

# Research on Computer Information Processing Technology in the "Big Data" Era

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**Abstract:** In the era of big data, computer technology has been widely used. It has greatly promoted all walks of life and brought great convenience to people's lives and work. At the same time, the arrival of the era of big data has also put forward more new requirements and standards for computer information processing. Only by continuously strengthening the research and application of computer information processing technology and improving its technical level can we effectively exert the application effects of computer information technology. This article takes the big data era as the background, based on the analysis of the opportunities and challenges faced by computer information processing technology, combined with the category of computer information processing technology, it has studied how to promote the development of computer information processing technology and how to provide a few points of view.

## 1. Big Data and Information Processing Technology

### 1.1 Big Data

Big data is a technology that is based on cloud computing technology and is used to process massive data. The implementation of this technology can use cloud platform to store data onto the cloud. Due to the large amount of data storage, variety and rapid update, in order to effectively link information and increase the speed of information dissemination, big data technology can replace these scattered data information with massive amounts of data, and increase the size of data onto time. Big data technology will get bigger.

### 1.2 Information Processing Technology

Information processing technology is an important part of computer technology, and the application of computer technology needs to rely on Internet technology. Therefore, the realization of information processing technology is closely related to the Internet technology. Under the background of the rapid development of Internet technology, the application and processing of information data can be promoted. In this process, Internet technology is the foundation, and then a data processing platform is established through Internet technology, which can improve the ability of information processing and complete the data processing work with high quality and high efficiency.



## 2. Opportunities and Challenges

### 2.1 Opportunities

#### 2.1.1 Deeper Mining of Data Value

Big data has been widely used in many fields and industries, providing decision-making reference for the company's various business operations and long-term development of the company. It exists as the company's core data, which can improve the company's core competitive advantages and promote the continuous development. In the era of big data, due to the comprehensive and reasonable data mining, for one thing, the stability and representativeness of data mining results can be guaranteed. For another thing, it also saves a lot of labor costs and funds, while ensuring a certain amount of data and achieving data. In-depth mining of value.

#### 2.1.2 Open Development of Data Information in the Era of Big Data

In the information age, people have higher requirements on the quantity and quality of information. They always participate in information sharing activities both in life and work. In order to satisfy people's needs for information and information sharing, data information has been further developed. At present, in the era of big data, the transmission of information data should be open, so as to effectively meet the public's need for information sharing, improve the utilization of information, and avoid the omission of key information.

#### 2.1.3 Drive Efficiency of Production Enterprises

For manufacturing companies, companies must use computer information processing technology to analyze and study relevant data in the manufacturing and marketing projects, so as to ensure the accuracy of the manufactured products and reduce the cost of the enterprise. At the same time increase the efficiency of the company's production operations. In the era of big data, computer information processing technology can realize the sharing of information, making production marketing of production companies, especially in the marketing process, make use of the acquired information to make initial research on the market, and use empirical data to improve current marketing means [1], thereby promoting the company's manufacturing and marketing operations, and ultimately improving the operating efficiency of production companies.

### 2.2 Challenges and Impacts of Computer Information Processing Technology

In the era of big data, on the one hand, from the challenge faced by computer information processing technology, first, due to the large increase in data volume, computers must have extremely high information computing and processing capabilities. If computer information technology has not been improved, the huge volume of data cannot be analyzed and processed effectively, and it cannot reflect the advantages of computer applications. Second, the rapid development of computer technology has brought people information convenience, but also produced a lot of computer network information security issues. To improve the security and reliability of information data, it is necessary to strengthen the construction of computer network security systems. In other words, while continuously improving computer information processing technology, it is necessary to build a security system. Only in this way can the security and reliability of information data processing be improved and the stability of information data transmission ensured. This is also the processing of computer information in the era of big data. New requirements put forward by technology. In addition, in the computer

network, the structure of information data is relatively complex. In the era of big data, the information data is huge. In order to perform efficient data processing, it is necessary to classify these information data so that the key data can be processed first to solve the critical problem. The stage has not done well enough in this area, and the structural division of information data needs to be improved.

On the other hand, from the perspective of the impact of big data era on information processing technology, first of all, the era of big data has a high demand for computer information processing technology, and information extraction may be caused if the computer information processing capacity is not high enough. Mistakes, which cause information conversion problems because the waste of resources. Therefore, in the era of big data, some software that does not meet the requirements will be eliminated. Only by strengthening software configuration optimization can we improve the computer information processing technology [2]. In addition, in the era of big data, the scope of application of computer technology must continue to expand. Only when the application environment is improved can we adapt to the advantages of the development of big data era and give full play to the role of computer information processing technology.

