Abstract

The increased degree of connectivity and the increased amount of data has led many providers to provide cloud services. Infrastructure as a Service (IaaS) is one of the Cloud Services it provides greater potential for a highly scalability of computing resources for demand in various applications like Parallel Data processing. The resources offered in the cloud are extremely dynamic and probably heterogeneous due to this dynamic load balancing, access balancing and scheduling of job is required. To achieve this many scheme are proposed, Nephele is one of the data processing framework which exploits the dynamic resource allocation offered by IaaS clouds for both task scheduling and execution. Specific tasks of processing a job can be allotted to different types of virtual machines which are automatically instantiated and terminated during the job execution. However the current algorithms are homogeneous and they do not consider the resource overload or underutilization during the job execution this increase task completion time. This paper introduces a new Approach for increasing the efficiency of the scheduling algorithm for the real time Cloud Computing services. Proposed method utilizes the Turnaround time Utility efficiently by discerning it into a gain function and a loss function for a single task based on their priorities. Algorithm has been executed on both preemptive and Non-preemptive methods. The experimental results show that it overtakes the existing utility based scheduling algorithms and also compare its performance with both
preemptive and Non-preemptive scheduling approaches. Hence, Turnaround time utility scheduling approach which focuses on both high and the low priority jobs that arrives for scheduling is proposed.

References

- T. White, Hadoop: The Definitive Guide. O'Reilly Media, 2009
- D. Warneke and O. Kao, "Exploiting dynamic resource allocation for efficient parallel data processing in the cloud," IEEE transactions on parallel and distributed systems, vol. 22, no. 6, June 2011

Index Terms

Computer Science

Distributed Systems
Keywords
Task scheduling  Resource utilization  Cloud Computing  make-span  slope index