cloud data security includes data security and confidentiality of privacy. Currently, private cloud, public cloud, mixed clouds and other concepts have been proposed and gradually applied to practice, but whether they are effective remains to be further verified.

D. The standard that cloud computing services provide

The cloud-based e-service model is still in a fragmented state. If we really want to promote and apply these new models, a unified industry standard should be developed.

E. Regulatory issues of services

Information processing, data storage, security, maintenance and other work are usually dealt with by the cloud service providers in cloud computing environment. Then, the service provider's position will become crucial to properly handle the information that is related to the user's information security. Therefore, how to monitor service providers, to regulate their services, and control their behavior are the issues that are urgent to be addressed.

F. Lack of relevant laws and regulations

Currently there are no corresponding laws and regulations to regulate the relevant e-commerce activities under the cloud computing environment. Because of lack of laws and regulations, some actual problems in application cannot be solved and specified in time.

The Influence of the Cloud Computing upon the E-Commerce

Cloud Computing can Improve the Safety of Business Enterprise E-Commerce Application
The business enterprise scale is more and more big, business enterprise the backlog more information

resources. Along with the rapid development of network, the business enterprise data gets effectively and savagely to also lead the attack of coming a lot of viruses and black guest at the same time and then makes the safety that the business enterprise data saves be subjected to serious threat and made also more and more big in the devotion on the information safety. Apply cloud in the business enterprise calculation, can is saving the data in the high in the clouds, is computed service by cloud to provide ascend provide profession, efficiently and safety of data saving, thus the business enterprise need not worry again because various safe problem causes the data throw to lose. Therefore, cloud computing can provide the data of credibility and safety saving center for business enterprise.

Cloud Computing Can Improve the Vivid and Profession of Business Enterprise E-Commerce Application.

Cloud computing can provide economic dependable E-commerce system to make to order service for business enterprise, software's namely serve (SaaS) is a kind of service type that cloud computing provides, it software be a Low in line service to provide. Compute a technical electronics to outside wrap according to cloud is the importance of business enterprise application E-commerce service. Business enterprise while using network frame and application procedure makes use of cloud computing can make it more of convenience, the electronics outside wraps actually be with need but change a kind of form of E-commerce. The business enterprise is adopting cloud Research of E-Commerce Based on Cloud Computing. Computing service, to the E-commerce system carry on a development and get stripe have already no longer needed to cost a great deal of funds and manpower, don't need singly trap software and procedure of investing the establishment inner part.

3.3 Cloud Computing can provide Good Economic Efficiency for the E-Commerce Application

A great deal of calculator and network equipments are what business enterprise sets up E- commerce system to provide with remarkable, business enterprise for satisfying more and more business needs, have to also periodically carry on replacing to the calculator and the network equipments. E-commerce system establishment of cost more big, and develop and the empress supporting expect to need higher expenses, for funds opposite limited small and medium enterprises to speak. It is hard to undertake, and apply with network service and business of rapid growth to request to be hard also to match. Cloud computing can reduce the establishment cost of business enterprise E-commerce system in the application in the E-commerce. The business enterprise passes cloud

computing any further the dissimilarity continue to purchase an expensive hardware equipments, also the dissimilarity bears a large amount of maintenance fee, this is mainly cloud computing to provide IT foundation structure, at this time the equipments that needs to rent high in the clouds is all right.

Secured Data Storage and Transferring System using MD5

In the proposed security model one time password is used for authenticating the user. The password is used to keep the user account secure and secret from the unauthorized user. But the user defined password can be compromised. To overcome this difficulty one time password is used in the proposed security model. Thus whenever a user login in the system, he/she will be provided with a new password for using it in the next login. This is usually provided by the system itself. This password will be generated randomly. Each time a new password is created for a user, the previous password for that user will be erased from the system. New password will be updated for that particular user. A single password will be used for login only once. The password will be sent to the users authorized mail account. Therefore at a same time a check to determine the validity of the user is also performed. As a result only authorized user with a valid mail account will be able to connect to the cloud system.

By this system, existence of unauthorized user or a user with an invalid mail account will be pointed out. The newly generated password is restored in the system after md5 hashing. The main purpose of MD5 hashing is that this method is a one way system and unbreakable. Therefore it will be difficult for an unauthorized or unknown party for retrieving the password for a selected user even if gained access to the system database.
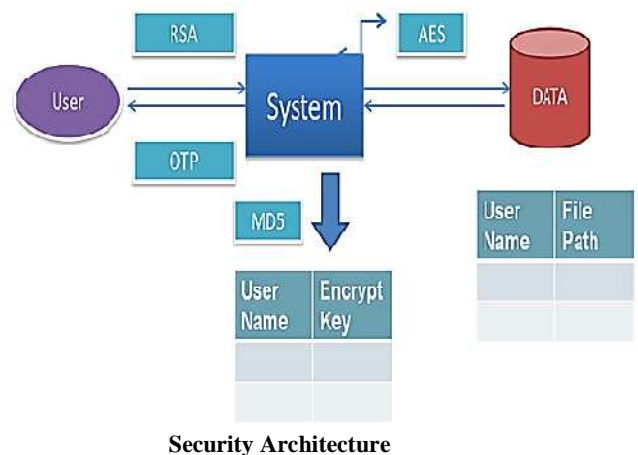
Security Architecture

