Abstract

Cloud Computing became an optimal solution for business customers to maintain and promote their business needs to clients via cloud services like IaaS, SaaS, and PaaS. On-Demand and pay-per-use scale up methodologies attracted organizations for cloud adoption and migration. Due to the increased demand for cloud services from users, Efficient Resource Management in cloud computing become an important task. In order to achieve resource multiplexing in cloud computing, recent researches were introduced dynamic resource allocation through virtual machines. Existing dynamic approaches followed un-evenness procedures to allocate the available resources based on current workload of systems. Unexpected demand for huge amount of resources in future may cause allocation failure or system hang problem. In this paper we present a new systematic approach to predict the future resource demands of cloud from past usage. This approach analyzes the resource allocation logs of virtual server, SLA agreements and follows the resource prediction algorithm to estimate future needs to avoid allocation failure problem in cloud resource management. Experimental results are supporting our strategy is more scalable and reliable than existing approaches.
Predicting Future Resource Requirement for Efficient Resource Management in Cloud


Index Terms

Computer Science

Distributed Systems

Keywords
Dynamic resource allocation  Cloud computing  Resource Prediction Algorithm  Virtual Cloud Servers