Application of Computer Multimedia-Assisted Online Virtual Interactive Platform in Smart College Education

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Abstract:Application of the computer multimedia-assisted online virtual interactive platform in smart college education is studied in the paper. The model we designed is based on the client-side virtual container technology. The so-called virtual container actually completely virtualizes the terminal and builds a virtual container pool on which the operating system is then deployed. In the designed model, the virtual performance is then considered. NSX network virtualization is divided into the NSX-V architecture in the vSphere environment and the NSX-MH architecture in the multi-virtual environment . Furthermore, the smart model is integrated to construct the efficient computer multimedia-assisted online virtual interactive platform in smart college education. The testing has shown the performance.

1. INTRODUCTION

For super fusion architecture technology, it mainly refers to integrating one or more physical servers to form a unified resource library, and then using virtualization technology to simulate several servers with relatively complete functions and independent functions, so as to make full use of the hardware resources of physical servers [1, 2, 3]. Based on the virtualized server as the underlying architecture, storage virtualization and also network virtualization are extended, and then the specific business logic is quickly constructed by using the draw as you get model. Among them, storage virtualization mainly refers to the hard disks of different types and distributed in different physical servers, which are then presented as a highly logical virtual storage unit under the action of the distributed file system composed of the network, so as to provide users with unified allocation of the eneral use rights through centralized management [4, 5, 6]. Based on the review, the features can be well summarized into the listed aspects [7, 8, 9, 10].

(1)Different types of hard disks, such as solid-state disks and mechanical disks, are virtualized from existing physical servers. With the convenience of network technology, they are combined together to form the distributed file management system, and logical transformation is realized. It becomes a virtual storage unit to realize centralized management and unified distribution of users [11, 12].

(2)After the Fusion Access component is installed and configured, you can configure it on the web page, including configuring the core virtualized environment, configuring the domain and DNS, and configuring the vAG and vLB. Confirm that the information is correct and wait for the configuration to complete [13, 14, 15]. Then we can enter the home page of Fusion Access.

We simulate the abstract server, which requires that the function of the server is relatively complete and multiple servers exist independently.

In the designed model, the virtual performance is then considered. NSX network virtualization is divided into the NSX-V architecture in the vSphere environment and the NSX-MH architecture in the multi-virtual environment [18, 19]. The basic logical structure of the two architectures is the same, but the installation software and deployment methods, configuration interfaces and data plane components are different.

Application virtualization, that is, virtualization is built at the application level. What virtualization software delivers to users is a virtual application.

This virtual application is published to the user terminal through the server, and the user terminal uses these virtual applications as if they were installed locally. Usually, one server can be used by multiple terminals.

When the application changes, you only need to upgrade the application on the server. No action is required for the plan on the terminal, which can greatly reduce the workload of application maintenance on the terminal. In the next sections, we will discuss the proposed model in detail.

2. THE PROPOSED METHODOLOGY

2.1 The Multimedia Structure and Middleware Data

When migrating business applications from the existing environment to the virtual machine or some physical machine environment of the cloud platform, the running environment of the application, the database environment of the application, and the code of the application remain unchanged.

Since most of the website's epidemic data can be found in the source code, and the rendered code is in the inspection, but the source code is obtained by requests to crawl the website, and you need to right-click to view the source code to see the crawling. complete data.

Therefore, neither xpath nor BeautifulSoup are suitable for manipulating json-formatted data in the source code, so we decided to use regular expressions to crawl data. The typical characteristics of the distributed database are designed and developed based on the three cornerstones of cap, base and final consistency. It makes functional choices for different

application types, and makes choices in general consistency, availability and partition fault tolerance.

It tolerates the database from basic availability to soft state and the final consistency. The traditional centralized database selects CA, which ensures consistency and availability in the same instance with distributed database has more choices as defined in the formula 1.

$$\begin{bmatrix} x_{11} & x_{12} & \cdots & x_{1m} \\ x_{21} & x_{22} & \cdots & x_{2m} \\ \vdots & \vdots & \ddots & \vdots \\ x_{n1} & x_{n2} & \cdots & x_{nm} \end{bmatrix} \qquad (1)$$

We use the information exchange standard of XML data file to convert various types of heterogeneous data into unified local XML file data. Then, through the data transmission channel oriented to Internet/Intranet, the XML standard data file is transmitted to the specific data application environment of the enterprise. The management service is the logically divided group of services, mainly responsible for maintaining the basic data of the entire system. [25, 26, 27]

This service connects to Mycat database middleware and provides services for general management services, identity authentication services, and evaluation services.

In recent years, the integrated management of spatial data and business data using large relational databases has been more and more widely used. Spatial database technology has obvious technical advantages in many aspects, including the massive data management capabilities, integrated storage of graph and attribute data, multi-user concurrent access, perfect access control and data security mechanisms, etc. The design basis of the architecture is the native distributed architecture and C/S model, the front-end language adopts Javascript + CSS + HTML, and the database communication and user operation analysis language chooses PHP as follows.

