

Step 7: Schedule the last part on the Nth server
 Step 8: Execution of jobs
 Step 9: Repeat
 Step 10: End

Steps for status evaluation

Three server load status levels are defined as:
 • Idle :- When Load_degree (N) > 0
 • Normal :- For 0 < Load_degree (N) ≤ Load_degree_{high}
 • Busy :- When Load_degree_{high} ≤ Load_degree(N)
 Where load_degree limit is set by the load balancer

4. Result Analysis

As part of the implementation work, two virtual clouds are created on separate systems on the basis of IP addresses sharing common database and application. The main controller i.e. cloud1 receives these jobs and sends them to the load balancer which splits the jobs and distributes it among the main cloud and the partition cloud for execution. According to the partition load, the status of partition is calculated as idle, normal or overloaded. The execution time and the response time were calculated at both the servers for the incoming jobs. Also, a separate batch of jobs was sent to the main server for comparing the results of cloud partitioning method and the execution time and the response time were calculated separately.

Table 1: Server performance result table

Connected servers	Total jobs	Response Time (in millisecc)	Execution Time (in millisecc)
Server 1	30	52	33
Server 2	30	20	32
Main server	60	26	64

Table 2: Server Status table

Server	Total jobs	Jobs executed	Jobs remaining	Server status
Server1	30	05	25	Busy
Server2	30	27	03	Idle

The data, thus collected was used to plot a runtime graph consisting of number of jobs, response time and execution time of the jobs for the two partitioned clouds as well as for the single cloud.

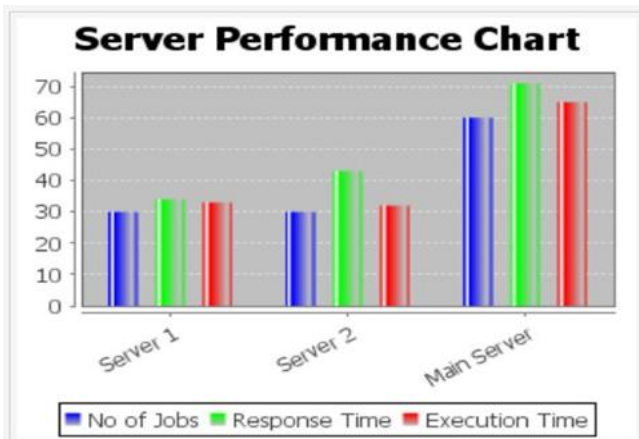


Figure: Server Performance Graph

It was estimated that the single server became very busy with the execution of all the queries whereas with partitioning method, the server did not get overloaded with continuous load and also it did not crash. Also, better response time and execution times were obtained in partitioning method. Thus, the overall estimated performance of the system was better with cloud partitioning as compared to execution of jobs on a single cloud for our simulation model.

5. Conclusion & Future Scope

Cloud Computing is a vast and popular concept in the modern age and load balancing plays a very important role in case of Clouds. Cloud partitioning is a method to make partitions of huge public cloud in some segment of cloud. There is a huge scope of improvement in this area. This model demonstrated the applicability of using cloud partitioning method and then using Dynamic Round Robin algorithm for load balancing to obtain measurable improvements in resource utilization and availability of cloud-computing environment and increase the business performance in cloud based sector. According to the partition load, status of partition is calculated. Other load balancing strategy can give better results and improve the performance.

So, tests are needed to compare different load balancing strategies. Many tests are needed to guarantee system availability and efficiency. A better framework will be needed for cloud division methodology.

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