A Tool for Data Migration to Cloud

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ABSTRACT

With the advent of cloud computing, organizations are looking to move their Customer Relationship management (CRM) applications from an On-Premise environment to an On-Demand environment. On-Premise environment is when organization hosts the infrastructure and software inside their network. In On-Demand environment, third party hosts the infrastructure and software and charges the organizations based on its subscription model. Salesforce is the leading On-Demand CRM product [1]. Cloud data migration Tool helpful similar projects where customers have moved their On-Premise CRM applications to Salesforce.com. Data migration is usually performed programatically to achieve automated migration, freeing up human resources from tedious tasks. It is required when organizations or individuals change their organization platform. Cloud data migration Tool is a familiar process for migrating data to and from databases and Salesforce.com applications [2]. It imports and Exports data easily and efficiently over the Client database and salesforce object. It also handles bulk deletion i.e. deletion of all the records of specified salesforce object over the network.

Keywords: Cloud computing, On-Premise, On-Demand, Import, Export.

1.Introduction

Cloud Migration tool is a tool for transferring Schema and data between On-premise (Siebel) to On-cloud (salesforce) vendors over Local Area Network. Data Migration is usually performed programatically to achieve an automated migration, freeing up human resources from tedious tasks [3]. It is required for the organizations who want to migrate from Siebel (on-premise) to Salesforce (on-cloud). Data is any organization’s most Vital business asset, it is essential that any operation on data is carried out without any disruption, carefully Designed migration plans helps to migrate legacy data with ease and break down migration complexity to manageable projects, thus ensuring that risks and complexity are reduced in data migration process.

Cloud Migration tool is a Java Swings based utility for moving application/user data between a local directory and a Salesforce organization. The Force.com Migration Tool is especially useful in the following scenarios:

- Development projects where you need to populate a test environment with large amounts of setup changes — making these changes using a Web interface could take a long time.
- Multistage release processes — a typical development process requires iterative building, testing, and staging before releasing to a production environment. Scripted retrieval and deployment of components can make this process much more efficient.
- Repetitive deployment using the same parameters — you can retrieve all the application data in your organization, make changes, and deploy a subset of components. If you need to repeat this process, it’s as simple as calling the same deployment target again.
- When migrating from stage to production is done by IT — anyone that prefers deploying in a scripting environment will find the Cloud data migration tool a familiar process.

1.1 Existing System

The Organization is currently using Siebel Applications. Siebel is a web-based, user-friendly, on-premise solution (not including On Demand solutions) that requires server, database, and component systems, support, and implementation and routine maintenance. Siebel, additionally, requires annual support contracts and on-premise personnel to support any potential upgrades, enhancements, server maintenance changes, and end-user changes. Siebel implementations can take anywhere between three to six months for discovery, thereby forcing longer implementation times upward of a year in most cases [4].

Siebel requires software, multiple servers for each environment (development, test, QA, training, production, failover, database, and Actuate), and of course, resources to install, maintain, upgrade, and continuously support each of them. Siebel requires expensive mentoring and training for companies to learn how to support the System post go-live. This requires online, instructor-led, and hands-on sessions where the Personnel must spend quality time with consultants that have implemented the system.

1.1.1 Disadvantages
Large initial investment
Hardware upgrades and maintenance required
In-house IT management required
Physical space required
Software upgrades must be handled on the client end

2. Methodology

2.1 Proposed System

Salesforce.com is an on-demand, web-based, user-friendly, off-premise solution that does not require any software to be loaded on users’ computers. It is a pay-per-license/month solution, operational with existing Internet access, rapidly configured and deployed to best fit a company’s business needs. The solution is easy-to-implement without any customizations, thereby requiring less time from discovery to implementation than a Siebel implementation. The Salesforce.com model fosters a rapid application deployment methodology that allows easy prototyping that can be delivered expeditiously to end user champions to determine whether the solutions offered integrate with well-defined business processes.

![Figure 2.1: Block Diagram of Migration Process](image)

The biggest bonus of salesforce.com is its minimal resource requirement. The system is hosted at the salesforce.com offices and therefore does not require the Information Technology (IT) support or other resources necessary for a Siebel implementation [6]. Salesforce.com has no software or hardware requirements as they follow the NO SOFTWARE model. Salesforce.com does not require any software installations, server setups, report server setup and maintenance, or database setup and maintenance and administration (except for the purposes of backup) [7].

