

网络、通信与安全

基于ECT的优先权约束作业调度策略研究

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摘要 为了协调网格计算中异构资源在多用户之间的合理共享, 满足不同用户需求, 该文提出一种基于ECT的优先权约束作业调度策略。该策略充分考虑不同作业的期望完成时间, 并通过为不同级别用户设置优先级, 使得高优先级用户的作业优先执行, 保证绝大多数作业在期望完成时间之内完成, 同时平衡了各种资源的利用率。该策略解决了网格环境下不同类别用户无冲突共享资源问题, 提高了用户满意程度, 实现了作业与异构资源之间的合理匹配。

关键词 [网格计算](#) [调度](#) [优先权](#) [资源共享](#)

分类号

Research on ECT based priority constrained job scheduling algorithm

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Abstract

In order to share heterogeneous resources rationally among multi-users in grid computing to meet the demands of different users, this article presents an ECT (Expected Completion Time) based priority constrained job scheduling algorithm. By fully considering the expected completion time of different jobs and setting priority weights to different types of users, this algorithm can guarantee jobs belonging to users with high priorities to be dealt with preferentially, ensure most jobs to be completed within their expected completion time, and balance the using rates of different resources. This algorithm can resolve the problem of sharing resources without conflicts among different users in grid environment, enhance the satisfaction extent of applications, and find a rational mapping between submitted jobs and heterogeneous resources as well.

Key words [grid computing](#) [scheduling](#) [priority](#) [resource sharing](#)

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