



PRIORITY BASED REPORTING TOOL FOR BUSINESS INTELLIGENCE

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Keywords: OLTP: online transaction system; OLAP: online analysis Processing; I/O: input output; ETL: Extraction, Transformation, and Loading.

Abstract

Day by day the storage of data increasing because of that regular databases are insufficient to retrieve or to store the large amount of data so now it is coming up with a advanced databases like Netezza ;Sybase iq databases which are highly efficient for retrieve or to store the large amount of data. The problem with these databases is time consuming for read operations. So in this paper it gives an idea on priority based efficient reporting tool for business intelligence with increasing volume of data.

Introduction

For making the decision in business we use business intelligence tool. This BI is applied on data which is available currently and previous data in data warehouse .normally the data will be structured manner.BI is applied based on key performance indicators (KPIs)for reaching the business goals.KPI's consists of facts and measures which are basically numeric and quantifiable.

The reports which are generated with BI tools helps to take decisions fast, timely ,empowerment, accurate and usable.

Example: A car insurance company want to make some new policy on basis of 2015 insurance amount on different model cars then with the help of BI tool the reports can be generate on each model car insurance amount .normally approach will be drill up to drill down. According to that the reports generated are:

- Insurance amount for 2015:1 report
- Insurance amount per quarter Q1,Q2,Q3,Q4 for 2015:4 reports
- Insurance amount per month for 2015:12 reports
- Insurance amount in major cities for 2015:200 reports....

So the total number of reports if we generate manually then it is time consuming so instead of that OLAP can be used. OLAP is multidimensional cube.

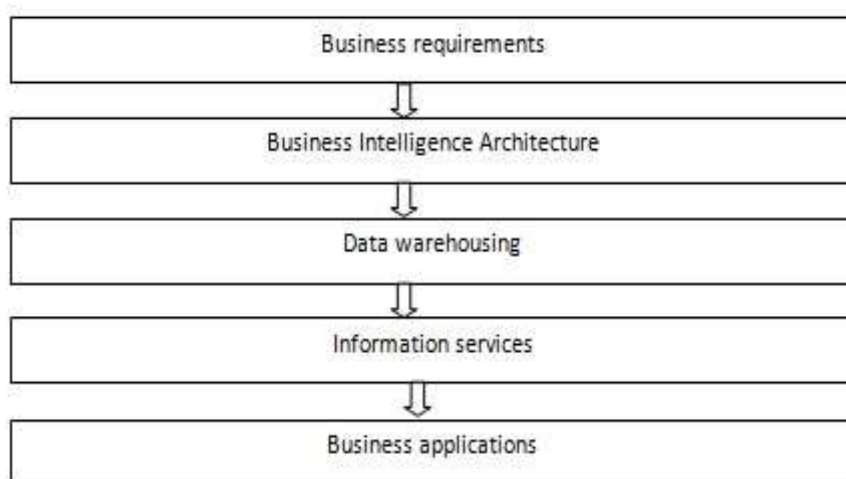


Fig 1: Business Intelligence frame work



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Data warehouse is a system used for business reporting and analysis of data for making useful information from the database.