2.1.1 Advantages

a) For End Users

• Simple and Easy Navigation – The User Interface (UI) and navigation of Salesforce.com is easy and simple. Different features (or UI elements) are not cluttered together. Also, features like roll over details and mini pages makes navigation easy.
• Empowering End Users – Users can have the ability to manage the information which they want to see and how they want to see it.
• Analytics – Reports and dashboards can be created on the fly since data for reports is easily available within Salesforce. Also, dashboards can be created using drag and drop feature.
• Salesforce Search – The search feature allows users to enter case insensitive search. However, in Siebel, configured file modification is required to achieve this.

b) For Customizations/Configuration

• All customizations are upgraded with zero customer effort and cost.
• AppExchange provides wide range of applications to extend the existing CRM application easily.
• There is no added overhead for maintenance of data, backup and recovery, maintenance of Database Servers and Database application.
• Performance tuning is handled by Salesforce. The application is scalable and due to its subscription based model, users can be added at any point.

c) For Integration

• Salesoforce.com is SOA compatible; this means that any application can be integrated with Salesoforce.com using Web Services.
• Easy integration with various third party applications including Google applications, social networking sites, etc
• Salesforce.com is easy to integrate with Outlook, Lotus Notes and can synch tasks, emails, and contacts easily.

d) Ease of Maintenance
• There is no application downtime, and Salesforce publishes all the information about scheduled downtimes regularly.
• No hardware and environment setup is required for Salesforce and hence no maintenance is required.
• Field and Data level permission settings can be developed, tested and deployed in Salesforce without any downtime.
• Salesforce provides Recycle Bin for the users. If user deletes a record accidentally, the same can be retrieved from the Recycle Bin. In Siebel, data needs to be retrieved from the database.
• Deployment is simple as some of the changes in Salesforce like drop down values, page layouts, workflows, etc. can be done with none or minimum downtime.

2.1.2 Objectives

The Force.com platform offers you a development environment which you can use to create your own custom applications. Frequently, you will use the Force.com platform to create applications that operate on data that you already have in some form - in comma-separated variable files, spreadsheets or other relational databases. The Cloud data migration Tool is an easy to use graphical tool that helps you to get your data into Salesforce objects. The Cloud data migration Tool can also be used to extract data from database objects into any of the destinations mentioned above. You can even use the Cloud data migration tool to perform bulk deletions by exporting the ID fields for the data you wish to delete and using that source to specify deletions through the Cloud Data Porter.

Features of the Cloud Data Migration Tool include
• An easy-to-use wizard interface
• An alternate command line interface
• A batch mode interface with database connectivity
• Support for large files with up to millions of rows
• Support for all objects, including custom objects
• Detailed success and error log files

![Figure 2.2 Data Flow Diagram Level - 0](image1)

![Figure 2.3 Data Flow Diagram Level - 1](image2)
Figure 2.4: Data Flow Diagram Level – 2

Figure 2.5: Sequence Diagram for Migration Process
3. Result

![Data Porter](image1)

**Figure 3.1 Cloud Data Migration Tool**

![Data Porter](image2)

**Figure 3.2 Database Connection**

4. Discussion

The product Cloud data migration Tool is developed under object oriented paradigm. Java is an object oriented language which extensively supports reusability and allows the developer to carry on the further development of the system as and when required by the user of the system. To this system following improvements can be done in the future,

- Allows the user to select more databases based on their requirement (Example Oracle, DB2, FoxPro, SQLite)
- Allows the user to run the application in batch mode and should do the scheduled migration, i.e. it exports or imports automatically at specified date and time(weekly, monthly or yearly)
- Integrate the product with one which does migration of the schema, so it will help the user to migrate one application to different platform.

5. Conclusion

Finally we Created a tool that Migrates data to the salesforce and client database. Import bulk data by creating batches and jobs and uses parallel processing for running the jobs. Gives various options to export(i.e. Export Standard, Custom, All and objects with specified date). Migrates millions of data to the salesforce account easily and effectively. Deletes efficiently all the records of salesfoce object. Creates reports and error log file for successful and unsuccessful
migration and gives summary of each migration process. Gives the user a sophisticated and powerful component which gives a interactive and user friendly environment to use the application to effectively and efficiently.

References

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