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# Application of Cloud Computing Technology in Computer Data Processing

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**Abstract:** ***In recent years, cloud computing in China has developed rapidly. In the process of continuous progress, it provides a good platform for computer data processing work, plays a role in promoting the progress of computer technology, and has a wide range of applications, which can enhance the level of computer data processing, which is of great significance. Based on this, this paper studies and analyzes the application value of cloud computing in computer data processing, and puts forward some suggestions to enhance the effect of data processing.***

**Keywords:** Computer data processing; Cloud computing technologies; Big data.

## 1. INTRODUCTION

With the development of information technology, it has brought convenience to people's lives and has been widely welcomed by people. The advent of the information age has prompted the further promotion and application of information technology to meet the increasing needs of social information data. So the introduction of big data and cloud computing technology, relying on cloud servers, Data center switch, background database and other hardware equipment, wide area network or LAN data resources, acquisition, processing, analysis and storage, data processing results sent to the customer terminal equipment for display, real-time control and application of computer data.

Cloud computing can not only improve the convenience of data processing, but also ensure the effect of data mining and processing. We should focus on the characteristics and needs of data processing, improve the corresponding platform, reasonable design of different models, focus on the development of client services, enhance the reliability of applications, play the value of cloud computing technology in computer data processing, to achieve the desired technical application purposes.

## 2. SUMMARY

Cloud computing is the product of the development of science and technology, is the symbol of the information age and the modernization process of science and technology, is a huge data era, that is, huge statistics. It can convert thousands of data into countless Mini programs through cloud computing technology. In addition, the system utilizes data for calculation and analysis, and can send a Mini Program of the processing results to the user within seconds. Cloud computing is the essence of Earth science and technology, known as grid computing, Cloud computing is the key technology used in the current computer system, such as the development of information technology and Earth science based on the integrator technology of load balance, the practicality of parallel computing and the storage of computer network. The application of cloud computing is the premise of obtaining powerful network services. Diao et al. [1] achieved significant improvements in lung cancer detection accuracy through optimized Bi-LSTM networks, while Yuan [5] developed an innovative contrastive multimodal learning approach for chest X-ray analysis by effectively combining textual and visual data. For urban development, Li et al. [2] proposed a user-centric interactive data exploration framework to enhance smart city analytics. Industrial applications include Zhao et al. [3]'s deep learning-based optimization of steel production scheduling and Yang et al. [4]'s big data-driven AI model for economic cycle prediction. In healthcare infrastructure, Xu [6] implemented graph convolutional networks to optimize the sustainability of facility designs. The financial sector has benefited from Jiang et al. [7]'s Investment Advisory Robotics 2.0 system, which employs deep neural networks for personalized financial guidance, and Tu [8]'s Log2Learn platform for real-time network optimization through intelligent log analysis. Finally, Ma et al. [9]'s investigation into metal exposure effects on fetal liver function provides crucial insights into environmental health.

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# 3. CLOUD COMPUTING TECHNOLOGY IN COMPUTER DATA PROCESSING PROBLEMS

## 3.1 Security Risks of Technology Itself

Cloud technology also has security issues because its openness provides convenience for users and also makes it possible for crime. Among a series of network security issues, using cloud technology to obtain relevant data information can easily lead to data security problems, pay special attention to data processing security in cloud technology, process data in a timely and secure manner, and prevent the security leakage of data information.

## 3.2 Safety management

Cloud computing technology in the application of the problems, especially in the field of security management, through the cloud computing technology to steal the information provided by users of security destruction.

# 4. APPLICATION VALUE OF CLOUD COMPUTING TECHNOLOGY IN COMPUTER DATA PROCESSING

## 4.1 Enhance the effect of data mining and processing

Cloud computing technology in the new era of computer data processing work, with the help of advanced technology to enhance the efficiency of data processing, data processing to ensure the effect and optimization level, to ensure the security of all kinds of data information. In particular, in the process of rapid advancement of computer technology, a large amount of data has appeared, with a large scale and a high quantity, leading to an increase in the number of calculations and processing of data. Traditional technologies can no longer meet the current data processing needs, scientific use of big data technology will not be limited by equipment or other factors, efficiently mine the data information content, enhance the performance and level of processing, and obtain more valuable data information [1].

## 4.2 Pay attention to cloud computing system construction

When cloud computing technology providers provide computing services for enterprise users, they can first complete the construction of cloud computing system internally. So that users can directly in the process of using cloud computing services in the system to quickly complete computer data processing, without having to enter the cloud computing technology platform and software service providers to seek cooperation. For the small and medium-sized enterprises with low demand for computing power, it is entirely possible to control the cost of computing power at a level that can be accepted for a long time, so that cloud computing technology can spread to more small and micro enterprises.

