LOAD BALANCING ALGORITHM IN CLOUD COMPUTING

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ABSTRACT

Cloud computing is one of the most important field which creates a pool of dependency of almost of computation all over the globe directly or indirectly load balancing algorithm will decrease the waiting time and increase the utilization of recourses in optimal manner.

Keywords–Programming, cloud computing

I. BACKGROUND

Cloud computing involves a huge set of infrastructure which involves huge cost and maintained so preparing such huge setup will definitely includes high maintained and cost so in order to have the optimal utilization and time management, sharing of resources by multiple organization at the same time is one of the most important purpose of cloud computing. Load balancing is the answer to it. Having multiple requests of resources by different end users at the same time on the cloud can only be solved by a load balancing algorithm implemented efficiently on the cloud having multiple resources. Cloud computing is basically a network of multiple elements including multiple hardware and software which can provide services to the multiple users. Cloud contains different system of resources and high level services which helps organizations in resources management with high productivity and minimum cost.

II. INTRODUCTION

The organization using services on the cloud use resources without its maintained with its optimal resources uses. The organization does not need to focus on the resources maintained and handling of resources as cloud work as third party

III. CLOUD PERSPECTIVES

Cloud includes hardware virtualization. There are three main stakeholder of cloud.

- **END USERS**

The end users must agree to the service level agreement (SLA) specified by the cloud provider specified before using it. The cloud provides various services may be related to infrastructure or software or platform. As cloud provider provides services on demand basis and the price incurred by the organization or client is based on the usage. Providing user flexibility in utilization its resources by incorporating utility computing. Before SLA, the user on the cloud must verify quality of services, (QoS) parameter which are important for the client consumer before using.

- *CLOUD PROVIDER*

Cloud provider can be public, private or hybrid cloud. The difference between the services provided by these clouds does not depend on its types but depend on the requirement of the client.

Public cloud may be used to store big data by individual or organization for which confidentiality is not an issue as the public cloud have its greatest level of efficiency. Some of the example of public clouds are Amazon web services [8], HP cloud [11] etc. private cloud includes confidentiality of an organization using it services as a when needed. The information of an organization or client remainsconfidential on distributed data centers which has high integrity, accountability, proper resource utilization with cost incurred based on pay-as-you need basis. Hybrid cloud is a combination of both public and private cloud. It allows organization to manage some resources internally and some externally. The main concern is the complexity off the overall management which increases the issue of security. CliQr is one of the known cloud.

Cloud provider's job is resource provisioning it includes huge set of resources which are associated with the cloud and provide services to the end user.

IV. CLOUD DEVELOPER

it is the middle man between the end user and the cloud provider. It ensures the entire technical requirement both the end user and cloud provider

V. LOAD BALANCING ALGORITHM

Load balancing is a process of distributing the load among various nodes of a distributed system, may be on the cloud, to improve its resources utilization and job response time load balancing algorithm ensures the maximum throughput with minimum response time. In cloud computing various end users generate there request of resources on the cloud. Cloud having multiple data centers receives multiple resources request at the same fraction of time so a queue so formed at the data centers to process their

request sequentially to avoid the deadlock with minimum waiting time and maximum throughput. When the request is processed by the data centers, the client will receive its required resources.
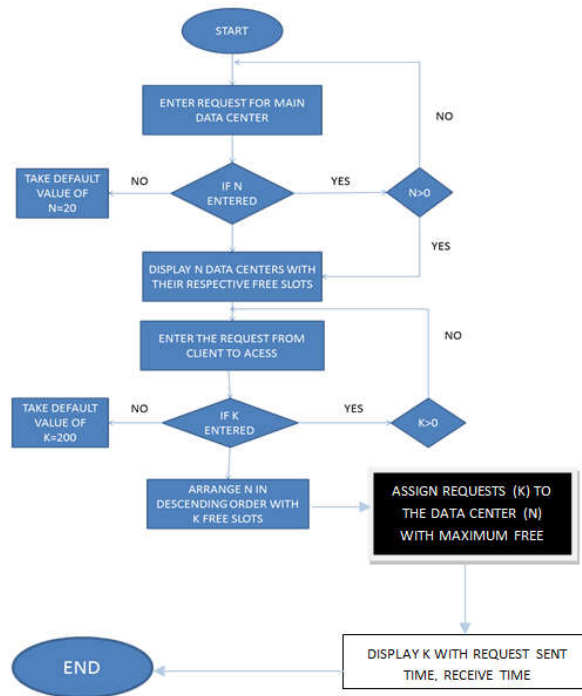
VI. CASE STUDY

Let's take an example off an organization having a budget of a limited cost barrier for a project. In which the resources required incurred a huge cost which cannot be included in the cost of the project. In that case the required resources can be utilize on the cloud without bearing the whole cost of the setup. The cloud will provide the resources as per the need and the cost will be on the basis of the pay-as-you uses basis. The authenticity, confidentiality, resource utilization, integrity are maintain as an when required. There are various organization like Google, amazon, etc. have their respective cloud and the provide the services the other organization.

VII. CONCLUSION

Load balancing is one of the most important tasks of cloud computing for the optimal use of resources to incur the maximum profit and serving maximum end users with minimum waiting time. Distributed data center handles many request at the same time provided by the client at the same time increases its utility.

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