

A Compound Scheduling Strategy for Irregular Array Redistribution in Cluster Based Parallel System

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Abstract

With the advancement of network and techniques of clusters, joining clusters to construct a wide parallel system becomes a trend. Irregular array redistribution employs generalized blocks to help utilize the resource while executing scientific application on such platforms. Research for irregular array redistribution is focused on scheduling heuristics because communication cost could be saved if this operation follows an efficient schedule. In this paper, a two-step communication cost modification (T2CM) and a synchronization delay-aware scheduling heuristic (SDSH) are proposed to normalize the communication cost and reduce transmission delay in algorithm level. The performance evaluations show the contributions of proposed method for irregular array redistribution.

Keyword : cluster