

## Case Study



Regression test automation of Oracle Applications helps intelligent infrastructure services provider reduce cost of testing by 80%

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Having invested in Oracle Applications, the client faced challenges in regression testing due to the constant stream of Oracle upgrades. Infosys created a test automation framework for the client that enabled it to reduce regression testing efforts and cost by 80% and also minimize business interruptions.

## The Client

The client is a global leader in intelligent infrastructure services, which facilitate internet and telephony interactions.

## Business need

The client had made significant investments in implementing Oracle Applications to improve organizational responsiveness. The challenges confronting the client arose from the continuous stream of patches and family packs released by Oracle in response to defects and problems identified in the application, along with internal enhancements made to align the application with changes to the business processes.

These upgrades required the client to continuously test the application against breakage. This required significant investment of time on the part of the business users. Such frequent testing also had implications on the cost, time and quality of testing.

The business need, therefore, was

- To develop a reusable and user-friendly test automation framework
- Offshore the test automation activities for improved cost benefit
- Integrate the test management tools to improve scheduling capability to run test scripts in various environments

## Challenges

- Many test cases were not properly documented with sufficient details
- The documented test cases were not stored in a standard format
- The assignment required strong competency in Oracle Applications to simulate and capture the user's testing pattern

## The Infosys approach

Infosys was chosen as the preferred partner for test automation to reduce the total cost of ownership of Oracle Applications. Further, Infosys had to ensure the quality of deliverables and reduce the timelines for regression testing. Infosys adopted a four-phased approach with interim deliverables to reduce uncertainty in the project. This was done using three testing tools – Quick Test Pro 6.5, Test Director 8.0 and access and execution through a Terminal Server.

### *Pre-automation*

The pre-automation phase included:

- Gathering and understanding the existing 880 regression test cases
- Documentation of core test cases in the standard format, in accordance with the automation requirements
- Analyzing the documented test cases for complexity, automation ability and scope for improvement
- Categorization of test cases based on the respective operating unit, the module and the tracking mechanism

### *Automation*

The automation phase included:

- Designing a data-driven, modularized automation model
- Defining best practices like parameterization, common library of utilities etc.
- Developing the automation framework components
- Automating the identified test cases using Quick Test Professional
- Uploading test cases and regression scripts to the Test Director for effective management and administration

### *Execution of automated scripts*

The execution of automated scripts included:

- Multiple instances and releases
- No manual intervention
- Use of multiple sets of data
- Fine-tuning scripts

### *Test management*

The test management phase included:

- Customization of Test Director for effective test management
- Documentation of the automation framework for effective maintenance of future regression testing needs

## Benefits

### *Improved cost savings*

Automation reduced the cost of testing, following the client's initial investment to develop the regression testing suite.

- Over 90% of the scripts were used 'as is' during multiple releases
- Estimated reduction of nearly 80% in the effort / cost of running each regression test cycle
- Estimated reduction of 60-80% in the effort / cost of developing the automated regression suite through the Infosys Global Delivery Model (GDM)
- Minimized all business interruption costs

### *Delivery confidence*

- Increased confidence in the quality of production releases due to:
  - The ability to run tests more often and in a short time frame
  - Least manual intervention
- Enhanced test coverage as a result of:
  - Automation of the test for multiple data sets, conditions that otherwise could not have been done because of time constraints
  - Increased quality of a release through regression test cycles of modules that were not directly affected by patches or enhancements
- Issues were identified earlier in the testing cycle

### *Ease of use and increased maintainability*

- Scalable and reusable automation framework
  - Used across builds, releases and environments
- Effective regression test management through:
  - Integration with the Test Director
  - Automated scheduling of test runs from Test Director
- Integrated view of the status and reporting

### *Optimized resource utilization*

- Users were able to spend more time on testing newly implemented modules

### *SOX compliance testing*

- Internal Auditors used the automated test scripts to test and capture evidence for Sarbanes-Oxley audits. This was an additional benefit



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#### About Infosys

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