

Client:

Bank Of America

**Industry:**

Financial Services

Project:

Automated Test Solution For A
Global Banking Data Warehouse

Programme Duration:

18 Months

Infrastructure:

Operating Platform: UNIX (Solaris)

Database: Oracle 11, Netezza

BI Application: Microstrategy 9

ETL Tool: Informatica

Test Tools: QTP, Quality Centre

Sources: IBM Mainframe, external
data feeds, ABACIS

The Requirement:

The project focused on delivery of a global payments data warehouse system and web based Business Intelligence application, covering 11 countries across 4 continents. The MIS replacement project was initiated with the objectives of:

- Replacing the MIS with an acceptable alternative within the International Space (including Payments, Global FX etc).
- The replacement platform is required to deliver a strategic platform.
- To provide a suitable replacement that significantly improves user interface.
- To provide a suitable replacement that significantly improves accessibility to users.

The technical architecture of the project consists of:

- Staging areas built using an Oracle database. Due to performance problems experienced in other warehouses within the bank, Netezza is used for the Data Warehouse and associated Data Marts to remediate these problems.
- Extraction from the staging areas, transformation and loading to Warehouse is achieved using Informatica Power Centre. Extract, Transform and Load (ETL) design accommodates near real-time updates.
- Exploitation and dissemination of data from the Data Warehouse for reporting and interfacing to other systems is delivered by the web based MicroStrategy BI tool.

MagenTys were given responsibility for developing and implementing the testing strategy, utilising resources based across the globe.

Testing Requirements:

- Develop and implement a global testing strategy.
- Ensure test incidents were found early.
- Build a re-usable test delivery process.
- Ensure performance meets existing report SLA's at a minimum.
- Provide training to permanent and offshore members of staff to ensure top-level skills.

Testing Solution:

- An agile/iterative approach was recommended and adopted.
- Automated functional testing using a framework based upon Mercury's Quick Test Professional was designed, which meant increased speed of tests, increased accuracy, increased coverage and ease of regression testing through iterations.
- A test data strategy encompassing all 11 sources utilising production data to ensure full coverage.
- A two pronged performance testing approach to encompass ETL load timings and report response times.
- A clear defect management process to manage test incidents.
- A reusable standard test documentation procedure.

An Example From The Project:

Previous functional testing using a 100% automated approach had never been achieved at this organisation before. The MagenTys Data Warehouse Testing Strategy implemented this from the 1st iteration and paid huge dividends by finding fundamental flaws with the design of staging areas. This was only achieved by using full sets of production data via automation. The use of automation meant that the testing team had a team of 4 staff opposed to the 14 ETL developers utilised.