A survey : particle swarm optimization-based algorithms for grid computing scheduling systems.

ABSTRACT

Bio-inspired heuristics have been promising in solving complex scheduling optimization problems. Several researches have been conducted to tackle the problems of task scheduling for the heterogeneous and dynamic grid systems using different bio-inspired mechanisms such as Genetic Algorithm (GA), Ant Colony Optimization (ACO), Particle Swarm Optimization (PSO). PSO has been proven to have a relatively more promissing performance in dealing with most of the task scheduling challenges. However, to achieve optimum performance, new models and techniques for PSO need to be developed. This study surveys PSObased scheduling algorithms for Grid systems and presents a classification for the various approaches adopted. Meta task-based and workflow-based are the main categories explored. Each scheduling algorithm is described and discussed under the suitable category.

Keyword: Particle Swarm Optimization (PSO); Grid computing; Scheduling.