

A Proposed Load Balancer Using Naïve Bayes to Enhance Response Time on Cloud Computing

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Abstract— Cloud computing is a modern technology that brings challenges to all organizations worldwide. Response time is one of the most important challenges that cloud computing are facing. Improving response times for user requests is a big issue that can help reduce bottlenecks in cloud. With rapid growth as the number of applications grows, leading to the number of accessing the cloud is also rapidly increasing, easily cause the overload. This paper proposes an improvement using application of Naïve Bayes algorithm (based on Bayes theorem on probability theory to make judgments as well as classify data based on observed and statistical data) to improve the response time of VMs in the cloud, enhance the performance of cloud and cloud infrastructure. This new proposal is named as RCBA (Response Time Classification with Naive Bayes Algorithm). We simulated this proposed RCBA algorithm with the CloudSim engine and the result has improved from 4 popular load balancing algorithms: Round-Robin, FCFS, MaxMin and MinMin.

Keyword— Load balancing, response time optimization, cloud computing



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