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Strategy for Dynamic Database Resource Sharing In Cloud Computing Environment

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Abstract:
In the past few years cloud computing has emerged as a popular computing model to support large amount of data. Cloud computing is featured by powerful computing capabilities. However, the resource allocation puts forward new challenges. A highly efficient database resource allocation scheme is of great significance in parallel processing of cloud computing. In this paper, we propose a novel dynamic resource allocation algorithm with cooperation strategy to handle the load within the cloud between resources. We first model and analyze the resource allocation problem. We introduce a heuristic information-based algorithm with the co-operation of all the computing nodes. We analyze the algorithm and also evaluate its performance by simulation experiments. The experiment results indicate that our algorithm conducts resource allocation fast and effectively, achieving superior performance as well.

Keywords:
Cloud computing, database sharing, data storage, first come first serve

I. INTRODUCTION

Cloud computing, the latter term denotes the infrastructure as a ``Cloud'' from which businesses and users are able to access applications from anywhere on demand. Thus, the computing world is rapidly transforming towards developing software for millions to consume as a service, rather than to run on their individual computers. At present, it is common to access content across the Internet independently without reference to the underlying hosting infrastructure. This infrastructure consists of data centers that are monitored and maintained around the clock by content providers.Cloud computing is the long dreamed vision of computing as a utility, where users can remotely store their data into the cloud so as to enjoy the on-demand high quality applications and services from a shared pool of configurable computing resources [12].

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By data outsourcing, users can be relieved from the burden of local data storage and maintenance. In cloud computing the computers are dynamically presented as one or more unified resources between the service provider and the consumer based on their requirements.

II. PROPOSED WORK

Dynamic Database Resource Sharing in Cloud is dividing the database load that a Cloud has to do between two or more servers so that more work gets done in the same amount of time and, in general, all users get served faster.Resource Sharing can be implemented with hardware, software, or a combination of both. Typically, resource sharing is the main reason for computer server clustering. Efficient scheduling can provide the best result to the user and better resource sharing. So the correct scheduling is also the important part of the resource sharing. In this paper we will show that how with the help of the algorithm first come first search (FCFS) we will decrease the problem of load that a cloud has[7].

III. PROBLEM DEFINITION

Presently, when the cloud system is playing a vital role, the measure problem is how to balance the load, created when the work allotted to the system for a specific time period. There are several types of algorithms like round robin, equally spread current execution load etc.In this paper, we will use the first come first search algorithm to reduce the load on system. We will see that this algorithm will decrease the load in database sharing.

i) *First Come First Serve:*

We are using this algorithm to decrease the load of database. This is very easy to use. It is used in parallel task processing and has done work according to the assignment of the jobs in system. In every algorithm we have data center controller, virtual machine, VM load balancer, users etc. In FCFS there is an index table of virtual machine and number of requests. The VM load balancer allocated the requests of the user to the available VMs [3].

ii. *Data Storage*:

The importance of data backup is well known that how data storage is important for a user,but what about the appropriate solution for data storage?Some still rely on hard drives and external storage options, and others may stick with deleting outdated information to create free space, but many have discovered the benefits of the cloud.Since the cloud utilizes the Internet to drive the sharing of information, accessing your data is as easy as logging on from wherever you are. Most cloud data storage services offer an online Web interface to access your company data, and since it is accessed from a Web browser, you can use any device or platform. Even though your information is stored somewhere else, you can still get it quickly and easily when you need it.Cloud storage solutions by nature are remotely located. It is important to store critical information offsite in the event that something happens to your local storage solution. Say a fire strikes out in the building, or a tornado hits your town you want your data to be located in a remote location away from potential threats.

IV. ALGORITHM IMPLIMENTATION

Cloud storage only provide the storage but, if the space is not available for your data and the data is really very important to you then what you will do for that. This basically happened by the load on cloud due to excess of data.Our algorithm simply shifts the load from one VM to another VM which have the space to store the user's information. The steps taken by it as follows:

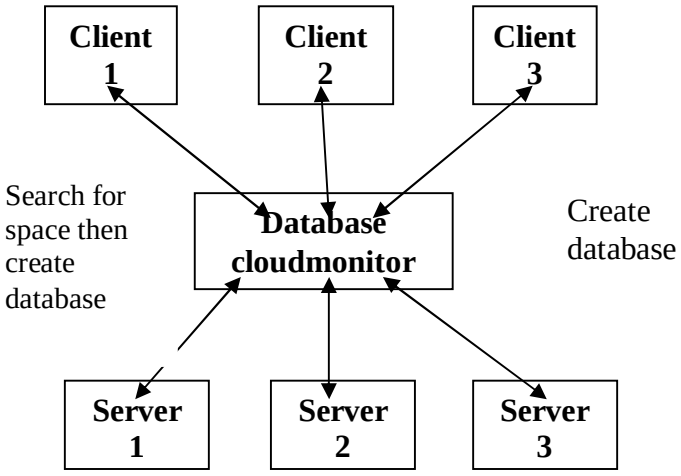
1. Input Database Name.
2. Read details of Cloud Monitor. It is also called Data center. Data Center stores server's information their IP Addresses and port numbers for data storage. Store these details in an array.
3. Read the number of databases existed on each server whose details are stored in array

```
For i=0 to a length
    Build connection with server
    ResultSet rs= st.execute query (show database);
 //these will return database names existed in a { i }
    Count No_of_databases existed in ResultSet object
          If (no_of_database > limit)
 Continue;
// to select next server
          Else
              Create database in server a[i] and store information on datatable table in
                  cloud monitor.
           End
Next
```

4. Now user can create tables in the database. These tables are stored in the database on the same table.

If space is not available

Shift load to next



V. CONCLUSION

In this we have seen that how can we use a simple algorithm to reduce the load on cloud by shifting the load on another server. Storage in cloud is always a vast area to discuss. In future this area is always open to improve storage performance.

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