Dynamic Load Balancing Technique In Cloud Partition Computing

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Abstract - ***A dynamic load balancing system is used for flexibility. Load balancing is depending on the system dynamics that is static or dynamic which is important in performance. This system can change the status as and when nodes status updated. A dynamic load balancing is used with cloud division rule which do the partition then the load balancing is taken place to assign the incoming job for the right partition to do fast processing. Once the partition is created the load balancing then starts by verifying the status of each and every node by the balancer in the system. This system has main controller and balancers to gather and analyze the information or status on each node. Thus the dynamic control have a great influence on other working nodes. Based on the system status we select the right load balancing strategy.***

Keywords - ***Cloud Division Rule; Switch mechanism; Main Controller and Balancer; Hash Table***

I. INTRODUCTION

Cloud computing is efficient and scalable but maintaining the stability of processing so many jobs in the cloud computing environment is a very complex problem with load balancing receiving much attention for researchers. Since the job arrival pattern is not predictable and the capacities of each node in the cloud differ, for load balancing problem, workload control is crucial to improve system performance and maintain stability. Load balancing schemes depending on whether the system dynamics are Status of each node will differs it may be in normal state, Idle state or busy state. Normal state is always preferred than idle and busy state. However load balancing in a cloud is still a new problem that needs new architectures to adapt too many changes also described the role that load balancing plays in improving the performance and maintaining stability. Every cloud will have specific range or boundary number of nodes present with in the area may be tracked and the status of each node can be monitored if any node present
outside the range of the cloud that will not be considered but in the proposed we also monitor a node which is available outside the specific range by deploying a balancer between existing system to that node. In the proposed system also take care of ordering of the user requests or packets so that whenever there is congestion it will select other route to deliver the packets successfully to end nodes available in specific partition. Balancer for each cloud partition chooses important can be either static or dynamic. Static schemes do not use the system information and are less complex while dynamic schemes will bring additional costs for the system but can change as the system status changes. A dynamic scheme is used here for its flexibility. The model has a main controller and balancers to gather and analyze the information. Thus the dynamic control has little influence on the other working nodes. The system status then provides a basis for choosing the right dynamic load balancing strategy.
The dynamic load balancing model is aimed at the public cloud which has numerous nodes with distributed computing resources in many different geographic locations. Thus this model divides the public cloud into several cloud partitions using Cloud Division Rule (CDR).

II. EASE OF USE

When the environment is very large and complex and these divisions simplify the load balancing. The cloud has a main controller is key component which controls all the balancers in a large and complex environment which is divided into number of partitions. Each partition will have one balancer each. Main controller chooses the suitable partitions for arriving jobs while the Balancer for each cloud partition chooses the best load balancing strategy. Balancer will maintain a table or cache to keep track nodes information.

the best load balancing strategy. Each balancer maintains a cache or table to keep track the status of each node in a partition. to keep track the status of each node in a partition.

III. RELATED WORK

A. Proposed System

In the proposed system shown below Fig.1 where computing is done efficiently using cloud division rule based on geographic locations nodes in the cluster may be far from other nodes and others are in same cluster based on this services are accessed dynamically to increase the performance. For efficient cloud computing and also how to manage load in a cloud and how to use the concept of cloud division strategies for the efficiency. Load balancing describes in the cloud computing environment has an important impact on the performance. Good load balancing

makes cloud computing more efficient and improves user satisfaction. This system introduces a better load balance model for the public cloud based on the cloud partitioning concept with a switch mechanism to choose different strategies for different situations. After creating the cloud partitions the load balancing starts. When a job arrives at the system with the main controller deciding which cloud partition should receive the job. The partition load balancer then decides how to assign the jobs to the nodes. When the load status of a cloud partition is normal this partitioning can be accomplished locally. If the cloud partition load status is not normal this job should be transferred to another partition.

