Week 3: Discussion Forum Post 2

Instructions

Respond to the Discussion Question posted by your instructor below and then respond to at least two peer's posts (by Sunday before Midnight).

The concept of locking is described in Chapter 9 (pp. 262-266). Aside from the issue of deadlocks, do you think this concept of locking would help increase information security in a database? Why or why not? Briefly discuss your point.

Hello everyone,

Locks occur when a process accesses a piece of data where there is a possibility that another concurrent process also needs that data at the same time. When performing the data lock, it is guaranteed that the operation will act as expected, such as a select without using NOLOCK, or inserts, updates, and deletes. The lock guarantees that, when the query is executed, no information covered by it will be changed by another process that uses the data involved in that query.

Locks are normal and important; it is the mechanism used by DBMSs to protect data integrity during transactions. Depending on infrastructure and application characteristics, thousands of locks per second can occur in a database.

An analogy for the lock would be a red light at an intersection.

A deadlock occurs when a process enters the block and waits for a second process to complete its work and release the locks, while the second process at the same time enters the block and waits for the first process to release the lock, that is, there is a dependency cross between them, which will never be resolved.

Deadlocks are considered a critical situation in the database world because processes are being killed automatically. Deadlocks are resolved by the DBMS and do not need manual intervention.

Deadlocks can and should be avoided by analyzing the situations in which deadlocks occur, understanding the reasons, and correcting the schedule or process.

The analogy for deadlocks is an intersection with no traffic light, where everyone tries to pass at the same time, and no one succeeds because one crashes the other.

Fernanda Abad

Hi Anderson,

Thank you for your explanation, I would also like to mention that when the transaction imposes the lock on an object, all other transactions that require access to that object will be forced to wait until the lock is released and that wait will be registered with the adequate wait type.

Fernanda Abad

Hello Ibrahim,

The impact of a deadlock on end-users is a mixture of confusion and frustration. Retry logic is useful but having to retry a transaction results in longer response times for the end-user. This causes the database to be seen as a performance bottleneck and puts pressure on the DBA and application teams to track down the root cause and fix the problem.

Fernanda Abad