### **3. Analysis of Computer Information Processing Technology in Big Data Era**

#### *3.1 Computer Information Processing Technology*

##### *3.1.1 Information Acquisition and Information Processing Technology*

Information acquisition is the basis of computer information processing. Only by doing a good job of information collection can we prepare for the next information collation and transmission. Information is collected in a database after information is collected using computer equipment. However, since the acquired information is not necessarily true and reliable before the information is released, comprehensive processing is required to perform the classification analysis and determine the information. Only after the true and the false can the necessary information was sorted out, and then the information inquiry and other services can be facilitated, and these already acquired informations already stored in the database needed to use information processing technology to organize and process the information on the system. It is for easier retrieval by users [3]. At present, China's main information processing technologies includes information indexing technology and data mining technology. Data mining technology can be used in large-scale databases to find valuable and necessary information.

##### *3.1.2 Information Storage Technology*

Information storage technology refers to the use of Internet technology to store these information data onto a database after obtaining corresponding information and performing processing. The function of the database directly affects the use of information storage technology and the use of information and data utilization. In the era of big data, due to the huge amount of data, the content of information changes rapidly, and there are many types of information. It is very easy about information storage problems. In order to improve the quality of information storage, it is necessary to pay attention to the resume of the database, improve the database's ability to call information, and improve the efficiency of information uses. Of course, it is also necessary to optimize the operation of computer information storage technologies and enhance the efficiency of information storage so that cost savings can be achieved. At this stage, the main information storage technologies are distributed data storage

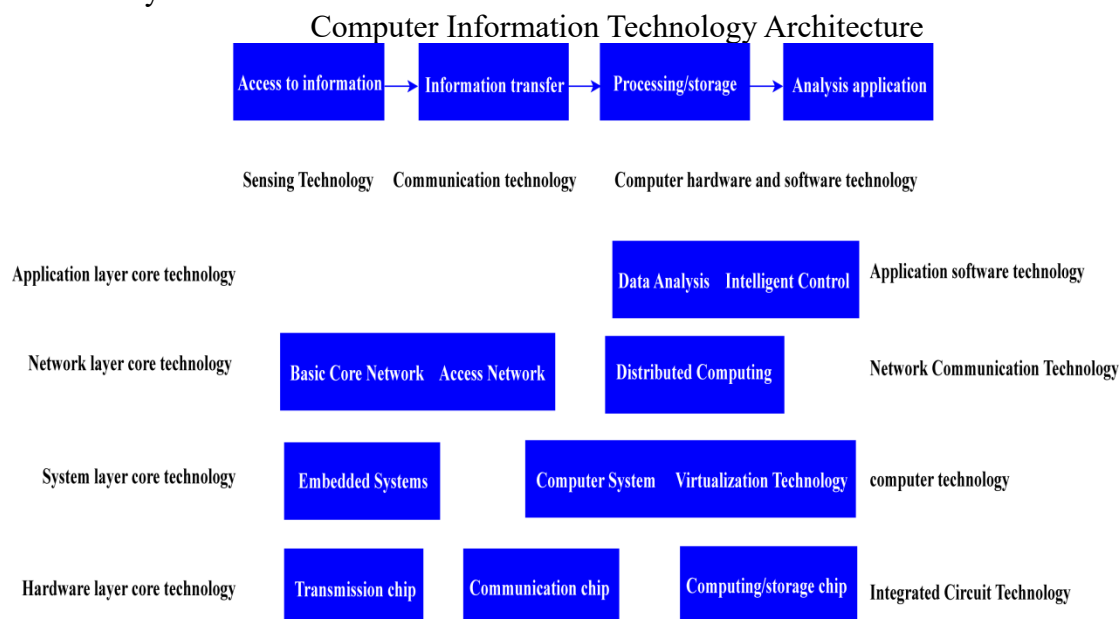
technologies. The technology has high processed efficiency and quality of information data and is an efficient and widely used storage technology.

### 3.1.3 Information Security Technology

As mentioned above, the issue of information security is the most prominent and serious problem in the era of big data. Especially in the situation where the number of data is increasing, there may be omissions in the process of data monitoring, which may cause information security problems. Therefore, in order to ensure the security of information, it is necessary to conduct comprehensive security management and control of information systems, establish a technical security system, and improve the security of computer networks through the control of information systems. In addition, we should strengthen the training of technical personnel, strengthen security technology research issues, and optimize and upgrade existing technologies. Only by continuously improving security technology can we achieve the security of information data in the context of the era of big data.