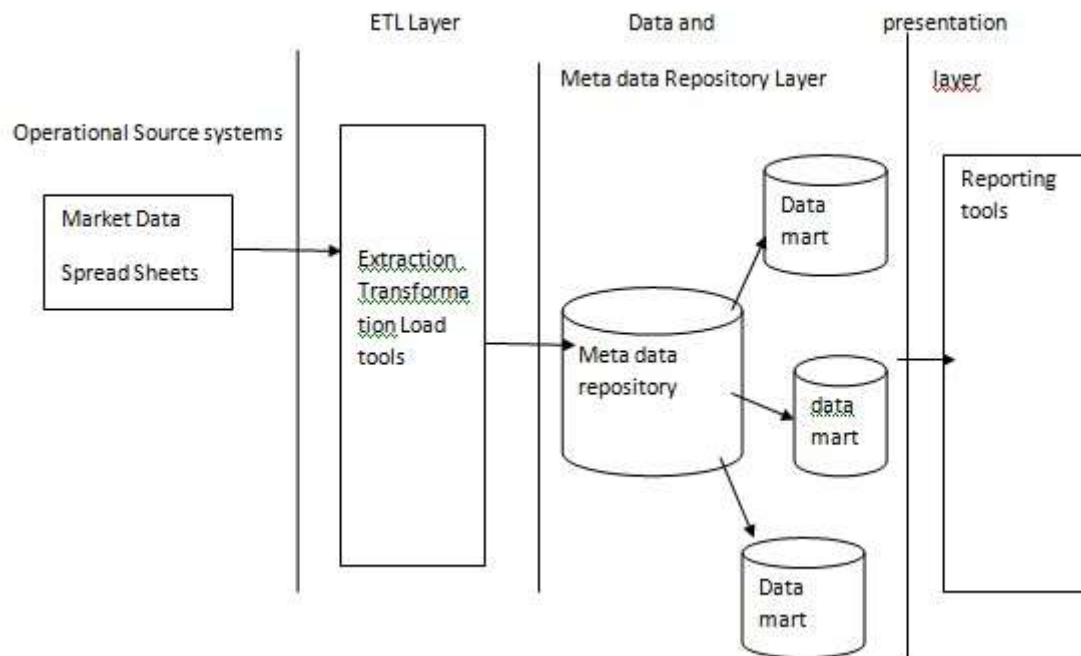


Fig 2: Data Warehouse Architecture

Database store huge amount of current and historical data in structured, semi structured and unstructured manner. In data warehouse the data will be in structured data. The Data Warehouse Architecture is shown above.

Business intelligence reporting tools

Business intelligence reporting tools are used to transfer the raw data which is stored in database in to meaningful and useful information, which will generate reports for business analysis.

Currently new customized database started emerging which is very specific for data warehousing purpose .databases like neteeza; Sybase iq very specific for data warehousing, business intelligence and these database are highly tuned for read intensive queries.

These data bases are used for bulk updates; 1/5th time differences can be noticed between traditional systems and these systems.

By using small write operations stack holder can enter data in to the OLTP database and this data is transferred to OLAP by using ETL tools like Informatica we can extract different types of data sources and transform the data to store in a proper format and then load the data in final OLAP database for future analysis and querying. In OLAP read operations are efficient; by using reporting tools like qlikview, OBIEE, crystal report etc data can be generated in form of reports for business applications.

The current issues in the reporting tool are I/O operations bandwidth is limited which is in between the reporting tool and OLAP database. The final report which is given to the user is slow and time consuming in the query which is fixed against large volumes of data.

This can be overcome if reporting tool is with in memory enabled. In memory means OLAP data is divided in to data marts and stored in reporting tool .data can be fetch directly from the reporting tool. Example a company profits can be in different data marts like sales, marketing etc which can be stored in reporting tool from the OLAP database to the reporting tool when a query rises against this information business analyst can search directly in reporting tool and reports can be generated within time and star schema is implemented .

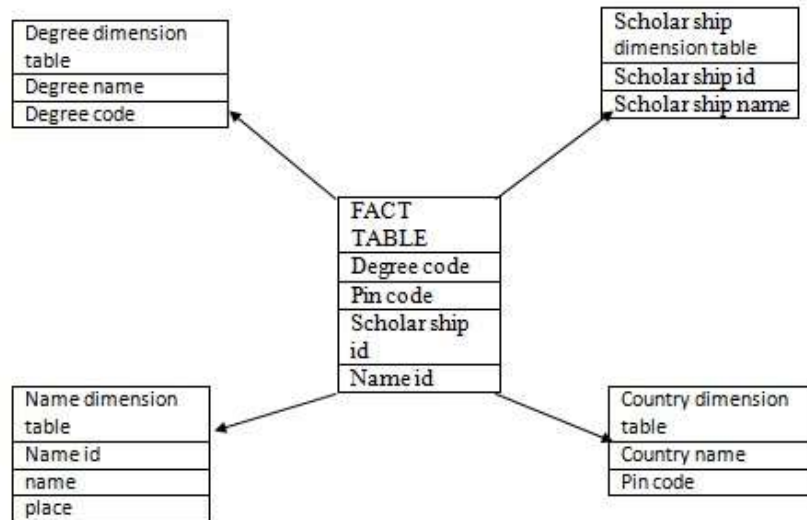


Fig 3. Star schema

In star schema in the middle fact table and a set of dimensional tables are present surrounding fact table which is called as dimensional table. fact table consist of one for each dimensional table with a primary key which is shown in the above example.

