

## AN APPROACH TO HETEROGENEOUS DATABASE MIGRATION

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**Abstract:**-Database Migration can be defined in two ways. The first definition says that database migration is the process of upgrading to a more current release. The other definition says that database migration is the process of migrating data inside the database from one to another database management system on the same or other physical location. Integrity means that the data is complete before and after database migration. Accuracy refers to that the data keeps consistent before and after database migration. Business continuity refers to shorten migration time as possible. In reference to the ETL (Extract-Transform-Load) process, database migration always requires at least Extract and Load steps. The Comprehensive approach provided in this paper will Help it organizations to successfully plan, design, Build, test and roll-out a very large and complex Database migration program in a systematic, Structured fashion.

**Keywords:**-Extract-Transform-Load, Database Design Data Migration,.

### I. INTRODUCTION

There are data migrated in the old system manually. The cost and error ratio of these approach are relatively high. Typically, these data are those necessary for the new system while the old systems cannot provide. A "Database Migrator" is usually developed for individuals and organizations to save time for converting to a new database if a database already exists. Instead of creating all the tables etc. of the already existing database, one can simply use the software to convert it into new database, if required. It can also be used by organizations that deal with complex data import, export and migration issues. After all, importing, exporting or migrating data between different sources is very complicated and time consuming especially if these data sources store data in different formats.

### II. LITERATURE REVIEW

In previous system Database migration is also possible. But it can migrate the data only within the homogeneous database system only. This is the main drawback of this system. There is no chance to migrate the data into heterogeneous database system.

### III. IMPORTANCE OF DATA MIGRATION

Database technology is the core technology of information system in each organization. Database technology has been promoted with development of information technology, which includes database management system technology. Due to advancements in information technology, old systems have been replaced by more powerful systems. Data migration is an important issue when it is concerned with the process of updating data. Data which are migrated into new system are huge in size and are prerequisite for new system starting up and basis of decision making. Therefore data migration is the process of data cleaning, transforming and loading into new system. It is applied to switching of old systems to a new system when existing data are to be migrated into new system.

#### IV. SYSTEM ARCHITECTURE

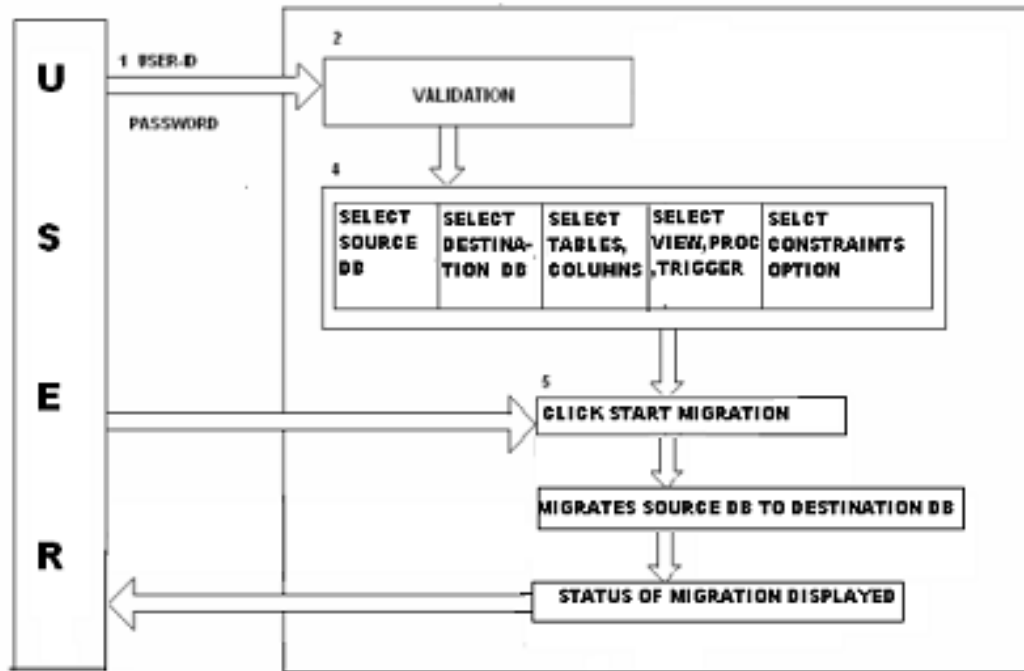


Fig 1: System Architecture

**Step 1** - The user is provided with the login facility. The user will first enter its username and password which are encrypted in our coding. The user's entered information is validated.

**Step 2** - The user is then asked to select the source database which is to be migrated. The source database consists of Access, SQL Server and Oracle. After selecting the source database the user has to fill the details of the selected source database to create the connection.

**Step 3** - After the connection is tested the user is asked to select the destination database to which the migration will take place. After selecting the destination database the user has to fill the details of the selected destination database to create the connection.

**Step 4** - The user is asked to select the tables, columns of the table, views which are to be migrated.

**Step 5** - the user is also provided with the facility to select either the schema of the table or rows of the table along with the constraints which are applied to the tables.

**Step 6** - Click start migration button to start the migration. After the complete and successful migration of source database to destination database it displays the status report of the complete migration process.

#### V. OBJECTIVES

1. Migration of source databases schema to the destination database.
2. Then follows the migration of tables to the destination database.
3. And then it is topped by the actual migration of data from source to destination database.
4. To prompt the user to select the source database and destination database. Connections for source and destination are tested.
5. Tree view structure is designed to enable the user to select and deselect tables, views for migration from source structure to the target structure.

6. This form will display a summary of all the selected items. User is allowed to select constraints to be applied such as primary key, foreign key and unique key.

## **VI. ADVANTAGES OF PROPOSED SYSTEM**

1. **Security:** The application is such that it allows the authorized user.
2. **Time efficient:** Migrating every record manually would take quite a lot of time but using a migration tool would take the application few seconds to migrate from the specified source to the specified destination.
3. **Flexible:** The inherent nature of this application is flexible. The initial concept of data migration that we have implemented on typical case of Access to Sql can be further extended to any source database and to any destination database.
4. **Interactive:** The highly interactive nature of this application ensures that minimum special training is required to handle it.

## **VII. FUTURE WORK**

**Scheduling :**One can migrate the data at any time. If you want to migrate the data at 5 o'clock then you can set the time.

Migration can be done in small area network:

One can migrate the data in LAN or Wi-Fi.

## **VIII. CONCLUSION**

A Database Migration Tool is usually developed for individuals and organizations to save time for converting to a new database if a database already exists. The purpose of our project is to migrate data from an existing database to another database. Our migratory tool provides source databases as MS Access, destination databases as SQL Server and Oracle.

## **REFERENCE**

### **Journal Papers:**

- [1]. An Approach to Heterogeneous Database Migration, Qian Wang, Chun Yu, NaijiaLiu.Information Technology Center Tsinghua University Beijing, 100084, China  
2013 10th International Conference on Information Technology
- [2]. Lixian Xing, Yanhong Li, "Design and application of data migration system in heterogeneous database" in 2010 International Forum on Information Technology and applications.
- [3]. Microsoft CRM Data Migration Framework White Paper by ParulManek, Program Manager Published: April 2003.

### **Books:**

- [4].M. Richmond, "Component migration with Enterprise JavaBeans", inOOPSLA'00: Addendum to the 2000 proceedings of the conference onObject-oriented programming, systems, languages, andapplications(Addendum), 2000, pp.79-80.
- [5]. S. Lawson, "DB2 for z/OS Version 8 DBA Certi\_cation Guide", Prentice Hall PTR, October 2004.