عنوان مقاله:

Stability Assessment Metamorphic Approach (SAMA) for Effective Scheduling based on Fault Tolerance in Computational Grid

نویسندگان:

a Shamila Ebenezer - *Department of Computer Science and Engineering, Karunya University, Coimbatore, India*

k Baskaran - *Department of Computer Science and Engineering, Government College of Technology, Coimbatore, India.*

خلاصه مقاله:

Grid computing allows coordinated and controlled resource sharing and problem solving in multiinstitutional,dynamic virtual organizations. Moreover, fault tolerance and task scheduling is animportant issue for large-scale computational grid because of its unreliable nature of grid resources.Commonly exploited techniques to realize fault tolerance is periodic checkpointing that periodically saves the job's state. But an inappropriate checkpointing interval prevails to delay in the job execution, and reduces the throughput. With that concern, this paper endeavors to ensure better performance oncomputational grid with more effective and reliable fault tolerant system using a novel Stability Assessment Metamorphic Approach (SAMA). Here, the strategy used to attain fault tolerance is by adapting the checkpoints depending on the current status and past failure information about theresources dynamically, which is being maintained in the information server. The effective scheduling process can be achieved by fault tolerance based scheduling that involves the determination of deviation rate of all nodes using some high-stability assessment constraints. This evinces the job to beaccomplished within the deadline with improved throughput and paves a way for making the grid environment trustworthy.

کلمات کلیدی:

Checkpointing,Grid Computing,Fault Tolerance,Recovery Rate,Scheduling

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