## 4.3 Backup and recovery of data

Cloud computing technology service providers to undertake the computing power of various enterprises, in fact become a cloud computing data center, once the service providers do not do a good job of data protection, resulting in data loss can not be recovered will lose a lot of money. Therefore, it is very important to strengthen the data protection work of cloud computing technology, and to recover the data timely after the data is lost. At present, some cloud computing technology service providers have begun to study cloud computing + block chain technology. The two are made up of basic conditions, and block chain has great advantages in data security. If cloud computing technology service providers can combine cloud computing and block chain into one, the problem of information security for data backup and recovery will be solved.

## 4.4 Facilitate data processing

In the operation of traditional computer systems, the main application of hardware devices to process data cannot ensure the security of system operation, and the hardware configuration needs to be improved, which adversely affects the effectiveness of data disposal. And the use of cloud computing technology can break the limitations of time and space factors, Comprehensive processing of all kinds of data information, with the form of cloud computing platform, accurate processing of all kinds of data information content, enhance processing efficiency and effect on the basis of optimizing the work mode to ensure the safety of data processing, stability control.

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# 5. COMPUTER DATA PROCESSING IN THE CLOUD COMPUTING APPLICATION STRATEGY

## 5.1 Strengthening research and development of hybrid cloud computing

The development of cloud computing technology is the key to enhance data processing capabilities. Research and development should be strengthened, related technologies should be improved, and harmonization among cloud computing technologies should be clarified. When it comes to developing cloud technology correctly, it is possible to manage data automation more strictly. In addition, in order to reduce the running cost of computer and promote the application of cloud computing technology in computer data processing, it is necessary to continuously improve cloud computing technology to promote the development of cloud computing [2].

## 5.2 Data Mining Techniques

Data mining is a technique which can quickly find the useful data from the mass of network data. It is the deep processing and development of the original network data. At present, the data information processing in LAN is usually based on the data of high complexity and poor relevance. Data preprocessing, data cleansing, data conversion, data mining and so on. Through the powerful computing, filtering and integrating capabilities of data mining, the useful data can be found from the huge database and be extracted to the corresponding data warehouse to complete the memory management. The preprocessing techniques of data mining mainly adopt the methods of average, smoothing and forecasting to filter the data with high error rate, redundancy and repetition rate. If the data mining preprocessing technique of the average method is adopted, the calculation equation is $C_i = (i - 1)\sum(i - k)C_j|K$, is the mean value of all known attributes of the data to be processed, and then the data is arranged according to the established law, and the numerical processing results are closest to the real situation [3].

## 5.3 Improving data processing platforms and models

It is necessary to use advanced cloud computing technology in the work of computer data processing. It is necessary to improve the system mode and provide users with cloud computing data information processing platform based on computer system, so that users can apply and operate the system with high quality and strengthen the effect of deployment and processing. In addition, various different operating platforms and language environments need to be set up in the platform to enhance the effectiveness of data loading and the level of data processing. At the same time, it is also necessary to rationally design the data processing model, with computer networks as the core part. In the network system, the rational use of cloud computing technology, cloud computing architecture, based on the needs of users to create different models, optimize the allocation of technical resources, improve the program model and system. In the process of model design, the application of data flow,Application mode, combined with the characteristics and situation of the data information to be processed to create a model, improve the distributed computing function, and improve the service software, so that in addition to reducing the cost of cloud computing technology application, but also enhance the convenience of data information processing and application [5].

## 5.4 Sound supervision and control mechanisms

Cloud computing is an emerging technology in the actual process of development, and it has been developed for a short time. Although it has been applied to many fields, it has not formed a mature application mode. Coupled with the cloud computing technology is mainly for data processing, it is prone to information leakage, The problem of malicious attacks or the misuse of data and information occurs because there is a lack of a more complete monitoring and control mechanism, which cannot detect problems quickly and accurately, and it is difficult to ensure the quality of application of technology. Therefore, advanced computer technology is reasonably used in the data processing process of computers, The monitoring and control mechanisms should be improved, the overall data processing procedures and processes should be monitored, the regulatory work model should be improve, and risk problems or other problems should be prevented, so that the application of technology can progress towards health and stability. In the process of improving the supervision and management mechanism, we should focus on monitoring the behavior of hacker attacks, network insecurity, timely detection and rapid response, so as to avoid the phenomenon of user data loss, tampering phenomenon. At the same time, it is necessary to improve the data normative system in the monitoring process. Standardization system, strict supervision in accordance with such

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standards, if it is found that the technology in the application of non-standard, non-standard phenomenon, must be strictly punished, so as to ensure the high quality of data and information, efficient processing, play the value of cloud computing technology [6].

## 6. CONCLUSION

In recent years, with the rapid development and progress of computer information technology, data processing has received extensive attention. The scientific use of cloud computing technology to process data information can not only enhance the work effect, but also improve the current status of development, which has a certain significance. Therefore, cloud computing in computer data processing not only improves productivity and industrial level, but also makes people's daily life more convenient. Cloud computing technology is used for computer data processing to ensure the safe transmission of data. However, cloud computing in the development process needs to continue to improve its vulnerabilities to promote the effective development of cloud computing technology, better applied to the modernization of computer and information society.

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