

# Qual IT success story

## Public Sector Client

**Need:** To realise business benefits sooner, respond to business needs quicker, and enable larger organisational goals.

**Solution:** DevOps enabled practices to deliver applications and services at high velocity without impacting product quality.

**Outcome:** Rapid, continuous, and successful deployment of two applications within a short time span.



# Building public trust and confidence using DevOps

Qual IT has been providing Quality Assurance (QA) services for a large number of public sector organisations across New Zealand since 2004 and has partnered with this particular organisation from 2013. Since then, we have had multiple teams embedded in the organisation at any given time working alongside their internal testing team.

Traditionally, the concerns of government clients have been centered on safety, security and control. Increasingly however, quality and speed to production have also become a key marker in delivering successful software and, in turn, the building of greater public trust and confidence. To achieve this, our client wanted to undertake a shift away from a traditional software development lifecycle methodology to a more agile way of development in order to develop a series of public-facing applications in a fast-paced manner. Our partnership has enabled this successful outcome.

## Adopting different ways of working

One of the biggest challenges our client faced was their traditional software development approach, with development and testing cycles that didn't meet the projects' need for speed. Recognising that

this wouldn't help achieve their goals, they explored a move towards a different way of working to better support their organisation.

They believed DevOps could get them to where they wanted to be, and that Qual IT were the right QA specialists to help them achieve that transformation.

## Implementing a DevOps culture

DevOps is a set of practices, combining software development and IT operations to deliver applications and services at high velocity without impacting product quality. It achieves this through a cultural shift that provides a cohesive environment where skilled people using tools, practices, and philosophies work together to accelerate time to market by utilising automated processes as much as possible. However, transitioning to a DevOps model is not just about technology and skills. Fear of, or reluctance to embrace change is a common internal challenge facing any organisation wanting to adopt new ways of working. As such, Qual IT's specialists were on-hand, helping to educate stakeholders about the benefits of DevOps and Automation, and demonstrating how it could enable the wider organisational goals. As part of this, our team ran Test Automation and Behavioural Driven Development training programmes for the internal team of BA's and developers to onboard them on to the DevOps journey and help them embrace the change. Qual IT was also invited to do a presentation on 'Test Automation in a DevOps project' to the CIO of the organisation, which was positively acknowledged by the organisation's executives.

## Building a resilient, defect-free product

Qual IT monitored the evolution of the client's products very carefully, right from the start, to help build and ensure resilient, defect-free applications. Alongside managing routine QA tasks for the products, such as running tests and facilitating discussions with Developers regarding design and defects, Qual IT's engineers also consulted and provided valuable assistance to the overall team. They analysed application features with the product owner and provided feedback, they helped internal BA's write requirement documents, and worked with the developers during design discussions, giving feedback on their unit tests.

The development of a comprehensive Test



Certainty in  
IT change

Automation strategy, and its accompanying tests, was very important as the application under test is public facing. Qual IT's strategy acknowledged this and was built to detect performance issues and to help mitigate them before they presented any unpredicted behaviour or put the organisation at any reputational risk.

Here is a high-level view of the strategy Qual IT built:

1. A robust Test pyramid that built effective tests that targeted the right areas.
2. An effective Test Data management plan to test application changes quickly and efficiently.
3. The production of a comprehensive Test Harness, enabling quick quality checks and valuable reporting derived from Unit Test Suites, Integration Tests, UI Automated Tests, Automated Performance Tests, and Manual Functional Tests.
4. The integration of Test infrastructure into the delivery pipeline, ensuring that Quality Gates were well-considered.

An additional benefit of such an effective Test Automation strategy, with automated test practices being built early in the software development

lifecycle, was that our Engineers were able to limit the manual test phase to a minimum. This also helped Qual IT confirm that the final product conformed to the Product Owner's requirements.

### Achieving larger organisational goals

This project was viewed by our client as a great success, underpinned by the fact that Qual IT have been able to achieve rapid, continuous, and successful deployment of two applications within a short time span. This helped in securing a faster time to market to meet their users' demands, respond to urgent business requirements that support their front-line personnel, react quickly to short notice legislative requirements, and to build greater public trust and confidence in the organisation.

Automated testing was essential in achieving this result, allowing automated tests to be run on all new versions of the applications. This method built strong Quality Gates, improving test coverage from Unit, Integration and Acceptance to Production Verification, removing defects early in the delivery life cycle, and avoiding unnecessary delays. The organisation was given total confidence that the applications would perform as expected.

## About Qual IT

Qual IT is New Zealand's largest provider of quality assurance services for information technology, working with some of the country's largest and most successful organisations, including Transpower, NZ Police, IAG and New Zealand Transport Agency through offices in Auckland, Wellington, Hamilton and Christchurch. Formed in 2004 we have in excess of 230 senior permanent and contract quality assurance and test professionals.

### Integrated QA solutions



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