Research on Brand Business Model of Henan Enterprise Based on IaaS Architecture

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Abstract

Cloud computing as a new information technology is developing rapidly. Summary and application of research results in the field in recent years, cloud computing architectures can be divided into 3 levels. We can Review the architecture research of key technologies, including data center design and management, virtualization, and mass data storage. The business billing system is an indispensable and important part of the cloud computing platform. Foreign famous Enterprise cloud business billing mode in the analysis is based on the view infrastructure as a service (IaaS) cloud computing platform, it is presented Henan brand-oriented business models charging model, by using business billing model leasing entity to schedule the free host, triggered by an event mechanism for business billing information and statistics. The business billing model makes business billing more flexible. Measuring, pricing and charging of the new business model has become the cloud providers need to address the core issue, so cloud business billing business billing mode against the cloud computing model has become very important.

Keywords: Cloud computing, Henan brand-oriented business model, Brand business model, IaaS, Henan enterprises.

1. INTRODUCTION

In recent years, social networking, e-commerce, digital cities, and rapid development of a new generation are new applications with data storage capacity. According to statistics to 2010 year, the social networking site Facebook has stored the 15PB of data, and every day 60TB data; e-commerce site Taobao’s B2C business 2016 year 4 times, the data center storage 14PB data, and need to be addressed 500TB Data (Clarke, 2013). According to 2006 year IDC 200 business statistics, Some information technology costs helps to achieve 1320 $/per person/per server, Deploying a new application system takes 5.4 weeks (Hashizume, 2013). The National Institute of standards and technology is defined, cloud computing is to use the Internet anywhere, anytime, on-demand, easy access to a shared resource pool mode of calculation. A service of computer resources is an important form of cloud computing, it masks the data center management, large-scale data processing, application deployment, and so on. Through the cloud, users may apply in accordance with its operational load fast or free up resources (Fernandes, 2014). As a major innovation of the information industry, cloud computing model that is raised has been widespread concern in the industry, the academic world. As early as the 2007 year, Stanford University and other American universities began to research cloud computing.

Nature of cloud computing is not a new concept. Academia and industry have been cluster computing, utility computing, grid computing, service computation techniques, development of these technologies, and cloud computing is coming. This paper analyzes the different types of cloud computing services business billing features and cloud business billing mode of some famous enterprises in Henan, according to type of infrastructure as a service cloud computing was proposed based on brand business model and event-triggering mechanism of elastic cloud business billing model (Ryan MD, 2013). The business billing model allows business billing for Henan Enterprise brand business model more flexible.

2. CLOUD COMPUTING SERVICES AND HENAN ENTERPRISE BRAND BUSINESS MODEL

Types of cloud computing services can be divided into infrastructure as a service (IaaS ), Platform as a service (Kalloniatis C, 2014). IaaS Equipment leased to customers as a service. IaaS immeasurable application deployed in equipment usage, therefore, IaaS business billing model to work with time and storage space as the standard
business billing. Different companies have different requirements of cloud computing, business billing can be time or bandwidth. Like business billing flexibility, cost of each time period may vary, these diverse needs in a business billing system would be very complicated. Individual users may also have their own business billing requirements for new products, so be sure to take into account new needs. System pricing and packaging is an important part of cloud business billing, freedom is very large, so there will be a lot of problems at design time, you need to determine through various comparison of programmers to meet needs. Systems to do better jobs need Management in the process of analysis.

Control of each calculated point, not only can achieve accurate business billing; data analysis can help users of their products. Cloud business billing system based on user behavior analysis through statistical analysis of various key computing chargeback analysis and user information. Henan brand-oriented business model of cloud computing services contains a wide range of products and services segments meet the needs of different users. The "computing" service is one of the most important segments. It provides high performance computing capability to users and meets user demand for data calculations and data throughput. Henan brand-oriented business models around the world data centers (Tsugawa, 2014). Brand business pricing will cloud computing data centers vary at different areas with Henan most expensive. Service offer is divided into 4 areas which are calculation, data transfer, storage, and other value-added services.

