# Research on Peer-to-Peer Algorithm of Sports Information Resource Sharing Based on Distributed Private Cloud Service

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**Abstract**:Based on private cloud, Docker container technology, open source monitoring component Prometheus and open source visualization component Grafana, we design and implement a distributed, multi-level cloud monitoring system that supports centralized configuration management and alarm function. This paper expounds the current situation of the integration, sharing and utilization of sports information resources in colleges and universities, analyzes the necessity of integrating and sharing utilization of sports information resources in colleges and universities, builds a management platform for the integration and utilization of sports information resources in colleges and universities, develops and optimizes and integrates these sports information resources scientifically and rationally, and establishes an efficient, The perfect sharing operation mechanism and the use of informatization to drive college sports teaching put forward the countermeasures and suggestions for the integration and sharing and utilization of college sports information resources.

**Keywords**: Peer-to-Peer Algorithm, Sports Information Resource Sharing, Distributed Private Cloud Service

## 1. INTRODUCTION

Since 2006, my country's cloud computing industry has experienced three stages of concept introduction, basic research and integration of production, education, and research in terms of technology development, and has experienced three stages of concept popularization, market cultivation and monopoly formation in business practice [1]. The developmental stages of technological development and business practice correspond to each other. Big data and cloud computing have become research hotspots in all walks of life, and their related application products and services have gradually entered people's lives [2]. Cloud computing mainly focuses on the virtualization and parallel processing of computing resources [3].

With the in-depth advancement of the industrial and commercial informatization construction process, the industrial and commercial informatization construction must pay more attention to the intensive integration of systems, cross-departmental and cross-regional collaborative interaction, and resource sharing, so as to better support the industrial and commercial administrative departments to perform their functions and improve the efficiency of government affairs [4]. Effectively solve key problems in economic and social development. For sports informatization, it has become the embodiment of a country's comprehensive strength of sports, and its key factor and important symbol is the integration and sharing of sports information resources [5].

The effective integration of sports information resources not only helps to achieve the maximum sharing of sports information resources [6]. The main goal of the integration and sharing of sports information resources is to provide users with high-quality services and guarantees of sports information resources and improve the utilization of resources [7]. However, at present, the situation that sports information resources are partially ordered and disordered is becoming more and more serious. Some comprehensive sports portals mainly report sports news [8]. In 2016, the total number of participants reached a record high of 2.8 million. Quarterly events are held one after another, and the distance of the events is appropriately set according to the different needs of the masses. The eastern part of my country is the region with the most marathon events. With the popularization of the Internet, the tide of information on the Internet is surging [9].

A large amount of data and information has become readily available, and information demanders can log in to the Internet to search for the information resources they need [10], but everything has two sides, and resources must operate normally. The operation of the whole society is a system of various a necessary condition [11]. The concept of associated information itself and the concept of resources, we can define the concept of sports information resources as: a generalized understanding of sports information resources is the general term for all kinds of sports activities [12].

Resources must function properly for the functioning of society as a whole and are a necessary condition for systems of all kinds [13]. The concept of associated information itself and the concept of resources, we can define the concept of sports information resources as: a broad understanding of sports information resources is the general term for all kinds of sports activities, including related funds [14]. People urgently need a powerful technical means to realize real-time understanding and rapid operation and maintenance of private cloud business operation status, infrastructure, resource usage and other aspects of information. In this context, cloud monitoring technology has become one of the key research topics in the industry [15].

When the core of cloud computing system operation and processing is the storage and management of a large amount of data, such a cloud computing system is transformed into a cloud storage system [16]. Therefore, cloud storage is a system that pays more attention to data storage and management under the architecture of cloud computing. Since the development of industrial and commercial

informatization, many IT systems have been built, and these systems are of different sizes, different uses and independent of each other, so there are many problems in the construction of business platforms [17].

College sports information resources cover sports scientific research literature, sports historical materials, various sports competition results, sports technology analysis, various sports activities, sports organization information, etc. Although the Internet has a large number of resources for physical education, sports and fitness, and related information can be inquired through search engines, most of these sports' information resources are scattered and fragmented and contain too much useless information. In-depth interview with Beijing-Tianjin-Hebei Sports Experts and scholars from colleges, sports institutes, and sports collaborative development projects listen to their opinions and suggestions on the co-construction and sharing of Beijing-Tianjin-Hebei competitive sports information resources [18].

