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Research on Online Framework of Distributed Computer Communication Network Course Training

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Abstract:The article mainly analyzes the structure of distributed computer network and the specific measures for its optimization. The distributed computer network includes the connections and servers of different clients, and the architectural style is introduced into the existing "computer communication network excellent course system", which makes the system more concise and standardized, and improves the scalability of the system. At the same time, any system can communicate with other systems. Compared with other network structures, the multi-version parallel development mode is adopted to ensure the development of new functions and the improvement of stability. This enables new requirements functions to be quickly responded to in high versions, while reducing their impact on the stability of the framework itself.

Keywords: Online Framework, Distributed Computer Communication Network, Network Course Teaching

1. INTRODUCTION

In the network structure of distributed computers, there is no processing and control center, and any node in the network is connected with other two nodes [1]. As information travels from one node to another, various paths can be taken. CAN (Controller Area Network) bus technology belongs to the category of field bus [2]. It is a serial communication network originally designed by German Bosch Company for the distributed system to work reliably in environments such as strong electromagnetic interference [3].

The distributed computer network structure divides the large-scale network into two sub-regions that are equal to each other [4], and the sub-regions are managed by multiple managers. If the administrator wants to obtain other sub-region information, it must communicate with the peer system. It has the functions of point-to-point [5], point-to-multipoint and global broadcast data transmission; it can be seen from the above description that the characteristics of distributed systems are more determined by software. In a sense, a distributed system is more like an operating system in the traditional sense [6]. From the perspective of resource management, distributed systems allow multiple users and applications to share various resources on the distributed network. At present, many companies and related open source organizations at home and abroad are solving this problem and there are many mature solutions [7], most of which are based on standards.

At present, among the three mainstream service implementation schemes, more and more services begin to be designed and implemented [8] in style because the service of the pattern is obviously more concise in comparison with the complex one. With the widespread use of sensor technology and physical information systems in the industry [9], industrial production has entered the 4.0 era with the goal of realizing intelligent production and intelligent manufacturing [10]. The operation mode of the CNC system has also developed from the early stand-alone operation [13] mode to an intelligent production process through simple networking and network interoperability. Provide clinicians with real-time patient and artificial heart status data. These studies facilitate doctors to grasp the patient's condition in a timely and effective manner, so as to take measures to treat the patient [14].

Medical monitoring is becoming a new hot application field of distributed monitoring system. The distributed computer network [15] structure has the following advantages: First, the network structure is more flexible in the actual operation process, and most users are more aware of the distributed computer network [16] structure. Second, the network structure of distributed computers can reduce the traffic of network management. There are two types of widely popular CAN bus devices [17]: one is an independent CAN controller, such as 82C200 and Intel82526/82527; the other is a microcontroller with CAN.

Such as P8xC592 and 16-bit microcontroller 87C196CA/CB, etc. As a software technology with a strong development momentum, middleware has kept pace with operating systems and data sources, and has become the troika in the field of basic software [18]. Data access middleware is one of the most mature middleware, which is widely used in general business fields, but how to successfully apply it to the field of industrial control needs to be further studied. The distributed service [19] framework is a set of service governance solutions that provide transparent remote procedure calls and service governance functions. Generally speaking, the distributed service framework contains several key technologies [20].

If you can accept that files in different formats actually represent the same idea, then if the URL is in terms of format, it may be a display that can be displayed on the browser, which records the content [21]. But if it is format, he may be a record of who the author is. The development of information technology has strongly promoted the process of networking and integration of CNC systems. With the advancement of the enterprise informatization process, it is required to realize the exchange and information [22] sharing of manufacturing information across workshops, factories, regions and even across regions in the production process. The current distributed monitoring system seldom considers this issue in-depth in the design. The architecture adopted by its internal information system is difficult to directly communicate with the external information system due to the high degree of

coupling, openness and flexibility of each part. to integrate [23].

According to the network structure characteristics and development methods of distributed computers, it can be seen that the future optimization method of the network structure needs to be closely combined with the current network state. PCA82C200 is an independent CAN controller produced by Philips, which can interface with various CPUs through a parallel bus. In order to enable upper-layer [24] applications to transparently access different data sources at the bottom layer, this paper, from the perspective of middleware, extracts the functions of access and other data sources in different applications into a separate layer, and trades its own complexity for the simplicity of the application [25].