(1) Calculation example

Customers have to rent such a "logical machine", to configure various computing resources, including CPU, memory, hard drives, I/O bus. Henan enterprise-oriented examples of brand business model offers a variety of different configurations, according to the lease in a different way, rent is different. Henan brand-oriented business model there are on-demand rental, reservation, rental and leasing.

(2) Data

Customers in the rental calculation also need to hire Network connection services, data transmission services in accordance with the traffic charge. Transfer data using different connections, the cost price will be different (Juels A, 2013). Connection lines are divided into Internet connection, connections between data centers and the connection among availability zones.

(3) Store

If a customer's storage requirements are very high, you may need to hire brand business model to provide storage services for Henan Enterprise. Business billing method is relatively simple to calculate the costs.

3. IaaS MODELS OF BUSINESS BILLING MODEL

At present, the IaaS Leasing entity mode mainly used the business billing model, this business billing model is quite mature and accepted cloud has, but this form of flexibility (Malik, 2013). Zhao Xu suggested business billing based on event triggers and user behavior model, calculating this way. Proposed leasing entities based on the accounting model and business billing model based on event triggers combined with the business billing model, use business billing model leasing entity to schedule the free host, triggered by an event mechanism for business billing information and statistics.

3.1 Business billing models based on leasing entities

At present, the IaaS Leasing entity mode mainly used the business billing model, the main contents include host configuration, network traffic and storage. Host configuration flows include inflows and outflows; storage refers to the addition hard drive other than the drive space on the host configuration. Host configuration host on loan as a service to the user, host configuration directly affect cloud application running speed and time. If the host is configured too low, it will cause the time needed for cloud computing is too long, leading to increased costs; if the host configuration is too high, it will result in wasted costs (Mouratidis, 2013). Leasing entities in the business billing models, cloud hosting service for novice users to use, but when the host is idle, the novice can lease it again to secondary users, thereby reducing the cost of renting the host can even make a profit, it is shown in Figure 1.
Rentals The steps are as follows. Rented by the original user idle time on the host, the host will be submitted to a cloud computing Center. Cloud Computing Center will be the host system type and configuration the leasing entity type is assigned to a different queue. A secondary submit internship application users according to their needs. Applications will then be put into the entity request queue. Cloud computing centers in accordance with certain policies will be leasing entity queue that match the request queue. As long as the rental queue entity configuration tasks in the queue with the request line is considered a match. If the entity does not have a match in the rental queue, then put it into the waiting queue and will be matched by the priority. If the leasing entities match, it is leased to the second user. Novice resume leasing entities request has been submitted to a cloud computing Center. If the entity is not assigned, you restore directly. If the entity has been assigned to a secondary user, Cloud Computing Center of secondary user environment needs to be saved and then restored entity, the entity is returned to the novice.

Under this model, supply and demand through a calculation of the exponential function is shown as follows.

\[ C_i = n \sum_i = 1 P_i(D(X_i)) \times U_i (1) \]

\( C_t \) represents the cost incurred in the period t, \( D(X_t) \) represents the supply and demand factor in the period t, \( P_i \) represents the unit price of the charge item i calculated from the supply and demand factor, and \( U_i \) represents the amount of money used in the period t and the amount of item i.

### 3.2 Business billing model based on event triggers

Based on the event trigger mechanism of the billing model real-time monitoring, event state process conversion is shown in Figure 2. After the job is submitted, if the job is scheduled and dispatched successfully, it will enter the assigned state. Otherwise, it will enter the global wait state. If the job in the dispatching state succeeds and the execution is completed, it will enter the execution state. Otherwise, it will enter the local wait state (Young, 2014). When the job is in the execution state, the information collection process is triggered and the transaction is completed.
Figure 2. IAAS Event flow

The billing model based on event triggering mechanism adopts the instant collecting algorithm of billing information. The algorithm flow is shown in Fig.3. When the task is completed, it will be through the adapter to implement billing information extraction command, after the success of the text return to resolve, and finally we store the analysis results to complete the billing information collection.

