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Data Modeling Method and Application of Statistical Informatization Based on Cloud Computing

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Abstract: With the development of my country's economy and the progress of network technology, cloud computing technology has become a current research hotspot, and its research results have brought great convenience to people. At present, with the rapid development and progress of modern information technology in my country, the development of cloud computing has also played a positive role. The effective combination of cloud computing technology and statistical data processing is an important direction of statistical informatization in the future. Combining with the open source statistical tools widely used in foreign statistical circles, designing a statistical modeling method with good adaptability and scalability suitable for my country will help the continuous deepening of statistical informatization in my country.

1. Introduction

Statistical informatization construction is an important part of national economic and social informatization construction, the basic construction of statistical work, and the inevitable trend of statistical development [1]. Cloud computing technology has become a popular technology nowadays. The development of this technology not only brings an efficient platform for computer information processing, but also guides the future development of computer technology. China's cloud computing technology has been continuously developed and improved, providing a development platform for computer data operation, and laying a foundation for effective integration with future computer technology. It is mainly composed of three parts, including data management, data storage and distributed computing[2]. Transform the traditional statistical work methods, promote the reform and innovation of statistical system and system methods with informatization, promote the modernization of statistical work, better support the decision-making management of the party and the government, provide high-quality statistical information services for the people, and strive to achieve accurate and timely data, centralized information sharing, standardized and open system, and convenient and fast application [3].

2. Characteristics and Value of Cloud Computing Technology

2.1 Theoretical Meaning of Cloud Computing Technology

The so-called cloud computing technology refers to an interactive mode technology of value-

added services and usage based on the background of computer technology [4]. Among them, the essence of "cloud" in cloud computing is to describe the computer Internet. With the continuous development of network technology, the metaphor of cloud has changed, forming a new dynamic and abstract concept of computer data processing and basic equipment. Cloud statistics prototype system mainly includes sub-functions such as system login module, data query module, data entry, log management, system help, etc. The overall system architecture is shown in Figure 1.

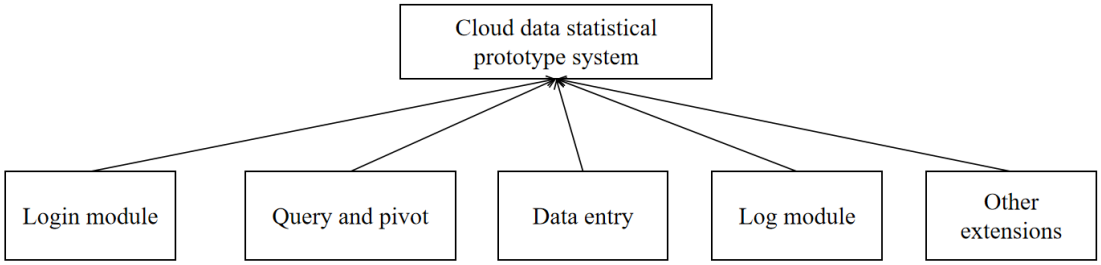

Fig.1 Overall Architecture of the System

The development of artificial intelligence is inseparable from cloud computing technology - this question can be answered from the perspective of artificial intelligence and cognitive psychology. Cognitive psychology grew out of doubts about behaviorism [5]. The early cognitivists Miller and Galanler believed that behaviorist psychologists did not adequately describe behavior because they only focused on the relationship between the environment and behavior, It ignores how people think. In strong artificial intelligence, because of the cognitive ability of the computer into which it is programmed, it becomes a tool to help us test psychology. Computer models help us understand psychology and develop it into more complex theories. In many cognitive psychology theories, too complex a theory makes the theory less predictable. The recent research goal of artificial intelligence is to study machine intelligence, that is, to study how to make existing computers have higher intelligence, so that it can use knowledge to solve problems, simulate human intelligent behavior, and complete it in a certain field or to a certain extent [6]. A job that requires complex human effort to complete. The development of science and technology has promoted the development of the Internet of Things, which is the fastest-growing technological revolution in human history.

2.2 Statistical Informatization Solution

Through the data cube model with four dimensions of business indicators, statistical indicators, sample units and time series, the description and definition of various basic data are realized. Users only need to rely on their own terminals, to realize the docking with the data center, so as to carry out relevant information processing based on their own actual requirements. Finally, the login location. Because the positioning system can accurately display the actual location of the user. You can also select different query contents, feed back data from different servers to users, and filter and export the feedback data by yourself. The workflow of the data query module is shown in Figure 2.

