Abstract

The common problem of multiprocessor scheduling can be defined as allocating a task graph in a multiprocessor system so that schedule length can be improved. Task scheduling in multiprocessor system is a NP-complete problem. A number of heuristic methods have been cultivated that achieve partial solutions in less than the minimum computing time. Genetic algorithms have obtained much awareness as they are robust and provide a good solution. In this paper, genetic algorithm based on the principles of evolution to obtain an optimal solution for task scheduling is developed. Genetic algorithm is based on three operators: Natural Selection, Crossover and Mutation. The simulation results prove that the method proposed generates better results.
Task Scheduling in Parallel Systems using Genetic Algorithm

- Rizos Sakellariou and Viktor Yarmolenko, "Job Scheduling on the Grid: Towards SLA-Based Scheduling&quots;.
- Jim Blythe, Sonal Jain, Ewa Deelman, Anirban Mandal, and Ken Kennedy "Task Scheduling Strategies for Workflow-based Applications in Grids".

Index Terms

Computer Science

Algorithms

Keywords

Parallel computing  Heterogeneous system  Task scheduling  Task duplication  Schedule length and Load balance.