The Face of the Network Security

A. Client Information Security

The cloud calculation is based on the existing distributed network; the internet computing is treating as a node. Computer could be a part cloud computing as soon as it connects to the Internet. Electronic business services publish the personal information data, such as bank data, identity, etc. If there is no believable privacy, so the attacker will gain the individual privacy by using multiple links between data. If we get the medical information from the purchase medical insurance for the government employees, and get the voter information from the organization department. The medical information can be regarded as anonymous, because there is no patient name and so on such only information. When the aggressor combine the medical information with the voter information, matching the date of birth, gender and the zip code, and then he will have the name and disease of voter, and received very privacy of personal information.

B. Server Information Security

Once referring to the security and privacy, the prospect of the cloud service is not so bright. If the user put personal data together with those procedures to other's hardware, it will lose control of that sensitive information. For example, an investment bank staff uses Google spreadsheets to provide applications for IT users not an end-user, such as email virus scanning service or application monitoring service, typical examples include the manage security services provided by Secure Works, IBM and Verizon, and Google's cloud-based anti-spam service.

Based on Cloud Computing E-Commerce Models

The cloud computing is companied with the economic and commercial community, based on Cloud Computing Ecommerce models is the specific application in the economy, commerce and management, this model finally will lead to the significant change of enterprise organization, the profits, marketing management and knowledge management, this model is called e-commerce model. It is a variety of entities that have business activities capability and demands. To cross the time limit and in the rule of improving business, making good use of the cloud technology application in the business field, taking effective use of resources and reduce organize and manage social security number list. So Google is responsible for protecting this information from hackers and internal data un-encryption events.

System Architecture and the Main Form

Cloud computing is a kind of computing based on Internet. In cloud computing, storage and computing will no longer be running on the local computer or web server, but running on a large number of distributed computers which from the Internet.
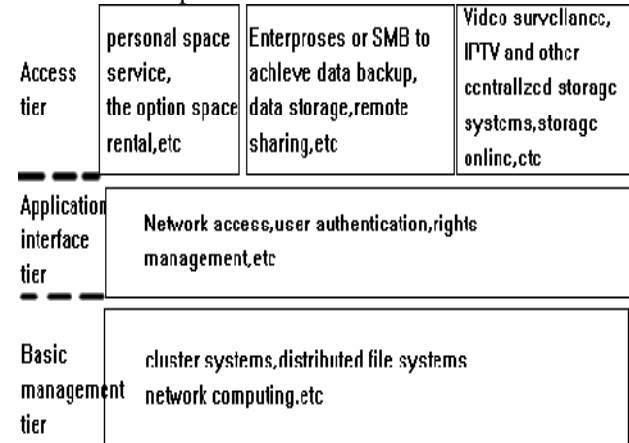
Cloud computing architecture model

At present, the form of cloud computing has mainly the following five:

(1) SAAS (Software as a Service):

This form of cloud computing using multi-user architecture, it provides single software through a browser to thousands of customers. Google's Google Docs is a typical example of SaaS.

(2) PAAS (Platform as a Service):

This form of cloud computing is another SaaS, it provide development environment as a service. Enterprises can develop their own application which can run on provider infrastructure, and provide to the user through the provider's server. The application of Face2book platform functionality and Salesforce's Force.com platform is a typical example.

(3) Web Services in cloud:

This form of cloud computing allows developers to utilize the API provided by service provider develop software based on it, rather than develop all of the features of software. Google's Google Maps and Google Earth is a typical example of this kind of cloud Computing.

(4) Manage Service Provider, MSP:

This is the oldest forms of cloud computing (In fact it is also a Web services in cloud). In this form, the manage services basically more, to conduct real-time monitoring of data security and data backup and recovery.

The Methods to make sure the Data Security in Cloud Computing

A. Encrypting for the Saved File

Encryption technology can be encrypted for the files; only with the password the encryption can be decrypted. You can protect your data, the data onto the others in the data center. Encryption can protect your data even when data upload onto the other data center.

B. Encrypting For E-Mail

E-mail is a still been a peeping into the format of the visit to your inbox. To ensure the security, you can use the programs like Hush mail or Mute mail to automatically enrapt all the email you received and sent.

C. Use Reputation Service

Use the high reputation service, because there is no need for them to get his own brand name to take risks, they won't make the divulgence of secret data happening, and never share the data with the marketers.

D. Consider the Business Model

Charge of Internet applications service might be more safety than the services that support by the advertisement. Therefore, you need take the charge storage into consideration before you choose the storage environment.

Conclusions

At present, the application of cloud technology in the business field, there is still a distance between ideals and reality, but the cloud computing will solve the problems that exist in the enterprise e-commerce applications, the e-commerce model will have a profound effect on the global economy and change. Proposed a new secured and trustworthy architecture for E-commerce which is fully cloud computing based. Present world is running towards cloud computing system. So, it is easy to imagine that future ecommerce will be depended on cloud computing. Different types of e-commerce systems are present now but most of them are individual system based.

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