Deferrable Server

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*Abstract*—This paper introduces Deferrable Server algorithm which is to improve aperiodic response time. It assigns higher priority aperiodic task to be completed by delaying the completion time of periodic task, so that the deadline for aperiodic tasks are met. Real-time system has both aperiodic and periodic tasks This paper also explains how deferrable server give impacts to aperiodic jobs compared to polling server. Since aperiodic tasks can arrive at any time, deferrable server is one of many ways to optimize a schedule with aperiodic task.

# Introduction (*Heading 1*)

In the 21st century, the world full of advanced technology, people keep doing new inventions and innovations, so that every job or task will be eased to handle. In real time systems, an integrated and consistent approach to scheduling is required, so that enable to meet the time requirements of periodic task. The scheduling algorithm is created and applied either to periodic tasks or aperiodic tasks but not for both. Deferrable Server algorithm is an algorithm for aperiodic tasks that can improve aperiodic time response performance during scheduling process.

# General idea of deferrable server

## Definition

It is a simplest bandwidth-preserving server that improves response time of aperiodic jobs as compared to polling server.

## What is bandwidth-preserving algorithms

A bandwidth-preserving algorithms provide a mechanism for preserving the resource bandwidth (server capacity) allocated for aperiodic service. Similar in spirit but differ in the way, their server capacity is replenished or preserved. The bandwidth-preserving approaches provide improved response times for aperiodic tasks. The examples of bandwidth-preserving algorithms are:

* Deferrable Server
* Priority Exchange Algorithm
* Extended Priority Exchange Algorithm
* Sporadic Server

# periodic & aperiodic tasks

Before going deeper about what does Deferrable Server do to aperiodic tasks , it is better to really know what is exactly a periodic task and an aperiodic tasks. Tasks is basically a job run by a system.

## Periodic tasks

Define abbreviations and acronyms the first time they are used in the text, even after they have been defined in the abstract. Abbreviations such as IEEE, SI, MKS, CGS, sc, dc, and rms do not have to be defined. Do not use abbreviations in the title or heads unless they are unavoidable.

## Aperiodic tasks or Non-periodic task

* Use either SI (MKS) or CGS as primary units. (SI units are encouraged.) English units may be used as secondary units (in parentheses). An exception would be the use of English units as identifiers in trade, such as “3.5-inch disk drive”.
* Avoid combining SI and CGS units, such as current in amperes and magnetic field in oersteds. This often leads to confusion because equations do not balance dimensionally. If you must use mixed units, clearly state the units for each quantity that you use in an equation.
* Do not mix complete spellings and abbreviations of units: “Wb/m2” or “webers per square meter”, not “webers/m2”. Spell out units when they appear in text: “. . . a few henries”, not “. . . a few H”.

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# What does deferrable server do

Deferrable Server creates a periodic server task of Capacity Cds and Period Tds. The priority to the server is assigned according to the rate-monotonic scheduling algorithm. In general, period of the server is chosen in a way that it becomes the highest priority task. The Deferrable Server(DS) maintains its aperiodic execution time for the duration of the server’s period,

# schedulability analysis

# dimensioning a deferrable server

# aperiodic guarantee

# example or application of deferreable server in real time system

##### Affidavit *(Heading 5)*

The preferred spelling of the word “acknowledgment” in

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