Abstract

Real time system is the system where data should be processed in time. The real time data is stored in real time database within the specified time interval. This time interval is called as validity time interval [1],[2]. The validity of real time data is maintained using different scheduling algorithms. The process of maintaining the validity of real time data is done by using several update transactions. The appropriate scheduling algorithm is used to schedule the number of update transactions. The different algorithms used to maintain the validity of real time data are Earliest deadline First (EDF), Deferrable scheduling with Earliest Deadline First (DS-EDF), Deferrable scheduling with Least Actual Laxity First (DS-LALF) [3],[4],[5]. The real-time data stored in real-time database is compared with some predefined value [8]. If the stored data value is not equal to the predefined value then control transactions are generated. Therefore update and control transactions are needed to be scheduled in such a way that both the transactions meet their deadline constraints. In literature the CO-Scheduling with Least Actual Laxity First (CO-LALF) algorithm is used to schedule update and control transactions [5]. After studying different algorithms we need to propose the CO-scheduling with Deferrable scheduling with Earliest Deadline First algorithm (CO-DSEDF) to schedule the update and control transactions. DS-EDF and DS-LALF give high priority to update transactions [4],[5]. So quality of data is maximized [4]. To maximize the quality of data & the quality of control
coscheduling algorithms CO-DSEDF & CO-LALF are used. These algorithms are used to schedule update & control transactions. So quality of data and quality of control are maximized [5]. We worked out different problems to compare the performance of CO-DSEDF with CO-LALF. We have checked the feasibility of the scheduling algorithms for various scheduling problems to maintain the data freshness. We also present the estimation of processor utilization and context switching for CO-DSEDF & CO-LALF.

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Index Terms

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Keywords
Validity time  real-time database  Data freshness  CO-Scheduling  update and control transactions
response time