Abstract

This paper analyzes the correctness of Multiversion Concurrency Control (MVCC) algorithms that are commonly deployed in Real-time Databases. Database systems for real-time applications must satisfy timing constraints associated with transactions. Typically, a timing constraint is expressed in the form of a deadline and is represented as a priority to be used by schedulers. MVCC Algorithms used here makes use of a specialized version of Serialization Graph, Called MultiVersion Serialization Graph (MVSG) to resolve data conflicts to maintain the serialization order among conflicting transactions. Using MVSG, MVCC algorithms can determine which lower priority transactions should be aborted to avoid deadlocks.

Reference

Analysis of Real-Time Multiversion Concurrency Control Algorithms using Serialisability Graphs


Index Terms

Computer Science
Databases

Key words

Transaction
Multiversion

Schedule
Serialisable