Abstract

Distributed systems are characterized by resource multiplicity and system transparency. A variety of widely differing techniques and methodologies for scheduling processes of a distributed system have been proposed. These techniques are broadly classified into three types: task allocation approach, load balancing, load sharing. The main goal of load balancing is to equalize the workload among the nodes by minimizing execution time, minimizing communication delays, maximizing resource utilization and maximizing throughput. The scheduling in distributed system is NP-complete problem even in best conditions, and methods
based on heuristic search have been proposed to obtain optimal and suboptimal solutions. This paper presents a new concept for process scheduling in distributed system considering load balancing. In this paper, using the power of genetic algorithms we have shown how to perform load balancing efficiently.

Reference


Index Terms

Computer Science

Communications

Key words

Distributed systems

load balancing

genetic algorithm

scheduling