A SCHEME FOR DEALING WITH FRAGMENTED AND REPLICATED DATA CONSISTENTLY

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Abstract

In a distributed database system, data are often replicated and fragmented to improve performance and availability. By storing copies of shared data on processors where they are frequently accessed, the need for expensive, remote access is decreased and they should be backed up critical data with failure modes.

Two phase commit(2PC) based methods are widely used but result in heavy transaction activity that can nearly bring the network down by the sheer volume of messages sent between many distributed sites. There exist several important factors to be considered; The first factor is the communication failure between sites containing copies of the same logical data item, The second is the mutual consistency between copies to be ensured, and partition failure cases are the third one.

In this paper we propose a point of view, at first, to deal with the fragmented and replicated data, and will survey various replica control algorithms, then will suggest a new scheme with its performance analysis.

KEYWORDS: FRAGMENT AND REPLICATION CONTROL PROTOCOL, TWO PHASE COMMIT, VOTING, QUORUM, DIFFERENTIAL UPDATE