Figure 3. Business billing information collected algorithms
3.3 Business model based on brand and event-triggered elastic cloud business billing model

Based on the flexible cloud billing model of brand business model and event triggering, the idle host based on the leasing entity is used to schedule the idle host, and the supply and demand relationship is taken as the charging weighting factor according to the model. When the primary user does not urgently need the host, you can put the cloud operator to rent request, the operator will occupy the host into the resource pool. And according to the number of hosts in the resource pool and the number of secondary users who apply for the host to calculate the supply and demand, and in accordance with the application queue allocation of resources in the host pool, according to the current supply and demand dynamic rental of the host price to make adjustments. When the primary user applies for the host, the secondary user returns the host unconditionally and transfers the job to other hosts that meet the requirements.

Table 1: Traditional management software pricing models

<table>
<thead>
<tr>
<th>Pricing models</th>
<th>Introductions</th>
<th>Price method</th>
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<tbody>
<tr>
<td>Personalized pricing</td>
<td>Different customers for the same software features may require different</td>
<td>According to the amount of quotations</td>
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<td></td>
<td>To provide customers with customized, personalized products</td>
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<td></td>
<td>Prices are generally high, suitable for large enterprises</td>
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<tr>
<td>Group pricing</td>
<td>Divided into high-end and low-end customers in accordance with</td>
<td>When quoting, because the unit cost is not fixed(With the expansion of the market, software unit costs will rapidly drop)So quote depends largely on the expected sales</td>
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<td></td>
<td>Sale of higher value to high-end customers, services and better products, and obtain higher prices</td>
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<td>Low end customer price-sensitive, greater elasticity of demand, coupled with very low marginal cost of software product, software manufacturers were sold to low-end customers increased yield</td>
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<tr>
<td>Version pricing</td>
<td>Different software versions to provide the customers with different values, the customer can choose the one that fits your values (willing to pay the price) software version</td>
<td>Version and the demands on software development, requirements or modular architecture based on component technology, making it easier to increase or decrease the number of functional modules. Quotes can be according to module development complexity of the workload of a version of the software, so as to establish prices for the different versions of the software.</td>
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<td></td>
<td>To provide the customers with a free version, free version limit software features or provide only limited use, will enable customers to become familiar with the application, stimulating customers to buy the paid version Communications/ Bandwidth</td>
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</table>

IaaS of software as a service is the Chinese name for the software business or software operation. IaaS software as a service model and the traditional licensing model software are very different; it is the future development trend of management software. Compared to traditional forms of Service Office software, IaaS software has a number of unique characteristics. IaaS software not only reduced or elimination of the traditional Office software licensing costs and vendors to deploy applications in a unified servers, server hardware from end users, network security equipment, software development and maintenance expenditures, clients do not need to except other than the personal computer and the Internet connection IT Investment to obtain the required software and services over the Internet.
### Table 2: New management software pricing models

<table>
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<tr>
<th>Price composition</th>
<th>The proportion of</th>
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<tbody>
<tr>
<td>Managing software licensing fees (Or modules)</td>
<td>25% ~ 30%</td>
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<tr>
<td>Requirements analysis costs</td>
<td>10% ~ 15%</td>
</tr>
<tr>
<td>Process reengineering implementation</td>
<td>20%</td>
</tr>
<tr>
<td>Secondary development</td>
<td>20%</td>
</tr>
<tr>
<td>Installation</td>
<td>15%</td>
</tr>
<tr>
<td>After-sales service</td>
<td>10%</td>
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</tbody>
</table>

#### 4. CONCLUSIONS

IaaS of the meaning of software as a service is the Chinese name for the software business or software operation. IaaS software as a service model and the traditional licensing model software are very different; it is the future development trend of management software. Compared to traditional forms of Service Office software, IaaS software has a number of unique characteristics. IaaS software not only reduced or elimination of the traditional Office software licensing costs and vendors to deploy applications in a unified servers, server hardware from end users, network security equipment, software development and maintenance expenditures. Clients do not need to accept other than the personal computer and the Internet connection. IT Investment helps to obtain the required software and services over the Internet. Reasonable charging mode is cloud computing from technical development to service management key. Business billing models for cloud services, cloud service providers in practice the different attempts and innovations compared with the diverse needs of users, cloud-service business billing models still seems to be rather simple, flexible business billing models are the key to on-demand services, you also need to constantly find new business billing models, promote the development of cloud computing services.

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#### REFERENCES


