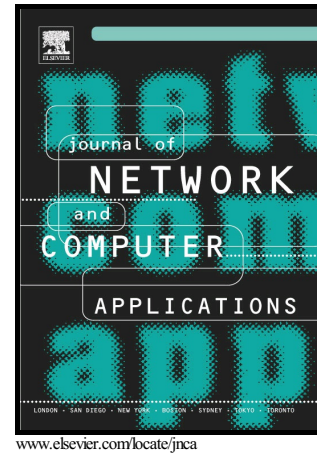


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Yu Xin, Ya-Di Wang, Zhi-Qiang Xie, Jing Yang



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A Cooperative Scheduling Method based on the Device Load Feedback for Multiple Tasks Scheduling

Yu Xin^{a,*}, Ya-Di Wang^a, Zhi-Qiang Xie^a, Jing Yang^b

^aCollege of Computer Science and Technology, Harbin University of Science and Technology, Heilongjiang, 150001, China

^bCollege of Computer Science and Technology, Harbin Engineering University, Heilongjiang, 150001, China

Abstract

With the development of cloud computing, the traditional Star Scheduling System with solo scheduler can not meet the requirement of distributed system. Thus, we designed a scheduling method, which can be applied into multi-scheduler system, denoted by MTDR (Multi Task Dynamic-Rank scheduling method). For the issue of device confliction in multi-scheduler system, we design the following scheduling principle: the devices feedback their load state to schedulers to control the successive scheduling process. For the device load modeling, we utilize time window method to predict the device's load state, denoted by LSF (Load State Feedback model). When the schedulers deal with the task slices, the device load state is considered. We performed experiments on the arrival time test, device dependence test, task structure test, CCR (communication computation ratios) test, Devices Set test. By experimental comparison, the effectiveness and rationality of the proposed method is verified.

Keywords: load balancing, task scheduling, multi-scheduler, dynamic rank

1. Introduction

With the development of communication technology, the traditional single host system has begun converting into distributed system. And many

*Corresponding author

Email addresses: xinyu@hrbeu.edu.cn (Yu Xin), 1256005345@qq.com (Ya-Di Wang), xiezhiqiang@hrbust.edu.cn (Zhi-Qiang Xie), yangjing@hrbeu.edu.cn (Jing Yang)

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