2. THE PROPOSED METHODOLOGY

2.1 The Distributed Computer Communication Network Course Teaching

The subscription method can ignore the slight changes of the analog value, which can reduce the load of the server and the application and improve the efficiency of data access. Because the user's business is different, the framework will always have some configurations. As a general framework, everything that can be done by configuration files must be done programmatically, otherwise it will bring a lot of unnecessary trouble when users need to integrate your framework with another framework. "Computer Communication Network Excellent Course System" is to display the teaching content of "Computer Communication Network" to the majority of students through the online course platform. The teaching platform provides a large number of tools to support teaching activities, and teachers use the "course announcement" tool to publish course announcement information.

In the network manufacturing mode, the CNC system not only needs to quickly respond to the production planning issued by the enterprise management, but also needs to provide the enterprise management with real-time data reflecting the underlying operation through the Internet/Intranet in a timely manner. Although the data acquisition method based on characteristic physical signal detection can solve the problem of data acquisition of a considerable part of the working state of scientific instruments, it also has great limitations in its specific implementation. This is mainly because scientific instruments are usually precision instruments, which are expensive and have strict requirements on the working environment, especially the electromagnetic environment.

2.2 The Online Framework for Course Teaching

In remote process communication, the question of how services communicate is the most fundamental and critical. The purpose of remote service communication is that the local computer initiates a request, and the remote computer performs corresponding operations after receiving the request and transmits the result to the requester through the network. It is used for discussion and exchange of common issues in this course, where students can put forward their own concerns or ideas, so as to communicate with teachers and classmates. The course forum provides a space for students to ask questions and leave comments. Teachers will give clear and specific answers to students' questions. In the network manufacturing environment, as a basic node in the manufacturing network, CNC manufacturing equipment can feed back its own operation information while completing its own manufacturing and processing tasks. Through the network platform, the CNC system can obtain the remote service of Internet/Intranet, and realize the remote monitoring, online programming and parameter adjustment of the CNC equipment.

Monitors the delivery of messages in Windows systems and intercepts and processes messages as required by the user before they reach their destination. Through the understanding of Windows messages, different types of custom hooks can be installed in the system to monitor the occurrence of specific events in the system. According to the analysis of the current state of the distributed computer network structure, it can be found that the network structure has a certain foundation. In the future development process, it is enough to break through the limitations of the current framework. It can start from an objective point of view and effectively combine subjective needs.

Defines the behavior of the elements of the application model and how they relate to related processes. The logical level of the program that defines the application model is independent of the physical level of the device. The process model describes the mapping between the elements of the application model and the implementation, so as to establish the connection between the logic and the physical.

2.3 The Online Framework of Distributed Computer Communication Online Course

After the corresponding investigation and research, it is shown that the optimization of the distributed computer network structure can be based on the genetic algorithm. Based on genetic algorithm has the following advantages: First, the network structure characteristics based on genetic algorithm and distributed computer are similar, and it has no influence on the basis of network structure. According to the characteristics and requirements of the shotcrete operation, the shotcrete robot should have two working modes: master-slave remote control and automatic trajectory control, and can be switched at any time. Therefore, the design of each node of the system should focus on enabling the control system to complete these two functions.

A unified service registry is used to dynamically resolve service requests into endpoint addresses and calling policies. This provides a flexible and maintainable solution to the above problems. The registry will contain all the deployment, location and invocation association policies of services, and provide three main functions of service registration and query and service data storage for the entire distributed system. Any operation behavior on resources is realized through the bamboo protocol. Most of the previous development used the sum method in the protocol, and rarely used other methods, which was actually caused by a one-sided understanding of the bamboo protocol. Not just a simple protocol for carrying data, but a protocol for network software with rich connotations. The reason for using this optimization method is mainly to decide after a comprehensive consideration of the network structure.

Because the development of the network is not accidental, even if the foundation of the network structure of the distributed computer is solid, its optimization work cannot be ignored. The planning level is the brain of the computer control system of the shotcrete robot. Once it fails, the robot in the "automatic" working mode will not be able to perform automatic trajectory control. To this end, it has a dual-

machine redundant fault-tolerant design. Since the control system of this robot adopts CAN bus, there is no need to add any additional hardware resources.

3. CONCLUSIONS

This paper analyzes the distributed computer network structure and specific optimization measures in detail. For the analysis and optimization work at the current stage, users have made some progress in the network expectations of distributed computers. It is flexible in architecture, not only can maintain the integrity and stability of core functions, but also very easy to expand functions. In addition, this data access middleware fully draws on the current data access specification, industrial distributed automation specification and also data access middleware specification in other fields. It improves the data accuracy of the networked sensors of the CNC system. The paper conducts experiments and tests on the spindle.

4. REFERENCES

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