B. Figures

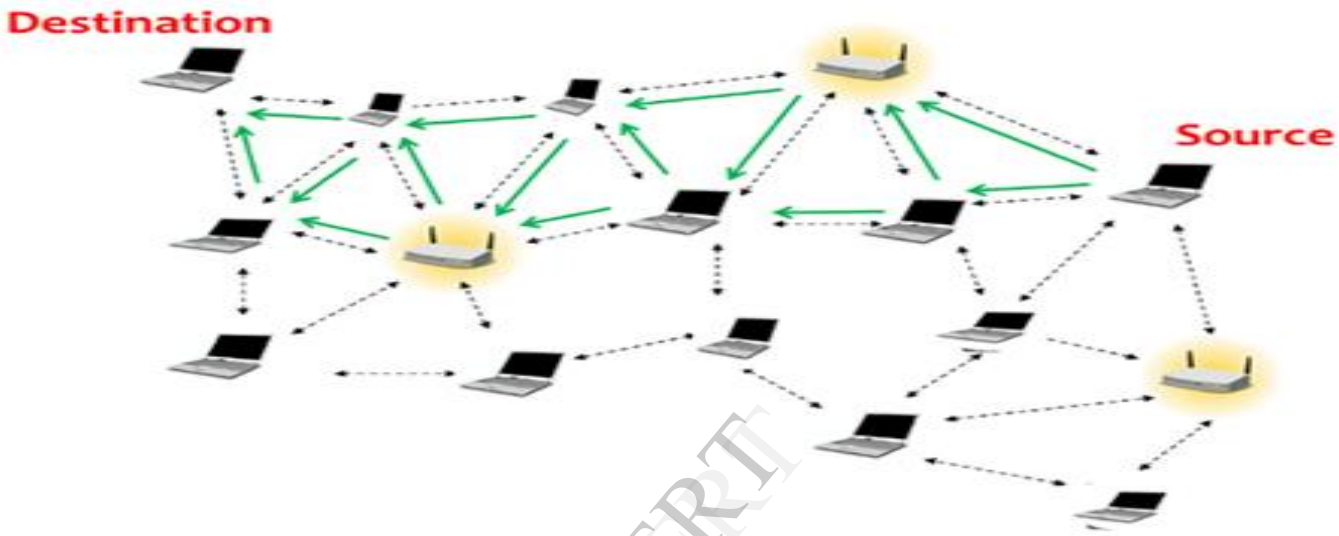

Fig. 1. System Architecture.

The proposed system will initiate CDR rule in such a way that if the geographical area selected are too big and complex. The division rule can be continued till that lead to proper load balance in a system, if the selected partition is still complex it can undergo further division so that system leads to performance stability using switch concept[2]. This dynamic load balancing system will enhance the performance by doing efficient balancing. The balancer will look for the status of each and every node in a partition so it maintains a table which is refreshing quite often and often. If any node is not working or idle can be easily keep tracked so that it can be replaced or selects other path to deliver the response for a request. Delay can also be reduced by Threshold setup by the balancer and switching concept maintains the order delivery and quick responses to service the customer request. Proposed system ensures best current status about the system anywhere and anytime which provide efficient and flexible load balancing by utilizing the resources available within the cloud environment.

Load Balancing is a method to distribute workload across one or more servers, network interfaces, hard drives, or other computing resources[3]. Typical datacenter implementations rely on large, powerful (and expensive) computing hardware and network infrastructure, which are subject to the usual risks associated with any physical device, including hardware failure, power and/or network interruptions, and resource limitations in times of high demand

A proper Load balancing in the cloud computing environment [1] has an important impact on the performance and efficiency will improves user satisfaction. Selecting best strategies is also crucial for different situations.

IV. CONCLUSION

Load balancing in cloud computing environment has an important impact on the performance. Good load balancing will make computing efficient and improves the user satisfaction. Efficient and flexible load balancing model improves in accessing resources or functionalities in the cloud environment.

V. FUTURE WORK

How to set the refresh period in the table is itself challenging since balancer is maintaining a table to keep track status of each and every node to assign incoming job to the right partition. Use of better load status evaluation

techniques and also choosing better load balancing strategies are other key research areas.

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