Abstract

Cloud Computing refers to a paradigm whereby services are offered via internet using pay as you go model. Services are deployed in data centers and the pool of data centers is collectively referred to as “Cloud”. Data centers make use of scheduling techniques to optimally allocate resources to various jobs. Different scenarios require different scheduling algorithms. The selection of a particular scheduling algorithm depends upon various factors like the parameter to be optimized (cost or time), quality of service to be provided and information available regarding various aspects of job. Workflow applications are the applications which require various sub-tasks to be executed in a particular fashion in order to complete the whole task. These tasks have parent child relationship. The parent task needs to be executed before its child task. Workflow scheduling algorithms are supposed to preserve dependency constraints implied by their nature and structure. Resources are allocated to various sub-tasks of the original task by keeping into account these constraints. In this paper, various workflow scheduling algorithms have been surveyed. Some algorithms have been found to optimize cost, some have been found to optimize time, some focuses on reliability, some focuses on availability, some focuses on energy efficiency, some focuses on load balancing or some focuses on a combination of these parameters. A lot of work has already been done in the area of workflow scheduling but still, we feel that there is a need and lot of scope in applying other
optimization techniques, like intelligent water drops, to schedule workflow applications.

References

A Survey of Workflow Scheduling Algorithms and Research Issues


Index Terms

Computer Science Algorithms

Keywords

Cloud computing workflow applications workflow scheduling algorithms intelligent water drops based algorithm