

Office Meeting Product Interaction Design Algorithm Under the Background of OpenStack: from Private Cloud to Local Area Network Modeling

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Abstract: This paper conducts in-depth research and analysis on the development and core components of OpenStack technology, and designs and implements private cloud and local area network modeling suitable for small and medium-sized enterprises based on OpenStack technology. User research entry point. Using the user experience research method to conduct research and analysis on user needs and related product use issues in the office meeting scenario, organize the content and characteristics of the needs, and find out the user's demand synergy in the office meeting. The design practice result "Intelligent Interactive Conference System" verifies the application advantages and significance of interaction design in conference product systems.

Keywords: Office Meeting Product, Interaction Design, OpenStack, Local Area Network

1. INTRODUCTION

Cloud computing is a new business computing model developed by grid computing, distributed computing and parallel computing. The principle of cloud computing is to use the computing resource pool to provide users with computing power, storage space and information services to provide users with convenient [1], efficient and cheap services. Cloud computing users can freely obtain resources in the resource pool through application and payment, and can freely expand their resources [2]. The emergence of cloud computing, a business model, is gradually replacing traditional resource usage and delivery models. In foreign countries, Aleforce was the first company to commercialize the Yunsheng concept. As a pioneer of cloud services, it provided users with software W services [3]. After that, the public cloud products of companies such as Amazon, Google and Microsoft also achieved great success.

Looking at the country, cloud computing is in the initial state and the development is relatively slow. Some large Internet companies [4], such as Alibaba, Baidu, Tencent, etc., have launched their own cloud products. Among them, Alibaba Cloud and Baidu cloud disk applications are relatively universal. The popularity of public cloud enables the public to directly enjoy the benefits brought by cloud computing and have a clearer understanding of the concept of cloud computing.) products [5], namely office automation products, refer to various technologies, machines or equipment products that are engaged in office affairs in traditional offices. The wide application of today's OA products has significantly improved the efficiency [6] of office transaction processing, and the office experience of employees has also improved. However, traditional OA products are suffering from stigma. Most OA products are dominated by [7] W technology development, and W guarantees the realization of technology or product operation [8] logic as a measure of product quality. More consideration is given to the interests of the buyer's enterprise, and the actual user of the product, that is, the employee's feelings, is neglected [9].

In addition, the high purchase cost and high learning cost of the product reduce the second choice of the buyer's company, thereby reducing the stimulation to the seller's product

replacement and optimization [10]. The most representative application of tactile interaction in conference products is the interactive electronic whiteboard, which goes beyond the purely visual output of the projector [11]. The interactive electronic whiteboard can communicate information with the computer. In addition to being connected to and using a projector to project the screen [12], it can also use a specific positioning pen instead of a mouse to operate directly on the whiteboard. Any application program can be used to perform file editing. All kinds of editing [13], commenting, saving, etc., as long as it is done with the keyboard and mouse, the electronic whiteboard can be done in the same way. The interactive electronic whiteboard [14] also supports copying, directly connecting the electronic whiteboard to the printer, and writing on the blackboard through a specific positioning whiteboard pen [15]. When printing is required, you only need to press the special print button on the whiteboard to achieve black and white or color printing. The Apache server is one of the important components of building this private cloud platform [16], it is one of the Web service programs with a high market share, its cross-platform and security are widely recognized, and it has fast, reliable, and simple API extensions [17]. Apache can run on almost most existing systems and is one of the most popular software on the Web server side today due to its wide acceptance of cross-platform and security [18]. Its source code is open and it adopts a modular design.

Therefore, a private cloud platform is built to provide cloud services mainly for the enterprise, which is not open to the public, works within the firewall of the enterprise, and the enterprise IT personnel can effectively control its data, security and service quality [19], has become the favored choice of large enterprises. In addition, private cloud can provide more efficient and personalized elastic computing resource allocation capability [20], can more effectively utilize the existing IT equipment resources within the enterprise, and create a cloud platform that is more in line with the needs of the enterprise. OpenStack adopts a modular design, and its 3 The main modules Nova (computing service), Swift (storage service) and Glance (image service) can be combined to work together to provide complete cloud [21] infrastructure services; they can also work independently to provide virtualization, cloud storage and mirror service. In

addition, the modular design can integrate old, old, and third-party technologies to meet business needs and make it easier for developers to re-develop OpenStack [23].

2. THE PROPOSED METHODOLOGY

2.1 The OpenStack

Based on the introduction of the open source framework of OpenStack, the private cloud computing platform built in this article consists of five computing services (Nova), storage services (Swift), mirroring services (Glance), identity authentication services (Keystone) and web interface services (Horizon). part composition. Among them, Nova is the controller of the cloud platform, which provides a tool to deploy the cloud, including running virtualized instances, managing the network, and controlling the access of users and other projects to the cloud. Swift is a large-capacity, scalable object storage system with built-in redundancy and fault tolerance. Object storage supports a variety of applications, such as replicating and archiving data, image or video services, storing secondary static data, developing new applications for data storage integration, and storing data of difficult to estimate capacity.

