

Abstract

Along with the growing of bussiness and data management needs, require a reliable database management technique that could be implemented in effective and efficient way for all environment condition. Hence, came an idea of making grid database which inspired by the concept of grid computing.

Distinguished from conventional distributed technique by its focus on flexibility of large-scale resource sharing, grid enables server and storage resources to be added or removed from the system without requiring complicated configuration changes. In this such dynamic environment, some database parameters which are needed in query-subquery processing may be inaccurate and changed during the process in grid database. So we need a query-subquery processing schema that could be adaptive to the grid database environment. For this reasons, the paper brings forward a subquery processing model caled VO (virtual organization). Processing in VO schema decomposed query (here after just called global query) into local query (called subquery) and assign the certain subquery to certain node to be finished. Finally, the paper tests the schema through experiment to see if it is match for the dynamic grid database environment. Herein, the paper uses availability data, reliability, and query-subquery execution time parameter for analyzing VO's tolerancy in each grid node failure scenario.

Keywords: *grid database, grid, vo, virtual organization, subquery, virtualization.*