Energy Efficient Task Scheduling and Data Allocation Strategy in Heterogeneous Environment with Real Time Constraints

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Abstract

In this paper, we concentrate on the problem of high Energy consumption in heterogeneous environment regarding data allocation scheme in distributed database and task scheduling policies in real-time system. We will focus on soft real time system application having if any deadline is missed then time penalty is occurred. Here we will combine both shared memory as well as in-memory database concepts in heterogeneous database environment. Basically in our paper we will concentrate on try to perform task within deadline having various type of databases responsible to store data. An important problem is how to assign processors to real-time application tasks, obvious here basically concentrate on real time scheduling strategy. As per studied that algorithm concentrate on EDF algorithm having preemptive nature. When higher priority transaction currently going to allocate processor and execute that transaction but another transaction is most needful to execute primary so using preemptive scheduling policy try to overcome that type of problem. Here global index is maintain into the local cache that is responsible to fast search particular server where that result is available and try to give response within time constraint and the total system energy consumption can be minimized. In this paper concentrate on replicas of databases due to this when any specific system crash then able to restore that database.

- Prof. Kasim M. Al-Aubidy, "Classification of Real Time Systems," Computer Engineering Department, Philadelphia University, Summer semester, 2011.

Index Terms

Computer Science

Information Sciences

Keywords

Distributed System  Shared Memory DB  In-Memory DB  Global Index  RTOS
RT Scheduling Algorithm.