Abstract

High Performance Computing (HPC) applications are those that are highly compute and data intensive. They require supercomputers for their execution. Currently the interest in HPC in the cloud has been growing. Cloud computing allows scientists to access supercomputing like features in a pay per use fashion. HPC applications can be represented as workflows because of the existence of dependencies among individual nodes. Scheduling of workflow applications involves mapping of the workflow tasks to individual computing units as the tasks are compute intensive. The schedules should be generated by considering the precedence constraints among the dependent tasks. Minimization of makespan is an important constraint while scheduling workflows. This paper proposes a cluster based scheduling of workflow applications for minimizing the total makespan.
Cluster based Scheduling of Workflow Applications in Cloud

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Index Terms
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