Abstract

Grid being a collection of heterogeneous resources connected through network, to execute complex jobs with high processing power requirements, is more vulnerable to faults. Faults may affect the performance and QoS of Grid. Faults are dealt with either avoiding them or recovering them by either re-execution or by resuming the execution from the point of failure by using the checkpoints. The various fault tolerance techniques use resource management, job scheduling services combined with checkpointing scheme. Different techniques targets different kind of faults and have their respective advantages and limitations. In this paper we have analyzed various faults, fault tolerance approaches and techniques. Finally different techniques have been evaluated based on resource utilization, redundancy, execution time and checkpointing overhead.

References

Comparative Analysis of Fault Tolerance Techniques in Grid Environment

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Index Terms

Computer Science  Distributed Computing

Keywords

Fault Tolerance  Resource Management  Job Scheduling  Checkpointing  Replication