

методов позволяет решить две задачи. С одной стороны, использовать несколько стеганографических ключей для передачи конфиденциальной информации нескольким корреспондентам. С другой стороны, контролировать целостность осязаемой скрытой информации, что может быть использовано, например, при решении задачи защиты права интеллектуальной собственности на изображения либо их частей.

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### **CLASSIFICATION AND A BRIEF ANALYSIS OF EXISTING DEVELOPMENTS FOR THE SEARCH OPTIMIZATION IN DATABASES**

Nowadays there is a development and dissemination of "cloud computing" technology. The growing demand for services offering a broad range of cloud computing services for large numbers of users all over the world, therefore increase in the number of applications, the purpose is to process large data sets. The operation of the database in the cloud leads to the need to find new instruments.

Most often this concept is treated as a "complex of information collection and procedures: management, updates, information retrieval and post-processing - which allows to accumulate, store, update and provide information", processing and organizing information, should take into account. User no longer divides his activities on information search object can not be clearly defined in advance [1].

The search tools and technologies used for the implementation of information requirements, depend on the type and condition of the problem to be solved by the user operations. The process user interaction with the system is determined by the level of knowledge of user resource content (completeness, reliability of the source, etc.) and the functionality of the system as a tool. In general, these factors are usually limited to the notion of professionalism - information (trained / untrained user) and objective (professional / amateur). For solving the problem of query optimization in the cloud storage system should also be taken into account. For network topology used two methods:

- 1) Query Optimization in the Cloud SQL type database architecture are as follows: all files are stored in the local file system; cloud database is designed to store and manage huge amounts of index files and metadata;

enter the query and get the results performed by the web user interface; user request is executed the current search query plan (as a subset).

2) Query optimization in cloud databases NoSQL type since there is one server: used programming model map-reduce (MR) – platform for cloud computing, which allows analysis of large amounts of data in the cloud. MR facilitates parallel execution for long-term problems of the analysis of large data. In MR each task is represented as a map for reduce tasks. MR Kernel for storage and data uses a distributed file system with MRQL language. It allows user to write own scripts for a large tasks in declarative form, and at the same time itself to optimization. This procedure consists of the following steps: simplification of the request, building a query graph and query graph representation in algebraic form [2].

In this work another method is proposed for similar purposes, based on virtual machines and processing centers. The main interest of this approach lies in the fact that its purpose is to balance the load of virtual machines in the cloud environment which indirectly leads to an increase in the quality of the search (it is obvious that the speed with which the cloud responds to user requests, is one of the search quality criteria). For resource management in large-scale data centers are developed and implemented a centralized solution, but in this case the occurrence of a failure at the control node, resulting in malfunction of the whole system. The average length of the vector unit load is equal to the number of iterations of sending the index. A load information will be stored in a decentralized, in order to avoid trouble in the event of a failure of the node, another positive aspect is that the network traffic is distributed across all active nodes (as opposed to the scheme with centralized management, where all packets should go through common node). The decision on the virtual machine migration can be taken in two cases: when the CPU usage exceeds a certain level (the upper limit), freeze mode or when the CPU usage is below a certain level (the lower limit) transferred to the "sleep" mode.

Each methods have both advantages and disadvantages. Common to all is a lack of synthetic nature of the results, that the introduction of statistics obtained in artificial systems created just for testing approach. Optimization such developments in the near future will be in demand.

## REFERENCES

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