

Case Study – Migration from Oracle to SQL Server



Background

An US Based company serves the time and expenses reporting and management needs of large companies worldwide, and leads the industry in operational T&E installations among the Fortune 1000.

Solution

Client needed a business solution for migrating their existing Expenses Application from Oracle Database to SQL Server Database while maintaining the data, functionality. The database must be integrated with client's existing Applications.

The client's Expense Application runs on Oracle 8.0.5 database consisting of one its schema and around 30 customer schemas. Each schema consists of a set of tables with appropriate constraints, database triggers and database packages (having procedures and functions).

Clients SCHEMA

Program Units (Stored Procedures/Triggers/Functions/views)	-	77
---	---	----

CUSTOMER SCHEMA

Program Units (Stored Procedures/Triggers/Functions/views)	-	837
---	---	-----

CUSTOMER- SPECIFIC SCHEMAS

Program Units (Stored Procedures/Triggers/Functions/views)	-	200
---	---	-----

VisualSoft Technologies as part of its solution has provided the following Services

- Time-based Blue-Print for migration of Database Server from Oracle to SQL
- Conversion Methodology (Detailed Below)
- Schema Code Migration, White-Box testing and Testing based on the parameters provided by the Client.
- Customer Schema common code migration, White-Box testing and Testing Methodology (Detailed Below) based on the parameters provided by the Client.
- Delivery of Beta & Final converted SQL Server schema and associated materials
- Maintenance of both systems till stabilisation of the SQL Database.

Solution Overview

Customer Profile

Client serves the time and expense reporting and management needs of large companies worldwide, and leads the industry in operational T&E installations among the Fortune 1000.

Business Situation

To create a validated and verified replica of the Client's Oracle database running their Expenses Application to SQL Server 2000, while maintaining the existing data and identical functionality. This database must be integrated with its existing Applications.

Software

- Microsoft® Windows® DNA platform
- Microsoft SQL Server™ 2000 Enterprise Edition
- Microsoft Visual Studio® 6.0 Enterprise Edition
- Microsoft Windows 2000® Server Advanced Edition
- Windows 2000 Advanced Server
- Internet Information Services

Case Study – Migration from Oracle to SQL Server



Conversion Methodology

- The oracle code (Procedure / Function / Trigger) will be first inspected to understand the logic followed.
- The parameters supplied by Client will be used to do a through testing at both unit level and integration testing.
- A test Harness will be developed to ensure that the results that are returned by the program unit in both of the databases are correct and also that the effected tables in both the databases are identical after the code is executed using this harness

Testing Methodology

- For each function, procedure, trigger, or view converted, the SQL Server version should perform identically to its Oracle counterpart. The test data will be provided to get complete test case coverage.
- To test the converted code from oracle to SQL Server 2000 a tool was developed by VisualSoft Technologies Limited called Test Harness Tool. This tool connects both to oracle and SQL Servers execute the stored procedures and compares the results and prints the output on to a file.
- A Test Harness that will validate each stored procedure and function. This test harness should read from a file the name of a stored procedure or function and various sets of parameters to that procedure or function. The harness will run the stored procedure both in Oracle and SQL Server and make sure that the results returned are identical. Additionally, this harness needs to check the databases to make sure that the tables involved in the procedure or function are identical after the procedure or function has been run. For procedures that print output to the console, the harness should verify that the output produced by the Oracle stored procedure/function is identical to its SQL Server counterpart.

ScreenShot