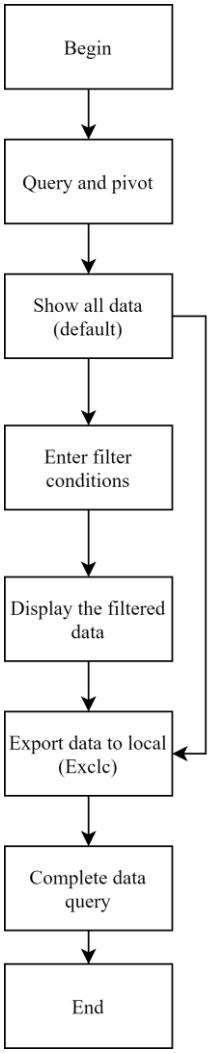

Fig.2 Workflow of Data Query Module

In the process of solving problems, artificial intelligence can solve some difficult problems simply. In the actual program design, a certain cycle can be set to test different results, and the most suitable solution can be found by comparing the results [7]. Therefore, it can effectively meet the actual needs of users, and through the release of resources, it can guarantee data storage and calculation, and it has a reliable carrier to manage multiple nodes. By connecting the computer client and the mobile client, users can enter the data center, and at the same time, they can quickly process the data according to the actual needs. Entering the "namespace" operation is the mapping of a certain block object to the "Datanode" node. At the same time, it must be clearly recognized that Datanode works under the guidance of namespace, mainly copying, saving or deleting the block. The inherent distribution of statistical data makes the distributed computing technology have a "natural" connection in statistical data collection and processing [8].

3. Specific Application Path of Cloud Computing Technology in Computer Data Processing

3.1 Provide Security for Output Transmission

In the extension theory of cloud computing technology, cloud security (Cloud Security) is one of the important branch theories. It refers to the user in the process of computer data processing

through terminal equipment, relying on cloud computing technology, can make data information security get effective protection. The service function of cloud computing technology mainly includes two levels. The first is the TaaS infrastructure-level service, which uses network users to improve the computer infrastructure, including storage space and network connection. And can obtain higher-level data, which further reduces the time for people to use the network to search for data [9]. Therefore, such programs are more practical. The effect of cloud computing on data processing requires the corresponding combination of traditional resource management and software and hardware to ensure that a more reliable network environment can be provided for computer users. In this way, the quality of computer data processing can be further improved, and corresponding defects and problems can be found in time in each fundamental data processing process. It is necessary for relevant persons to strengthen the research and analysis of cloud computing technology, which has practical significance and value for the further development and improvement of computer data processing. Any operation of the file system name space will be recorded one by one by the Namenode, and it is very clear. In addition, in the specific application process, it is also possible to set HDFS to save the data of the file copy according to the actual needs.

3.2 The Development Strategy of Cloud Computing Technology in Computer Data Processing

Cloud computing technology enables people to share resources of different terminals anytime and anywhere. In the process of computer data processing, the application of cloud computing should be strengthened, and the security and reliability of cloud computing should be guaranteed in order to ensure its good use. In the process of computer data processing, relevant staff are required to improve their safety awareness and pay attention to whether the data transmission is protected by the network. Because of the complexity of statistical model setting, users usually want to use the set model repeatedly after a complete configuration, and only need to change the data source to generate more model output results [10].Through certain programming processing, the computer can automatically process some continuous information, so as to avoid its continuous harassment to the computer. In the process of actual data calculation, it is necessary to actively adopt the data stream parallel calculation mode, which can effectively reduce the utilization rate of resources, so as to establish the corresponding TCP channel, and then analyze some models of client disconnection.

4. Conclusions

Statistical informatization refers to the process system of in-depth development and application of statistical resources by adopting certain means and methods and with the support of modern Internet and other information technologies. The key to statistical informatization is not only the promotion and application of information technology in statistical work, nor simply the electronic or networked statistical functions and business processes, but the integration with the major changes in statistical production methods. Promote the improvement of statistical capacity, the quality of statistical data and the credibility of government statistics, and realize the modernization of statistics. Making full use of modern information technology and fully realizing statistical informatization is not only an irreplaceable important part of statistical modernization, but also the only way.

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