





## Genisys Software – Migration Services Competency Overview

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## **ABOUT GENISYS SOFTWARE**

Genisys Software is part of the US\$ 65 million Genisys Group, headquartered in the UK with a state-of-the-art Software Development Centre at Bangalore, India. Genisys is an ISO 9001:2000 quality certified organization adhering to stringent quality processes. Today Genisys is catering to three different continents, working as offshore software development partners to **Meridio, Sage, Toshiba, Lombard Financial Services, AON, Aviva, Dixon Motors, Capita, Blue Arrow, Maersk, De La Rue, Texas Instruments, Oracle and Sun Microsystems.**

Genisys comprises of 2 main divisions:

- **Software:** Technologies like .Net, J2EE, Oracle, IBM
- **Contact centre/BPO:** Establish back-office, voice and other services

## **INTRODUCTION**

Genisys Software has an impressive track record of providing migration, software development, and performance tuning and application maintenance services to major corporate clients. This document details the business areas that Genisys is involved with; the skills available, generic migration approach and synopsis of migration projects undertaken.

## **DATABASE MIGRATION**

Genisys has capabilities in providing end-to-end services in Database Migration including-

- Project Management
- Data architecture, Modeling, Design
- Programming, Testing
- Documentation
- DBMS utilities for loading/unloading
- Sort utilities
- Tuning DB applications and queries
- Tuning DB structures
- Building control processes
- Overall Training

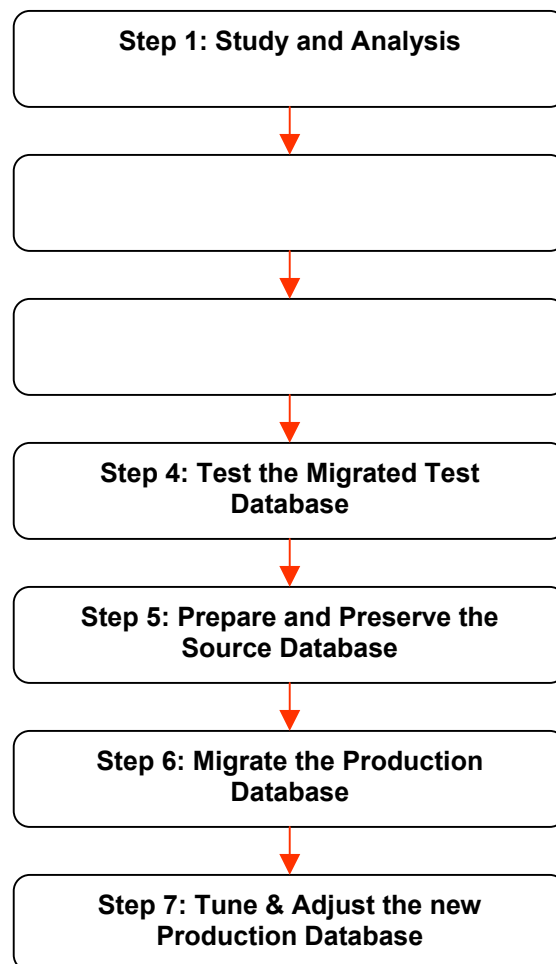
At Genisys, we also look at the motivators for migration, which will help the customer in terms of improved performance, reduced operating costs, DB reliability and Improved Data Integration and easy maintainability.

## APPROACH

Genisys uses a planned strategic approach for migrating data and applications from one database to another providing immediate ROI for the customer. This involves the following stages:

- Strategy
- Analysis
- Design
- Test
- Implement
- Revise
- Maintain

The migration process itself can be executed by way of using ETL (Extraction, Transformation and Loading) tools or developing programs and scripts internally. During the migration process, based on customer requirements and data size, activities like data cleaning, scrubbing, validating, sampling, etc can be carried out.



