Abstract

Cloud Computing is one of the fast spreading technologies for providing utility-based IT services to its user. Large-scale virtualized data-centers are established to meet this requirement. Data centers consumes large amount of computation power for providing efficient and reliable services to its user. Such large consumption of electrical energy has increased operating cost for the service providers as well as for the service users. Moreover, a large amount of carbon dioxide is emitted, results into increased global warming in near future. From our studies we concluded that, power consumption can be reduced by live migration of the virtual machines (VM) as required and by switching off idle machines. So, we proposed a dynamic threshold
based approach for CPU utilization for host at data center. This consolidation will work on
dynamic and unpredictable workload avoiding unnecessary power consumption. We will not
only meet energy efficiency requirement but would also ensure quality of service to the user by
minimizing the Service Level Agreement violation. We would also validate the proposed
technique results with higher efficiency.

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Index Terms

Computer Science  Communication and Networks

Keywords

Energy Efficient  Green IT  Cloud computing  Live Migration  CPU Utilization  VM Selection

VM Placement