(1)Provide a distributed networked environment that can combine data on the different computers to form a logical database, and all users can access the database.

(2)Intelligent teaching, convenient operation and maintenance and green environment have gradually become the construction objectives of then improving the traditional teaching environment and building a new teaching model. The application of desktop cloud based on voi mode ensures the convenience and continuity in college teaching, and gradually realizes the effective integration of convenient maintenance and management and data. The operating system of the user teacher machine presents characteristics of personalization and multi-performance, so as to further realize the centralized management of teaching system operation and maintenance.

(3)For desktop cloud, it is an application form of cloud design, which is the result of the continuous development and promotion of the cloud computing technology and big data technology. To ensure that the technology is further improved.

Intelligent teaching, the convenient operation and the maintenance and green environment have gradually become the construction objectives of then improving the traditional teaching environment and building a new teaching model. The application of desktop cloud based on voi mode ensures the convenience and continuity in college teaching, and gradually realizes the effective integration of convenient maintenance and management and data. The operating system of the user teacher machine also presents the characteristics of the personalization and multi-performance, so as to realize the centralized management of teaching system operation and maintenance.

2.2 The Online Virtual Interactive Platform

In the cloud platform, the monitoring and management function is mainly to monitor the computing cluster, virtual machine, storage, computing server, switch, etc.

The monitoring information mainly covers the average CPU occupancy, virtual machine CPU allocation, average storage occupancy, storage resource allocation, the average memory occupancy, number of failed servers, virtual memory allocation, etc. Secondly, virtual machine monitoring mainly covers virtual machine CPU occupancy, disk read and write times, memory occupancy, network inflow and outflow, etc.

Because virtual machines often process large-scale data and have a large load, it is necessary to convert data at any time. The purpose of conversion is to improve the work efficiency of servers. Physical servers can be converted into virtual servers, and virtual servers can be converted into virtual servers. Due to the continuity of virtual machine work, the virtual machine can run and work normally even during the transition. Node/link joint mapping refers to considering the resource requirements and physical resource constraints of virtual nodes and links at the same time when performing virtual network mapping, so as to avoid the occurrence of successful virtual node mapping but the virtual link is affected by the location of the mapped node or link capacity, etc.

The case where the mapping fails due to factor constraints. Generally, the optimization problem of the joint mapping is solved by the method of relaxing integer programming. However, due to the high complexity of the solution, the real-time performance of the joint mapping method of nodes/links in practical applications is difficult to guarantee. Virtual machines and virtual machines are connected through tunnel technology. Tunnel runs on the actual physical network. The bottom layer is the physical network connection. The actual business is carried on the physical network through tunnel. When the virtual machine is migrated, there is no need to make any modification to the physical network.

All changes occur in the software. Through the software to define the network, the general automatic deployment and management of business can be further realized. The storage virtualization gateway device is adopted to solve the problem of data synchronization and simultaneous reading and writing of two storage devices [28]. The two virtualized gateways are in cluster mode, one set fails, and the other set can take over automatically without user perception.

2.3 The Cold Chain

The smart education ecology is not airborne, it is an inevitable state of social and educational development to a certain period. From a practical point of view, the so-called smart education ecology currently being then constructed by schools and regions is considered by the author to be a smart education ecology. The 5G + smart technology is a necessary prerequisite for realizing a new education ecology. It can not only re-enable smart technologies, such as VR, AR, HD live broadcast, etc., but also interconnect these smart technologies to help the big data platform in the smart education ecosystem. build and run. We should regard the construction of the ecological environment as the main body of learning, fully consider the people-oriented and ecological development

of learning, and fully respect the ecological development of the students, so as to realize the ecological value of learning, Raise the people-oriented concept to the general work action consciousness in the teaching management and teaching implementation of intelligent learning education, promote the better implementation of the fundamental task of building morality and cultivating people, and reflect the core essence of intelligent education and cultivating people. As the initiators and implementers of teaching activities, teachers' information technology literacy directly affects the effectiveness of the information-based teaching. Teachers should actively adapt to the development requirements of the era of smart education, and actively focus on information knowledge, information technology, information ability, and information emotion. Change the concept, establish the concept of information technology literacy, change the traditional teaching methods and means, take information teaching as the entry point and breakthrough point of teaching reform, expand the classroom teaching mode through information technology, and turn teaching activities into bilateral activities that students actively participate in.

3. CONCLUSIONS

Application of the computer multimedia-assisted online virtual interactive platform in the smart college education is studied in the paper. This paper studies the construction method of database based on the general native distributed architecture, and constructs the native distributed architecture database. The database has the good performance and has achieved some research results. With the further discussions, the novel multimedia consideration is considered to integrate the general issues. Through the expeirment, the performance is tested and in our future study, the theoreies will be improved.

4. ACKNOWLEDGEMENT

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