#### STEP 1: STUDY AND ANALYSIS

Genisys conducts the requirements study at the client's premises and undertakes the following-

- Identify objectives of the Migration
- Identify the business processes supported by the existing database
- Identify the data model supporting the business processes
- Identify transaction and data volumes
- Identify the reasons for change, which will become the objectives for the actual migration.
- Identify the availability of tools for automatic conversion.
- Understand the expectations related to schedules, deadlines and milestone events.
- Identify the methodology for migration.
- Identify the strategy for data migration.
- Outline the testing and acceptance strategy.
- Understand the hardware set up
- Identify the skill requirements for various stages of the project.
- Ascertain ballpark cost and effort estimates.
- Outline an overall project timeline.
- Identify the risks and the steps for mitigation.

#### STEP 2: PREPARE TO MIGRATE

- Become familiar with the features of the database to be migrated
- Estimate and secure the system resources required for the migration.
- Decide which migration method to use, based on considerations involving the current production database, client's migration objectives, and the behavior and capabilities of available migration methodologies.
- Develop a plan for testing the migration with a new test database and a plan for testing the migrated new production database.
- Prepare a backup strategy so that there is a quick recovery from any unexpected problems or delays.

#### STEP 3: TEST THE MIGRATION PROCESS

- Perform a test migration using an old test database. The test migration would be conducted in an environment created for migration testing and would not interfere with the actual old production database.

#### STEP 4: TEST THE MIGRATED TEST DATABASE

- Perform the tests that were planned during Step 2 on the pre-migration old test database and on the old test database that was migrated to the new database.
- Compare results, noting anomalies between test results on the pre-migration old test database and on the old test database that was migrated to the new database.
- Investigate ways to correct any anomalies you find and then implement the corrections.
- Repeat Step 2, Step 3, and the first parts of Step 4, as necessary, until the migration is completely successful and works with any required applications.

#### STEP 5: TEST THE MIGRATED TEST DATABASE

- Prepare the current production database as appropriate to ensure that its migration to the new database will be successful.
- Schedule the downtime required for backing up and migrating the old production database to the new database.
- Perform a full backup of the current production database. This step is required only if a Migration Utility is used for the migration.

#### STEP 6: MIGRATE THE PRODUCTION DATABASE

- Migrate the old production database to the new database.
- After the migration, perform a full backup of the production database.

#### STEP 7: TUNE AND ADJUST THE NEW PRODUCTION DATABASE

- Tune the new production database. The new production database should perform as good as, or better than, old database.
- Determine which new features of the new database are appropriate to use with your data and update your applications accordingly.
- Develop new database administration procedures as needed.
- Do not migrate production users to the new database until all applications have been tested and operate properly.

Each of these stages will have definite deliverables such as Strategy document, Test plan, results of test execution, database logs etc.

#### **TYPICAL MIGRATION SERVICE OFFERINGS**

- Requirement gathering
- Project Planning
- Prototyping/Proof of Concept
- Knowledge Transfer
- Technical issue resolution
- Performance Tuning
- Oracle Installation process

#### TYPES OF DATABASE MIGRATION

Capabilities include being able to port from following database platforms:

- SQL Server
- Sybase
- MSDE
- MySQL
- DB2

- Informix

#### MIGRATION METHODOLOGY LIFECYCLE

Following depicts typical migration methodology lifecycle:

- Questionnaire - Complete questionnaire with on-site
- client visit. Small project can be done all off-site.
- Project Scope/Project Plan
  - Project scope and project plan can be completed on-site or off-site.
- Schema, application and data migration design
  - Complete the analysis and design phase.
- Implementation - Perform the migration effort.
- Unit Testing - Is normally included with implementation
- System Testing
- Customer acceptance testing
- Performance Acceptance
- Delta integration

#### MIGRATION METHODOLOGY DEPLOYMENT OPTIONS

- @Your Site
  - Migration resource physically located at your site. Use your hardware etc.
- @Your Site virtually
  - Your hardware etc. Resources doing the work VPN into your site.

