

**SUMMARY**

- **836 test cases automated in 100 days**
- **55 man days testing now run in 3 elapsed days**
- **An Axe and Selenium combination delivers a cost effective automation solution**
- **A full regression suite which can be run without human intervention**



**“Firstly let me start by congratulating you on a very impressive tool. I’ve been in Automation for eight years now and never have I been able to implement a complete end to end GUI Automation test set within four days”**

**- Raymond Barrett—DTS Automation test lead**

**DELIVERING AN AUTOMATED REGRESSION SOLUTION INTEGRATING AXE WITH SELENIUM**

A Life insurance institution incurred excessive costs and time delays, month on month due to an ineffective regression testing framework. Without any single solution to manage its online portal, consolidation and accounting functions, the organization relied on a multitude of manual and semi-automated testing processes that were excessively time and labor intensive.

This lack of a standardized automated regression testing process integrating front and back office meant the organization was at risk, relying on its personnel to ensure the accuracy of reported results and reconciliations. With the organization’s growing market share, it became apparent that the existing testing solutions would not be sustainable from a cost and human resource perspective.

A decision was made to develop an automated regression framework that could be utilized in conjunction with a testing toolset to facilitate a fast and effective regression testing asset. On completion of the initial investigations, the organization decided to utilize Odin’s AXE with the open source testing tool: Selenium.

The organization’s management team appointed Dynamic Testing Solutions as the Testing Implementation Partner and provided them with a list of expectations and requirements for the testing framework development and implementation. The major requirements were:

1. Develop a regression testing framework that encompasses best practice and best of breed technology to ensure fast and accurate automated test execution.
2. Ensure the selected testing technology is sufficiently user friendly that the organization’s business analysts and non-technical resources can successfully execute the test assets and generate test reports.
3. Ensure the test assets developed for the regression framework are not constrained to any single testing tool vendor.
4. Ensure the selected testing technology was cost effective i.e. fulfills all of the above considerations whilst not demanding exorbitant licencing fees

- **A complex end to end integrated test solution implemented**
- **Test documentation and automation scripts generated by Axe**
- **Front and back office processes integrated and tested**

## TEST AUTOMATION SOLUTION

By utilizing AXE integrated into the Selenium Open Source testing tool, Dynamic Testing Solutions was successful in fulfilling the organizations requirements;

1. Both AXE and Selenium are recognized as best of breed products within their market and together provide a robust and efficient technology set for performing automated test execution.
2. AXE's Excel interface provides a simple, familiar interface for business users and non-technical resources to execute and generate test reports from the regression test runs.
3. Due to the fundamental design philosophy utilised by ODIN for the AXE product set, the test assets implemented within AXE are test tool independent. This has facilitated the ability to implement Selenium as an open source alternative within the organization whilst maintaining the ability to seamlessly rebuild the framework for any of the other test toolsets, if so required.
4. By utilizing the Selenium test engine within Axe, Odin and Dynamic testing solutions have succeeded in providing an effective regression testing within the Organisation.



This case study demonstrates the flexibility and productivity of Axe to deliver a truly cost-effective solution combining Axe with one of the leading open source tools

- David Tracey - Managing Director **Odin Technology**

## RESULTS

The Results of the 1<sup>st</sup> Phase of Automation far exceeded the expectations of all parties involved. The 1<sup>st</sup> Phase which, involved the Investment portion of the application was automated end to end, with validation on Database as well as an XML report within 3 days. Following on the success of the initial effort, the rest of the application was Automated for regression purposes. The manual effort involved the following:

1. A manual test set of 880 test cases needed to be executed for regression testing purposes after every release cycle. The release cycle has a monthly recurrence.
2. Each test case took approximately 30 minutes to execute end to end. This excluded the preparation of test data and sanity checks on environment availability.
3. As there were only 3 testers available, regression testing took +/- 18 man days to complete. With the release cycles so close to each other, only 50% of the regression pack could be executed within this cycle.

As you can surely gather from the above mentioned manual effort, an Automated solution was essential to this organization achieving it's goals and delivering quality software to the different business units. By using Axe and Integrating into Selenium C#, we managed to effectively and efficiently provide 95% coverage on this regression test pack:

1. Automating the 95% (836 test cases) took just under 10 weeks to complete and this encompassed validation on a Database and XML level.
2. Execution time went from 30 minutes to 5 minutes per automated test case.
3. A full regression set can now be run within 3 days (24 hour days) and isn't dependent on any human intervention.

The reporting solution is extensive and drills exactly down to the class where the defect occurred, allowing for fast and efficient fault resolution.