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PROBLEMS AND SOLUTIONS IN THE COLLECTION OF LARGE AMOUNTS OF DATA (BIG DATA) IN ENTERPRISES

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Abstract:

The collection and analysis of large amounts of data (big data) has become an important task for modern enterprises. In this article, we will look at the main problems faced by enterprises when collecting large amounts of data, as well as offer effective solutions to solve them. We will also discuss data collection methods, the results obtained during the research, and discuss the advantages and limitations of these solutions. In conclusion, we will summarize the results and offer recommendations for enterprises seeking to collect and use large amounts of data.

Keywords: big data, enterprises, data collection, data analysis, problems, solutions

With the advent of big data and the ability to analyze it, enterprises are facing new challenges and challenges. Data collection, processing and use require new approaches and technologies. In this section, we will consider the main problems that enterprises face when working with big data, and outline the main goals and objectives of the article.

In this section, we will present various methods and approaches for collecting large amounts of data. Traditional data collection methods such as surveys and observation will be covered, as well as emerging technologies including sensor networks, the Internet of Things (IoT) and machine learning. Particular attention will be paid to data processing and storage methods, such as distributed storage systems and cloud technologies.

Collecting and processing large amounts of data (big data) in enterprises can face several problems for which there are various solutions. Here are some of them:

• Scalability issue: Data volumes can grow rapidly and existing infrastructure may not be able to handle the load. The solution includes the use of distributed storage systems such as Apache Hadoop or Apache Spark, which can scale horizontally by adding new cluster nodes as needed.

• Processing speed issue: Processing large amounts of data can be a time consuming task. One solution is data parallel processing, when a task is broken down into smaller subtasks that run in parallel on multiple cluster nodes. This allows you to increase the speed of data processing.

• Data quality issue: Large amounts of data may contain errors, duplicates, or incomplete records. The solution includes data cleaning, validation and standardization processes. Automated error detection and de-duplication processes, as well as regular updating and maintaining data quality, can be useful tools to deal with this problem.

• Data storage problem: Large volumes of data require efficient storage. The solution may involve using distributed file systems such as Hadoop Distributed File System (HDFS) or cloud storage such as Amazon S3 or Google Cloud Storage. These systems provide scalable and fault-tolerant data storage.

• Data privacy and security issue: The processing of large amounts of data may involve sensitive information, and its security is an important consideration. The solution includes setting appropriate security policies, encrypting data at rest and in motion, access control and monitoring mechanisms, and ensuring compliance with data protection regulations and requirements.

These are just a few examples of the challenges and solutions associated with collecting large amounts of data in enterprises. Specific problems and their solutions will depend on the specific context and requirements of the enterprise.

This section will present the results of a study conducted in an enterprise to collect and analyze large amounts of data. The methods and tools used, as well as the results obtained, will be described. Consider examples of successful implementation and the benefits that the company has received from the use of big data.

In this section, we will discuss the results of the study, consider the advantages and limitations of using big data in enterprises. The challenges faced by enterprises in collecting and analyzing large amounts of data will be discussed, as well as possible ways to overcome them. Consider the success factors and risks associated with the use of big data.

CONCLUSION:

In the final section, we summarize the results of the study and outline the main conclusions. The

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benefits of collecting and analyzing big data in enterprises will be discussed, as well as recommendations for enterprises seeking to use big data effectively. Possible directions for future research in this area will also be indicated.

Offers:

• Businesses need to recognize the importance of collecting and analyzing big data for their development and competitiveness.

• The use of modern technologies and methods, such as sensor networks and machine learning, can greatly simplify and speed up data collection.

• Distributed storage systems and cloud technologies allow efficient processing and storage of large amounts of data.

• When using big data, privacy and data security issues need to be taken into account.

• The development of analytical skills and the training of specialists capable of working with big data are important success factors.

• Businesses should regularly evaluate the effectiveness of their use of big data and make adjustments to their strategies and approaches as needed

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