## ROLES & RESPONSIBILITIES ALONG WITH ACTIVITIES

Find following is the document explains Roles & Responsibilities:



"R&R- DB  
Migration.doc"

## TYPICAL EFFORT ESTIMATIONS

Find following are the guesstimates of the typical effort estimates, considering that the project complexity level is not high:

From SQL server to ORACLE	100 to 200 person days
From AS/J2EE	10 to 20 person days
From Linux	10 to 20 person days

## QUALITY ASSURANCE

Genisys is an ISO 9001 certified company, awarded by QCert, and is in the process of Upgrading to 9001-2000. Genisys has an effective Quality Management system in place, the framework of which caters specifically for the On Site/Off Shore model. Genisys has, through its Quality Management framework, instituted effective configuration management, document control, software release and external testing procedures.

Every project at Genisys has a designated Internal Quality Assistant (IQA). It is the responsibility of the IQA to ensure that the project follows the quality objectives laid down for the project and the software development life cycle process laid down in the Quality manual. The test plans prepared for the project are also reviewed and approved by the IQA who then works with the Project Leader/Project Manager to oversee the unit, system and the external testing activities.

The IQA reports functionally to the Project Manager/Quality Manager who, in turn, reports to the Project Director. This reporting structure means that the IQA does not directly report to the Project Director. This mechanism ensures that any quality related problems in a project surface quickly and objectively.



## STRATEGIC ALLIANCES

Genisys has been an early starter of Microsoft.NET technologies and has been continuously working with Microsoft as a Certified Partner. This partnership gives us access to the latest technical and architectural support, software releases, deployment & testing support.

## **BENEFITS OF USING GENISYS**

**Enhanced delivery capability:** Supplement in-house resources with skilled resources.

**Start Small: Have flexibility to ramp-up/down quickly:** We are happy to start the relationship with a couple of pilot projects and we can offer working models that will provide you the flexibility to ramp-up/down as per your business requirements

**Strategic Value:** To have an offshore team enhances the market value of a company as well as makes it globally competitive in the short and long term.

**Reduce costs:** Research indicates that there is at least a 40% to 55% saving when working in a cost effective location like India.

**Reliable partner:** With hundreds of person years of experience in providing offshore solutions (since 1995), our offshore service centre successfully develops high quality solutions. We also work closely with our clients to seamlessly integrate the offshore team with their current teams.

## **CASE STUDY 1 – TIMET, UK**

TIMET is a titanium sheet manufacturing company, situated in Birmingham, UK. Timet has manufacturing and financial applications running on Oracle databases in a UNIX environment. The UNIX machines and databases were previously maintained by a UNIX administrator/Oracle DBA.

### The Challenges

Timet intended to migrate the applications to Oracle 8i on a Windows NT platform. They had two UNIX machines running Oracle 6.0 and Oracle 7.1. There were two instances of Oracle 6 databases and 3 instances of Oracle 7 databases. Also, the application response time was very high as the database (exceeding 25 GB) was badly organized. Backup and restore procedures were not well organized and were time consuming.

### The Solution

Genisys migrated the databases to Oracle 8i as well as Streamlined and automated the backup and recovery procedures

### Benefits

- Migration to the latest version of DBMS
- A well-tuned database
- A menu driven, efficient backup and restore procedures
- Virtually eliminated all database exceptions such as insufficient extents.

## **CASE STUDY 2 – SULTANATE OF OMAN**

This project consisted of the following modules involving database conversion and application migration of:

- Land Management System – This system provides the facility for people to buy and sell land and properties.
- Human Resource Management System – This system takes care of most of the tasks involved by the HR department.
- Public Health System – This system maintains health records of Omanis with their Public health organization.
- Permit – This system provides the facility to register for permits for a wide range of situations ranging from starting a business to applying for a driving license.

Activities undertaken on these systems are:

- Migration from Forms 3.0 to Forms4.5 to Forms5.0
- Migration from Reports 1.1 to Reports 2.5 to Reports 3.0
- Migration from Oracle 7.0 to Oracle 8.0