Abstract

Distributed database system provides resource sharing environment for optimal performance of various database activities, especially when data is spread over a large number of sites. Distributed nature of transactions occurring at different sites and requiring resources from diverse sites pose various operational problems, such as deadlocks, concurrency and data recovery. A deadlock may occur when a transaction enters into wait state which request resource from other blocked transactions. The deadlocks are handled in three phases namely deadlock detection, deadlock avoidance and deadlock detection. Various algorithms have been discussed in the literature for deadlock detection and resolution. These algorithms quite often fail to detect deadlock over distributed database. In this paper an attempt has been made to develop an algorithm for distributed deadlock detection at local and global levels. The author have developed local transaction structure to deal with deadlock at local level and distributed transaction structure at global level.

References

Deadlock Detection Techniques in Distributed Database System

- Mehdi Hashemzadeh, Nacer Farajzadeh, Abolfazl T. Haghighat, "Optimal Detection and Resolution of Distributed Deadlocks in the Generalized Model"; 14th Euromicro International Conference on Parallel, Distributed, and Network-Based Processing (PDP&amp;apos;06), pp. 133-136, 2006
- Nacer Farajzadeh, Mehdi Hashemzadeh, Morteza Mousakhani, Abolfazl T. Haghighat, An Efficient Generalized Deadlock Detection and Resolution Algorithm in Distributed Systems, Fifth International Conference on Computer and Information Technology (CIT&amp;apos;05), pp. 303-309, 2005

Index Terms

Computer Science
Database Systems
Keywords
Wait-For-Graph  Deadlock  Local Transaction Structure  Global transaction
Structure  Distributed  database system