solutions, and explosive growth in the amount of digital content demand storage, did cluster distributed storage the relevance product now and in future. The target audience of the product is any company, any production that needs reliable, fast, replicated data storage.

Distributed data storage on a cluster was developed, using the architectural style of the REST. The main goals are reliable storage of data on different physical machines in the network, reducing the load on individual machines, and the ability to recover data. Plus, standard operations on data: add, delete, update, get. Clustering distributes work loads to each machine, manages the transfer of workloads between machines, and provides access to all files from any machine regardless of the physical location of the file.

In many solutions often use the master node to access cluster nodes. But in my solution master node is missing and each node acts as an interface for user interaction. This allows not using a high-performance machine for the master. All nodes need the same performance. Metadata about the state of the cluster is stored on each node. Also every node recording all actions that user made with the cluster. For this uses ACL logging. Every action is recorded in Data Base related with cluster. It's improves security of application.

Exist Replication transparency, to support scalability and exist load balancing, we may wish to replicate files across multiple servers. When the GET request comes on node, node gives random number of replica for reduce the load on the system. Clients should be unaware of this. The number of replicas is programmed before cluster start and can't be changed in runtime. This system uses active replication, every request forwarded to all replicas of node.

Implemented a transaction system. If during the operation of adding, updating, deleting data on the node, one of the replicas will fail, but the transaction will already begin, then rollback will be executed.

Also an important point is the cacheability. Cache is a software component that stores data so future requests for that data can be served faster; the data stored in a cache might be the result of an earlier computation, or the duplicate of data stored elsewhere. Two types of cache are used in project application: LFU, LRU. If information hasn't in cache that data get from Data Base.

All configuration of the cluster (number of nodes, network node addresses, cache type and size) is stored in the property file that is read at start-up.

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ARCHITECTURE OF CLUSTER FOR RESERVE STORAGE DATA

Web application is written in Java, servlets are used from the specification Java EE.

The project uses REST architecture. RESTful web service is a way of providing interoperability between computer systems on the Internet. REST-compliant Web services allow requesting systems to access and manipulate textual representations of Web resources using a uniform and predefined set of stateless operations. All data presented in JSON format. Methods uses in this RESTful web service:

– GET; requests a representation of the specified resource.

– POST; requests that the server accept the entity enclosed in the request as a new subordinate of the web resource identified by the URI.

– PUT; requests that the enclosed entity be stored under the supplied URI. If the URI refers to an already existing resource, it is modified.

– DELETE; deletes the specified resource.

All nodes are independent on each other. Nodes that are replicas work as a single node. All Metadata of cluster store in separate table ACL. The data storage algorithm is used exactly the same as in the hash map. Based on the key, the hash code is calculated and the required node is determined, decreases the probability of collisions. Data store in cache, but if data doesn’t exist in cache, data get from relation Data Base. Therefore, system has quick access by keys, which increases the value of this application.

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