**عنوان مقاله:**

A Critical Look at Distributed Database Management System

**نویسنده:**

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**خلاصه مقاله:**

In this paper, the evolution of distributed database management system (DDBMS) is given a critical look. DDBMS do exist since the inception of data storage and retrieval facilities. However, distribution of database and system management takes different forms for different types of computing systems and the available networking facilities. In a heterogeneous system, diversities in computing facilities, operating systems if any, and tools pose a challenge for maintenance of standards. DDBMS predominantly considers two types of architecture: (i) client-server and (ii) collaborative. One of the most important components of DDBMS is query operator. This operator should be optimized for an objective function dependent on weighted sum of I/O cost and network transfer cost. Many optimizers have been proposed for query optimization. Simulation results show that, multi-level optimizers are more efficient than centralized optimizers. As DDBMS reaches a matured state for a particular configuration new technologies aided by DDBMS emerge. Some of the recent emerging technologies are: grid services, cloud services and internet of things. These new technologies pose new challenges for DDBMS. Various toolkits and simulators for DDBMS are reviewed. These include data mining and data warehousing strategies. Remedial measures with a goal of providing high reliability in case of network failures provide an impetus to this emerging research area of DDBMS. Strategies for efficient copying of data at different locations that prevents mutation and deadlock are suggested by many researchers. An efficient DDBMS provides many advantages e.g. easy data sharing, greater reliability, uniform load distribution over the network. Presently, DDBMS suffers from security and privacy issues demanding attention of the researchers.

**کلمات کلیدی:**

database, distributed, management, security, privacy