### 3.1.4 Information Transmission Technology

The transmission technology in computer information processing technology is often used in daily life and work. Information transmission includes uploading and downloading of data. For example, the Internet will upload its own work to the Internet and share it with other people when they need certain types of information. It will use transmission technology to download and apply data. For information transmission technology, the most critical are to improve the efficiency of uploading and downloading information, and to help users save time on the basis of ensuring that users share information. However, in the same way, various security problems will also be encountered in the transmission of information. For example, viruses, Trojans, etc. will destroy information. Therefore, in the process of upgrading information transmission technology, we must strengthen the implementation of information security measures and improve the technical characteristics of information transmission. In this way, we can continuously optimize the information transmission environment and ensure the security of information data transmission.



### *3.2 Technical Improvement Measures to Promote Data and Information Security*

Computer information processing technology has both the collection and storage of data, as well as the dissemination of information and security protection. Due to the large scale of data, it is impossible to use artificial methods to process data. Only the use of computer information processing technology can improve the efficiency and quality of information processing. However, due to the increase of information content such as video and video in data capacity [4], only further optimization of data storage technology can effectively prevent information resources from being wasted and improve storage efficiency ; due to the large correlation of data information, the security of information data is a problem. More prominent, do a good job of safety management, improve computer security technology can promote the further development of computer networks, making data information more secure. From the perspective of promoting data security, several suggestions are made on the improvement in the corresponding technologies.

#### *3.2.1 Improve Safety System Construction*

To improve the efficiency and quality of the application of computer information processing technology, we must first strengthen the research and application of security technology. The effective implementation of security technology must rely on a sound security system. In the course of the construction of the safety system, in order to enable the relevant technical personnel to effectively implement the construction work, it is necessary to strengthen their technical training and safety training. Not only must strengthen the understanding of technology, improve their professional capabilities, but also to strengthen their awareness of technical security, pay more attention to details in the construction, so that security technology can meet application requirements, provide the basis for the realization of computer information technology.

#### *3.2.2 Focus on Research on Security Technology*

In the era of big data, data capacity has increased and data structures have become more and more complex. In terms of current information security technologies, although it is possible to perform security detection on big data, full dynamic security monitoring has not yet been implemented. In particular, for some hidden data, some complex data often cannot effectively monitor the problems., thus increasing the risk of network information security. Therefore, it is necessary to comprehensively strengthen the research and development of new security technologies, and ensure comprehensive monitoring of big data information about technological innovation and optimization guarantees, thus realizing the security protection for data information.

#### *3.2.3 Safeguarding Important Information*

The research and development of new security technologies does not happen overnight. It takes a longer period of research and development. So how to ensure the security of data information before the emergence of new security technologies is a problem that current technology personnel need to consider. At present, there are many loopholes in the storage management of big data. The incomplete and incomplete monitoring methods make it impossible to guarantee the security of data information. Under the current technological conditions, the most effective way is to classify information, that is, to strengthen the supervision and management of important information in the implementation of security protection measures, and to use important data information as the focus of safety supervision.

On the one hand, this makes these important key information. It will not be damaged or leaked. On the other hand, the security of important information can also improve the security of information data as a whole.

#### **4. The Development Direction of Computer Information Processing Technology in the Era of Big Data**

The salient features of big data are the large volume and complex structure. In addition, compared with the traditional data, big data is related to each other. Therefore, once a problem occurs to one of the data, it will affect the stability and reliability of other data onto the computer. Information processing has encountered difficulties. At this stage, the basis of the computer network is hardware, and the performance of the network is affected by the performance of the computer hardware. Therefore, in the future, we should constantly improve the computer network structure so that the new architecture can meet the requirements of big data processing for the network. That is to say, in the future, an open network transmission structure can be constructed so that the network information and the computer hardware are separated, so that the network structure can be redefined, and then the application of the network software can promote the development of the network technology [5]. In the era of big data, computer and computer networks gradually converged to form a new computer network structure, which not only promotes the development of big data technology, but also promotes the application development of computer information processing technology. The research on computer information processing technology pays more attention to cooperation character, research and develop the technology through computer networks.

#### **5. Conclusion**

In summary, the public's requirements for computer applications continue to increase, and information in various fields is also increasing. Therefore, in the era of big data, higher requirements have been put forward for computer information processing technologies. Technicians must continuously strengthen the research and optimization of computer information technology and improve the level of computer processing technology so that computers can be highly efficient in calculation and analysis. At the same time, we need to do the appropriate technical security measures to protect users' information while facilitating people's life and work.

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