Abstract

Task scheduling & load balancing in distributed network are the most challenging research area in computer science. In distributed systems, scheduling mechanism has more issues as there is no centralized authority to allocate the workload among multiple processors. Further, handling both load balancing and scheduling at hand is a daunting task. In this paper, we propose a fuzzy based load balancing and task scheduling technique to optimize the performance of distributed system. Initially, clusters are formed and node with larger buffer availability and high CPU speed is elected as cluster head. Tasks are prioritized into flexible and non-flexible using task prioritizing strategy. Non-Flexible tasks are prioritized over flexible tasks. For non-flexible tasks, essential information of nodes such as CPU speed, work load and distance from cluster head are made pass through the fuzzy system. Node state is obtained as output. Based on states of node, non-flexible tasks are allocated. Our technique dynamically handles scheduling and load balancing at hand. We use simulation results to prove efficiency of our technique.

References


17. NetworkSimulator:http://www.isi.edu/nsnam/ns
Index Terms

Computer Science

Distributed Systems

Keywords

Distributed Computing, Fuzzy Logic, Load Balancing, Task Scheduling.