# 2. THE PROPOSED METHODOLOGY

## 2.1 The Distributed Private Cloud Service

Cloud computing system When the core of computing and processing is the storage and management of a large amount of data, such a cloud computing system is transformed into a cloud storage system. Therefore, cloud storage is a system that pays more attention to data storage and management under the framework of cloud computing. The complete Docker engine consists of the following four parts: Docker Client, Docker Daemon, Docker Image, and Docker Container. Among them, Docker Client is the client program of Docker, and the released version widely supports mainstream operating systems; Docker Daemon is the core part of the Docker architecture and exists in the form of a daemon process.

When the business volume peaks, resources can be dynamically recovered, thereby realizing dynamic elastic scaling of computing resources. This feature of the cloud platform solves the tidal effect of access to the national enterprise credit information publicity system. Information resources are a developing concept, and information resources include not only document resources, but also many other elements related to information resources. Xiao Hong's definition of sports information resources is defined from two aspects, the first is a narrow concept. The demand analysis introduces the expected goals that the system should achieve from the four dimensions of function, performance, data, and users; the overall design is based on the system outline design diagram. Detailed design of the main line. Based on the architectural features of the private cloud, the cloud monitoring system should fully cover the three-layer monitoring of IaaS, PaaS, and SaaS. Among them, IaaS layer monitoring refers to the monitoring of infrastructure performance and availability.

PaaS layer monitoring refers to monitoring the performance and availability of underlying platforms and services. Public cloud storage is an act of commercializing storage services. User data is usually stored on multiple virtual servers hosted by third parties, rather than on dedicated servers. Users who rent virtual cloud storage cannot know the specific location of cloud storage and whether user data is safe in the cloud. College sports information resources cover sports scientific research literature, various sports activities, sports event results, sports literature and history, sports technology

analysis, sports Organizational information, many sports information resources, especially the rapid development of sports network information resource.

## 2.2 The Sports Information Resource Sharing

Data visualization for different users refers to the control of data open permissions for different user functions. This article will open the monitoring data of infrastructure resources and platform service resources with the user role of cloud operation and maintenance personnel. The cloud computing service system has strong compatibility, high flexibility, high-cost performance, and high scalability, and reduces operating costs through scale effects. At the same time, through the construction of shared database information resources, the mass of sports information resources, many information producers and publishers, many redundant information, junk information, etc. will cause chaos and disorder of sports information, which will seriously affect the normal use and sharing of sports information resources. At the same time, it will greatly waste the time and energy of sports information users.

In the process of dissemination of sports information on large-scale portal websites in my country, the degree of information correlation is not stable, the degree of information fragmentation is high, a large amount of old information is deposited, and some new sports information is often covered by it, which makes it impossible for users to query new information. Require. Through the form of "multi-party co-construction and resource sharing", build a "Beijing-Tianjin-Hebei Competitive Sports Information Resource Database". Relying on the cutting-edge technology platform for building a database that conforms to relevant standards and has good compatibility and expansion functions, the Beijing-Tianjin-Hebei competitive sports information resources with rich content and various resource forms (including text, pictures, audio, and video, etc.) will be integrated and released.

## 2.3 The Research on Peer-to-Peer Algorithm of Sports Information Resource Sharing

In addition, the teaching of e-commerce major should deepen exchanges and cooperation with enterprises, establish long-term cooperative relations with enterprises, deepen the process of school-enterprise cooperation, and establish a good training base, so that students can have a good understanding of enterprises in the training. Learn about specific requirements. Under the guidance of the school-enterprise collaborative teaching model, the company sends engineers with rich project practice experience to the school to carry out teaching, while the school organizes students to participate in the training and practice of engineering projects in the company [the existing anonymous communication scheme exists huge overhead and difficult to use in distributed storage systems.

To this end, this chapter proposes an anonymous communication scheme (MIC, MimicChannel) based on a global routing conflict avoidance mechanism for the SDN-based data center environment. There is no fixed method in teaching, and there is no constant form in learning. In the implementation process of smart courses, it is necessary to combine specific teaching objectives, teaching content and teaching objects, and innovatively design the corresponding teaching methods. Consider the characteristics of students of different majors and grades, and then determine the

corresponding teaching content, process, and assessment methods according to the actual situation. Under the new situation, the ideological and political work in colleges and universities faces new environment, new problems and new challenges

## 3. CONCLUSIONS

This paper fully studies a variety of different types of private cloud monitoring requirements, and extracts common requirements as goals, including multi-level coverage based on cloud computing architecture, support for custom customization items, alarm diversification, and dashboard customization. Compared with the independent construction model of thematic literature database, it is difficult to realize the resource sharing barrier formed by the use of different technical means and database construction systems in the multi-party independent construction. Relying on the commonality of industries and disciplines, actively seeking a co-construction, and sharing model of multi-party cooperation and collaboration is the preferred way to integrate competitive sports information resources.

## 4. ACKNOWLEDGEMENT

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