Abstract

Grid computing is a distributed computing taken to next evolutionary level. In this work, a static methodology has been adopted for defining the weights of the computational tasks and communicating edges. Also, we defined the execution time (makespan) as the total time between the finish time of exit task and start time of the entry task in the given Directed Acyclic Graph (DAG). The algorithm has been implemented for evaluation of time and cost of different
random task graph or DAG of different graph size. Also, the algorithm has been executed in a
grid of heterogeneous cluster of different sizes with four resources in each cluster. The primary
work is to find the primary scheduling i.e., total execution time and total cost with little or no
changes in primary scheduling. We have proposed an efficient scheduling algorithm, which
optimize the makespan and economic cost of the schedule and minimize the requirements of
processors. The algorithm has been implemented to schedule different random DAGs onto
different grids of heterogeneous clusters of various sizes.

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Index Terms

Computer Science Distributed Computing

Keywords

Dag Grid Makespan Workflow