Abstract

As the need of distributed processing increases, the complexity in handling of deadlocks also increases. In distributed databases, the conditions for the deadlocks are same as that in centralized but harder to detect, avoid and prevent. Therefore special procedures are required to resolve the deadlock. In this paper we propose a new distributed deadlock detection and recovery algorithm that not only detects deadlock but also resolve them efficiently by aborting less number of transactions. We also present comparative analysis of the proposed algorithm and observed that the proposed algorithm reduces the number of transactions that are to be aborted to resolve the deadlocks, thus improving the performance of the system.

References

Deadlock Detection and Recovery in Distributed Databases

- Kawazu S., Susumu M., Menji I. and Kastumi T., "Two-Phase Deadlock Detection Algorithm in Distributed Databases", International Conference on Very Large Databases (VLDB) 1979 360-367.
- Olson A. G. and Evans B. L., "Deadlock Detection for Distributed Process Networks", in ICASSP, 2005, pp. 73-76.

Index Terms

Computer Science
Operating Systems
Keywords

Distributed databases  deadlock detection and recovery  transaction  wait-for-graph

transaction queue

linear transaction structure

distributed transaction structure

transaction manager