

研发、测试

基于Linux内核的实时调度机制研究及应用

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摘要 在实时系统中, 任务调度策略是内核设计的关键部分, 如何进行任务调度, 保证各个任务能按要求完成是实时操作系统研究的一个重要领域。针对RT-LINUX调度器在系统负载较重或过载时调度性能急剧下降的缺点, 提出了一个基于价值调度的可适应算法以较少的最后期限错失来达到一个高的系统价值。根据它的两个执行标准“价值比率”和“成功比率”评估该调度程序的仿真和应用。

关键词 [Linux](#) [实时操作系统](#) [价值](#) [截止期限](#) [RT-Linux](#)

分类号

Study and implementation of real-time scheduling mechanism based on Linux kernel

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Abstract

In the real time system, the task scheduling strategy is the important part of the kernel design. How to process the task scheduling and make sure the task can complete is the important domain in the real-time operating system research. According to the shortcoming in view of the RT-LINUX scheduler when the system near the load or the overload which the performance suddenly drops, an adaptive value-based scheduler is proposed to achieve a high system value by the less deadlines miss. It can be evaluated the performance of the proposed scheduler in terms of two performance metrics, namely, “value ratio” and “success ratio” through both simulation and implementation.

Key words [Linux](#) [real-time operating system](#) [value](#) [deadline](#) [RT-Linux](#)

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