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The current issues in the reporting tool are I/O operations bandwidth is limited which is in between the reporting tool and OLAP database. The final report which is given to the user is slow and time consuming in the query which is fixed against large volumes of data.

This can be overcome if reporting tool is with priority based in memory enabled. In memory means OLAP data is divided in to data marts and stored in reporting tool .data can be fetch directly from the reporting tool on priority bases the highest priority data can be stored in memory. Example a company profits can be in different data marts like sales, marketing etc which can be stored in reporting tool from the OLAP database to the reporting tool when a query rises against this information business analyst can search directly in reporting tool and reports can be generated within time depends on priority

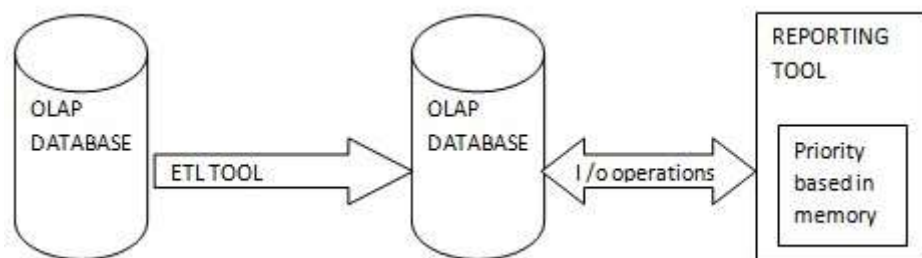


Fig. 4: Priority based reporting tool for business intelligence

Future enhancement

Databases read operations are time consuming because of large volume of data is stored and I/O operations bandwidth is limited and The final report which is given to the user is slow and time consuming in the query which is fixed against large volumes of data . By using priority based in memory reporting tool the inefficient I/O operation bandwidth between OLAP database and reporting tool can be overcome and efficient reporting tool for business intelligence can be generated with increasing volume of data.



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this way it can provide new insights in to the efficiency and performance for business intelligence tool with increasing volume of data.

The same can be applied with big data with unstructured and semi structured data for generating reports which is used for business analysis.

Conclusion

By using priority based in memory reporting tool the inefficient I/O operation bandwidth between OLAP database and reporting tool can be overcome and efficient reporting tool for business intelligence can be generated with increasing volume of data.

References

- [1] B. Mounica, International Journal of Computer Science and Mobile Computing, Vol.5 Issue.1 , January- 2016, pg. 86-90
- [2] Netezza available <https://en.wikipedia.org/wiki/Netezza>
- [3] Sybase iq available <http://www.sap.com/pc/tech/database/software/sybase-iq-big-data-management/index.html>
- [4] <https://code.facebook.com/posts/229861827208629/scaling-the-facebook-data-warehouse-to-300-pb/>
- [5] <http://datawarehouse4u.info/ETL-tools.html>
- [6] <http://dwhlaureate.blogspot.in/2012/08/list-of-popular-reporting-tools-in.html>
- [7] http://www.zenithresearch.org.in/images/stories/pdf/2012/Feb/ZIJMR/17_ZEN_VOL2ISSUE2_FEB12
- [8] http://www.csjournals.com/IJITKM/PDF%206-1/Article_15
- [9] Enhancing Business Intelligence using Data Warehousing: A Multi Case Analysis by Sonal sharmal and Rajini jain ISSN: 2321-7782 (Online)
- [10] "The Study on Data Warehouse Design and Usage" International Journal of Scientific and Research Publications, Volume 3, Issue 3, March 2013 1 ISSN 2250-3153
- [11] "An Overview of Data Warehousing and OLAP Technology" <http://www.cs.sfu.ca/CourseCentral/459/han/papers/chaudhuri97>