Enhancement of a Data Warehouse Performance using Association Rules Technique

Abstract

The data warehouse holds information management and turns it into meaningful management information, from which, very interesting patterns can be discovered by applying knowledge discovery process. As the update of the Data Warehouse is not too frequent, it is possible to improve query performance while storing the data retrieved by them in a cache. However, the
most powerful systems have a small capacity to store the entire database in memory cache. The caching chunks technique is designed to keep in cache the query results in the form of chunks of values, instead of storing them in large tables. In this paper, we propose a new technique for caching multidimensional queries based on association rules. Using this technique will allow all users to enjoy the benefits of Data Warehousing in the best manner, and also to improve performance and also increase the use of the system while reducing the response time. The technique is build using an architecture comprising a data warehouse, a memory cache on the server and a one on each user's machine, in which the association rules and query results are stored. These results are kept in the form of chunks to enjoy all the advantages of the technique of fragmentation into chunks. This approach has been implemented and tested over a real huge data followed by displaying the results and analyzes.

Reference


**Index Terms**

Computer Science                Business Intelligence

**Key words**

Data Warehouse                  Data Mining                OLAP
Association Rules               Cache based on chunks