Concurrency Control in Distributed Database System

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1 ABSTRACT:

This paper reviews the coverage of concurrency control in Distributed networks. A distributed network becomes more popular, the need for improvement in distributed database management systems becomes even more important. The main challenges are identified as: (1)Preserving the ACID property atomicity, consistency, isolation, and durability property when concurrent transactions perform read and write operation; (2) providing recovery method when distributed data fail; (3)whatever method that is chosen they must provide feasible solutions with respect to performance. Keywords: Distributed Database, Distributed Design, Fragmentation, Replication, Allocation, Concurrency control, Transaction

1.1 INTRODUCTION:

requirement for secure, dependable, and open data in the present business climate, the requirement for conveyed information bases and customer/server applications is additionally expanding. A dispersed information base is a solitary coherent data set that is spread truly across PCs in different areas that are associated by information correspondence joins. A conveyed data set is a sort of virtual data set whose part parts are truly put away in various particular genuine data sets at various unmistakable areas. The clients at any area can get to information anyplace in the organization as though the information were completely put away at the client's own area. An appropriated information base administration framework is the product that deals with the Distributed Databases and gives an entrance component that makes this dispersion straightforward to the client. The goal of a circulated data set administration framework (DDBMS) is to control the administration of a disseminated data set (DDB) so that it appears to the client as a unified information base. This picture of a unified climate can be cultivated with the help of different sorts of straightforwardness like Location Transparency, Performance Transparency, Copy Transparency, Transaction Transparency, Transaction Transparency, Fragment Transparency, Schema Change Transparency,

and Local DBMS Transparency. Simultaneousness control is additionally a significant issue in data set frameworks. Simultaneousness control is the method involved with organizing simultaneous admittance to a data set in a multi-client information base administration framework (DBMS). There exist various strategies that give simultaneousness control. A portion of the strategies are Two-stage locking, Timestamping, Multi-adaptation timestamp, and so on.

1.2 MOTIVATION:

There are various business conditions that encourage the use of distributed databases: Data communications costs and reliability: If the data is geographically distributed and the applications are related to these data, it may be much more economical, in terms of communication costs, to partition the application and do the processing at each site. On the other hand, the cost of having smaller computing powers at each site is much less than the cost of having an equivalent power of a single mainframe.