Abstract

Cloud computing is a new technology, which enables provisioning of resources on demand. It caters anything as service. Clients can scale up or scale down their requirements as per their demand. Load balancing is essentially, complex problem in computational cloud. A computational cloud differs from traditional high performance computing systems because of its heterogeneity among the computing nodes. In order to realize the full potential of cloud computing virtualization is widely used. Through virtualization, it is possible to meet the demands from multiple tenants, without switching on many physical nodes. In this paper, we propose Intelligent Dynamic Load Balancing (IDLB) algorithm for computational cloud. IDLB uses cloud machines, when the local processor becomes overloaded. The objective of IDLB is
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to provide fairness to all the jobs in the cloud by balancing the load between the virtual machines (VM). In this respect our algorithm uses ram size, bandwidth and image size in determining a balance threshold value of each VM for scheduling the jobs. The IDLB distributes the load evenly to all the virtual machines thus it solves the problem of load imbalance and high migration cost incurred by traditional algorithms.

References

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Index Terms

Computer Science

Cloud Computing

Keywords
Cloud Computing; Load Balancing; Heterogeneity; Virtualization; Virtual Machines