OpenStack is an opensource cloud implementation software. It is an opensource project jointly developed by NASA and the organization Rackspace, aiming to provide a completely open cloud computing platform that can be deployed on a large scale. OpenStack is known as the most classic and most important opensource cloud implementation software among "cloud computing" products, because it has attracted great attention in the field of open source software and the cloud computing industry. It is one of the most popular cloud computing operating system software, and as of July 2010, it has received strong support from as many as 25 enterprise organizations. In 2011, the membership of the OpenStack organization doubled. The data logically defined by the operation or maintenance personnel must also contain the tenants and policies (such as quotas) used. In theory, each organization VDC will maintain its own service catalog (Catalog), such as nova -api, glance-api and other opensck related components. Operation or operation and maintenance personnel organize one or more groups of organizational VDCs through the physical resources (such as computing, network equipment, storage) provided by the supplier DC, making the cloud platform more flexible.

Create cloud-based elastic storage for web applications [5], etc. Glance is a storage, query, and retrieval system for virtual machine images. The service includes a Restful API that allows users to query VM image metadata and retrieve actual images via HTTP requests. Keystone provides authentication and management of user, account, and role information services for OpenStack clouds running OpenStack Compute, and authorization services for OpenStack Object Storage. Horizon is a web front-end interface provided to users to use the cloud platform.

2.2 The Private Cloud to LAN Modeling

he latest OpenStack can be divided into 7 parts, computing component (Compute, namely Nova component), object storage (Object Storage, namely Swift component), identity authentication (Identity, namely Keystone component), Dashboard (Dashboard, namely Horizon component), Block Storage (Cinder), Network (Quantum) and Image Service (Image Service, Glance) are shown in reviews. This article focuses on Nova components, Swift components, Keystone

components, and Glance components. Define the business implementation interface. Business interface, as shown in Table 4-1. Define the public function seinnessinput, which is used to set business input parameters, which is embodied as a file or data stream in a specific business scenario.

Define the public function seusinnessOutput, which is used to set business output parameters, which are embodied as files or data streams in specific business scenarios. Define the public function se old usageOperation, which is used to set business operation parameters, which is reflected in data writing, data reading, file output, and data calculation in specific business scenarios. The public function setBusinessOperationTime is defined, which is used to set the business operation time, which is emergent in specific business scenarios. Since the private cloud built in this paper is mainly used in scientific research and small and medium-sized enterprise environments, all components of the cloud platform are located in the same local area network. In this way, any physical computer on the client side in the local area network can directly access or use cloud computing resources.

In addition, in order to make the cloud platform more secure, Nova provides a network solution that isolates virtualized instances from the external network, which is to build a private network for virtualized instances that is isolated from the external network. communication. If the instance needs to communicate with the external network, then assign a floating external network IP address to the instance. The framework design of the system mainly starts from H layers. The top layer of the system is the user layer, that is, the customers who directly use the laas service, and the users in the delivery are divided into ordinary tenants and virtual operators. Ordinary tenants are the final consumers of laas services, and purchase required computing power, network resources, and high-performance storage through orders. Virtual operators are operations or operation and maintenance personnel. Logically speaking, they maintain their own "virtual data," and the reason W says "virtual data" is because they are not directly responsible for the real data. operation and maintenance.

2.3 The Office Meeting Product Interaction Design Algorithm

In terms of the organizational process of the meeting, most of them can be divided into four stages: the preparation stages of the meeting, the preparation stage before the meeting starts, the meeting progress stage, and the finishing stage after the meeting. The preparatory stage of the conference mainly includes the preparation of conference materials, the organization of the personnel of the conference, and the arrangement of the time and place of the conference. The preparatory stage before the start of the meeting mainly includes the construction of display equipment, the distribution of materials, and the organization of participants. The conference stage is mainly about the presentation and presentation of the speaker, the discussion of the participants and the minutes of the conference. The finishing stage at the end of the meeting is mainly the finishing work of meeting materials and discussion content. Attitude research is mainly to understand the purpose and feeling of users using products, including the reasons for users to choose products, including users' expectations for the functions and value of products, as well as users' feelings and evaluations after using the products. Behavioral research mainly discovers the behavioral characteristics of users using products in the real environment by observing user behaviors and collecting various data on users' use of products, and discovers product problems to be solved. The corporate office meeting is a discussion among

employees on the overall management activities such as production, operation, and daily operations within the company. The content of the office meeting is oriented to W's work goals, and it is not limited to the format of the meeting. Therefore, the content of office meetings has the characteristics of goal, which determines that the forms of office meetings are mostly internal meetings, with fewer members, meetings, discussion meetings, decision-making meetings, executive meetings and other types of meetings with clear goals. main.

Take an Internet company as an example. The department responsible for an Internet product is directly related to the product planning department. The procedures and elements of the interactive framework of the conference system interface have the following aspects.

3. CONCLUSIONS

This paper proposes a scheme to build a private cloud computing platform based on OpenStack, which aims to provide elastic computing services for scientific research laboratories and small and medium-sized enterprises to meet the needs of different users and different stages. At the same time, by integrating various development environments and development tools in the virtual image, high-availability cloud services can be provided. In the office meeting scenario, users will be in different roles, and use different products or means to coordinate with different task requirements in the meeting process. In this process, it is easy to encounter problems of synergy of requirements and friction in product use.

4. REFERENCES

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