Converting and Configuration a Calibrating Software from Ms-Access to Oracle

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ABSTRACT

Nowadays information is becoming an increasingly valuable corporate asset, the demand for a right tool which can store, manage, and move this information is in high demand. A cross-platform environment has the concept of a heterogeneous database system where different sites may use different ways of storing and representing the data, file formats, query language, access protocols etc. Conversion of database and migration refers to the process of moving data from one database to another without having to manually rewriting all existing applications. Database transformation is rather straight forward, assuming the database is used just as storage. It "only" requires moving the data from one database to another. However, even this may be a difficult task. The main issues one may encounter include: Unmatched data types (number, date, sub-records) and different character sets (encoding). The most challenging aspect for organizations occurs during conversion of large databases, which easily consumes more terabytes of data. This paper provides a solution in which the relational database is converted and configured from one database to another without any loss of information and development of application in a three tier architecture to convert and configure a calibrating software. Here, every site can have different Relational Database Management Systems (RDBMSs) like Oracle, MySQL, DB2, MS Access etc.

General Terms

Query languages, Heterogeneous database, data warehousing client/server, spatial databases.

Keywords

Database conversion, migration, RDBMS, cross-platform environment, database.

1. INTRODUCTION

When a database is used not just as data storage, but also to represent business logic in the form of stored procedures and triggers, close attention must be paid when performing a feasibility study of the migration to target database. Again, if the target database does not support some of the features, changes may need to be implemented by applications or by middleware software. Microsoft Access Database is sufficient for handling its records and databases for a small-scale industry level. Microsoft Access stores data in a format of its own based on the Access Jet Database Engine. But for a large-scale company its database has to expand too and MS Access is not sufficient and hence they have to switch to more efficient databases. One of the most widely used database is the Oracle Database. Hence a software, "Database Migrating tool" is aimed at making the conversion, calibration and configuration of an MS access database to Oracle database, without any manual effort and the need of technical knowledge [2]. This application is developed for individuals and organizations to save time and energy for converting to a new database if a database already exists.

Different data types can be handled easily by approximating the closest type from the target database to maintain data integrity. If a source database supports complex data formats (e.g. sub-record), but the target database does not, amending the applications using the database is necessary. Similarly, if the source database supports different encoding in each column for a particular table but the target database does not, the applications using the database need to be thoroughly reviewed.

2. LITERATURE SURVEY

Issues concerning the transformation of data from an existing database to another database are discussed. The process of converting and configuring the data is called as data transformation. The new application usually requires data in different formats, and so transformation of data is required. Moreover, the new application requires data from one or more source database system, so integration of data is necessary in the process.
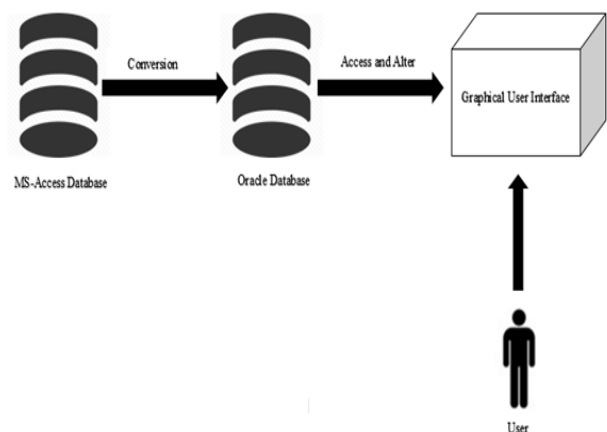
3. SYSTEM ARCHITECTURE

Fig 1: System Architecture

The system architecture consists of two basic processes involved in the process i.e. conversion of an MS-Access database to Oracle database and building if a GUI which provides an interface based on which the vast database of a company is handled.

4. PROJECT PLAN

    i.   Goal:

        A Database Migration application is usually developed for individuals and organizations to save

time for converting to a new database if a database already exists. The aim of our project is to develop the algorithm for the direct conversion of a database, configure and calibrate the database and develop an application for the same. Our source databases is MS Access, and destination databases as SQL Server and Oracle. The very purpose of our project is to provide flexibility and ease to our client to migrate his existing database into different database without any manual intervention or much of technical knowledge.

ii. Objective:

The objectives of our project are as follows: Develop the algorithm for the direct conversion of a database without any manual effort. Create, configure and calibrate an application for executing the following tasks:

A. To design tables along with the following:

- Primary key constraint

- Foreign key constraint

- Unique key constraint

- Index key constraint

- Check constraint

B. To migrate Views

C. To migrate selected columns.

D. Conversion from source format to target format without loss of data.

5. ADVANTAGES OF THE SYSTEM

- Security: The application allows only accessed by authorized users. Software security also provides confidentiality, integrity and availability of the information.

- The application is developed exactly to requirements of the organization.

- Interactive: The highly interactive nature of this application ensures that minimum technical knowledge is required to handle this system.

6. FUTURE SCOPE

- Scheduling: One can migrate the data at any time. If you want to migrate the data at a certain time you can just set it and the migration will start automatically.

- Query optimization: The query optimizer attempts to determine the most efficient way to execute a given query by considering the possible plans.

7. CONCLUSION

As the database of an organization increases, working with the same old database would surely bear some losses which any organization would not prefer. Hence the scenario of upgrading from the existing system to the new one doesarise. And to do so the user needs to understand the new technology in order to work with it. Though importing, exporting or migrating data between different databases is very complicated and time consuming process but this tool is very user friendly and the user does not need much of technical knowledge. This tool comes into existence providing an interactive GUI to work with.

8. REFERENCES

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