

# Hybrid Algorithm of Load Balancing in Public Cloud using Job Routing and Graph

Saifali Hanwat

Dept. of Computer Science & Engineering  
Smarat Asohok Tevhology  
Vdisha India

Vivek Sharma

Asst. Prof.  
Dept. of Computer Science & Engineering  
Samrat Ashok Technological Institute  
Vidisha India

## ABSTRACT

The process of cloud computing depends on the proper allocation of jobs and resources. The allocation of jobs and resource manage the balance condition of cloud computing environments..

## Keywords

Cloud Computing, virtual machine, Sharing, Coupling, DAG, Job Allocation, Resource Management, Mapping, RR, JSQ

## 1. INTRODUCTION

This all cause stack lopsidedness. For instance, continuous temperature estimations, and bank stores and withdrawals include more noteworthy CPU requests and need quick reactions. For these application assignments, the errand demands increment forcefully as the measure of client get to increments[2-3]. assets, not just planning strategies are required to address the issues of the reaction time additionally the heap must be adjusted for every asset in distributed computing [1].II in this section discuss proposed model. A proposed work in section III. Section IV describes the experimental process and result. Finally, conclusion and future work.

## 2. PROPOSED WORK

In this exposition, we will have changed the cloud stack adjusting calculation utilizing chart hypothesis and time quantum designation handle. The diagram hypothesis calculation utilized for the coupling of virtual machine. The coupling of virtual machines shares the data of underload and over-burden state of aggregate load. The chart hypothesis coupling process utilized as a part of JSQ load adjusting calculation. The coupling of Virtual machine work in time quantum calculate requirements.

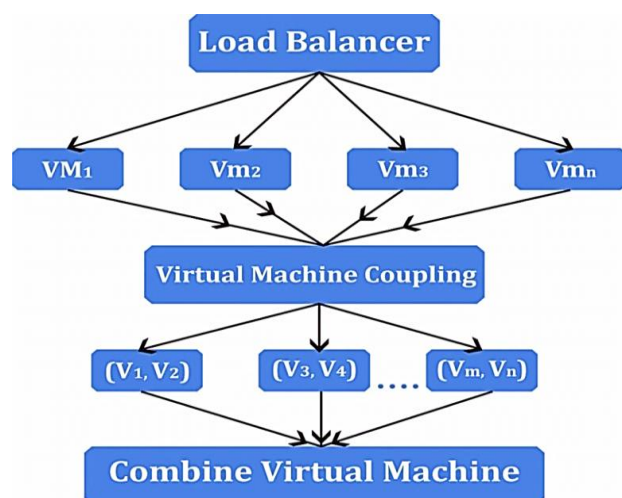


Figure 1: Proposed Model of Cloud Load Balancing based on JSQ Algorithm.machine[18]

- The shared machine consolidated the all asset and Job for the last operation of information and after that executes the procedure[5].

And at last, the procedure is ended and new demand is produced.

## 3. PROPOSED ALGORITHM

In this section discuss the proposed algorithm using the DAG graph technique for the coupling of virtual machine for the enhancement of the load balancing process in cloud environments. The DAG process mapped the all dedicated virtual machine and distributed the load task according to their possibility of execution. The process of algorithm describes in steps

1. Initially mapped the all virtual machine in DAG,  $VMS=D(V,E)$

- The mapped virtual machine creates three conditions under load, over load and ideal condition
- Compute the load of all VMs
- If Load=1;
- Select local VMs for the mapping of Job
- If no such VM then
- Break
- End if
- Create root and leaf node mapping for coupled virtual machine
- Update the condition of VMs
- Load VMs
- Load =load +1;
- All virtual machine proceeds the task
- If the load is maximum
- Transfer all VMs node as local manger
- Couple inter transfer the load
- Reset
- If load  $\leq$  VMs

