Abstract

Development in Information Technology led to the increasing necessity of computing and storage. Cloud services is one of the technologies with huge demand and hence involves more computing resources and storage. Consequently, the energy consumption by the cloud is also increasing. Cloud data centers consume large amount of energy and there by discharging carbon dioxide to the atmosphere. Dynamic efforts are put in to this research to minimize the energy consumption of data centers. This work recommends a technique for energy efficient resource management. Prior techniques do not emphasis on the variations of workloads and deficient in probing the effect of algorithms on performance. Virtual machine configuration also plays a crucial role for reducing energy consumption and resource wastage but is not given much importance. To address these weaknesses, this work recommends a novel method to map groups of tasks to customized virtual machine types. Virtual machine migration is done to stabilize the load by manipulating the load using MIPS, RAM and Bandwidth.
Reduced Energy Consumption in Cloud Computing Environment


Index Terms
Computer Science Distributed Systems

Keywords
Cloud computing, datacenters, energy consumption, Virtual machine migration, Bandwidth utilization