

# A Fuzzy-Based Dynamic Load-Balancing Algorithm

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## Abstract

Many dynamic load-balancing algorithms have been proposed for parallel and discrete simulations. But the actual performances of these algorithms have been far from ideal, especially in the heterogeneous environment. In this paper, we design and implement a load-balancing system based on fuzzy logic control. The fuzzy algorithm has been implemented in a loosely coupled distributed system. On-line of workload measure has been addressed herein as being the load information policy, negotiation policy, and migration policy. The experimental results indicate that the fuzzy-based load-balancing algorithm not only effectively reduces the amount of communication messages but also provides considerable improvement in overall performance such as short response times, high throughputs, and short turnaround times.

Keyword : Fuzzy Logic Control, Dynamic Load Balancing, Distributed Computing System.