## 4. EXPERIMENTAL RESULTS

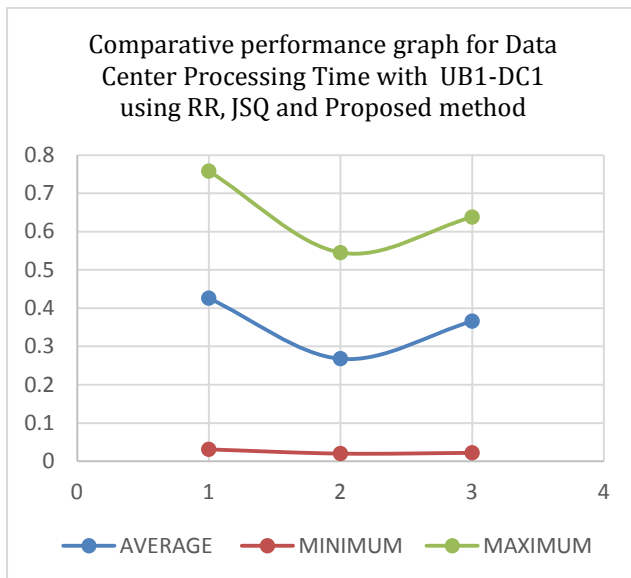
The proposed algorithm implemented to assess the execution of distributed computing systems in distributed computing situations for the heap adjust and asset administration, here we are utilizing different quantities of procedures, for example, Round Robin, JSQ and proposed strategy. For the further execution and correlation for execution assessment we utilized java

programming dialects with NetBeans IDE 8.0.1 devices for finish usage/comes about process.

TIME (MILI- SECONDS)	OVERALL RESPONSE TIME	DATA CENTER PROCESSING TIME
AVERAGE	370.256	0.426
MINIMUM	311.562	0.031
MAXIMUM	420.895	0.758

## 5. CONCLUSION AND FUTURE WORK

In this dissertation used graph based coupling technique for the sharing of load during the overload situation in job allocation process in public cloud environments. The proposed algorithm used graph based decision function for the decision of the situation of load condition in cloud environments



## 6. REFERENCES

- [1] Hoang T. Dinh, Chonho Lee, Dusit Niyato and Ping Wang "A survey of mobile cloud computing: architecture, applications, and approaches", Wireless Communications and Mobile Computing, 2013, Pp 1587-1611.
- [2] Victor Chang, Robert John Walters and Gary Wills "The development that leads to the Cloud Computing Business Framework", Cloud Computing Business Framework, 2013, Pp 1-22.
- [3] Pinal Salot "A Survey Of Various Scheduling Algorithm In Cloud Computing Environment", IJRET, 2013, Pp 131-135.
- [4] Pooja Samal and Pranati Mishra "Analysis of variants in Round Robin Algorithms for load balancing in Cloud Computing", IJCSIT, 2013, Pp 416-419.
- [5] Huankai Chen, Professor Frank Wang, Dr Na Helian and Gbola Akanmu "User-Priority Guided Min-Min Scheduling Algorithm for Load Balancing in Cloud Computing", IEEE, 2013, Pp 1-8.
- [6] Younis A. Younis, Kashif Kifayat and Madjid Merabti "An access control model for cloud computing", journal of information security and applications, 2014, Pp 45-60.
- [7] Teena Mathew, K. Chandra Sekaran and John Jose "Study and Analysis of Various Task Scheduling Algorithms in the Cloud Computing Environment", IEEE, 2014, Pp 658-664.
- [8] Alaka Ananth and K. Chandrasekaran "Cooperative Game Theoretic Approach for Job Scheduling in Cloud Computing", IEEE, 2015, Pp 147-156.
- [9] Liyun Zuo, Shoubin Dong, Lei Shu, Chunsheng Zhu and Guangjie Han "A Multiqueue Interlacing Peak Scheduling Method Based on Tasks' Classification in Cloud Computing", IEEE, 2016, Pp 1-13.