Ensuring positive user experiences for all IR customers with QA & Testing.
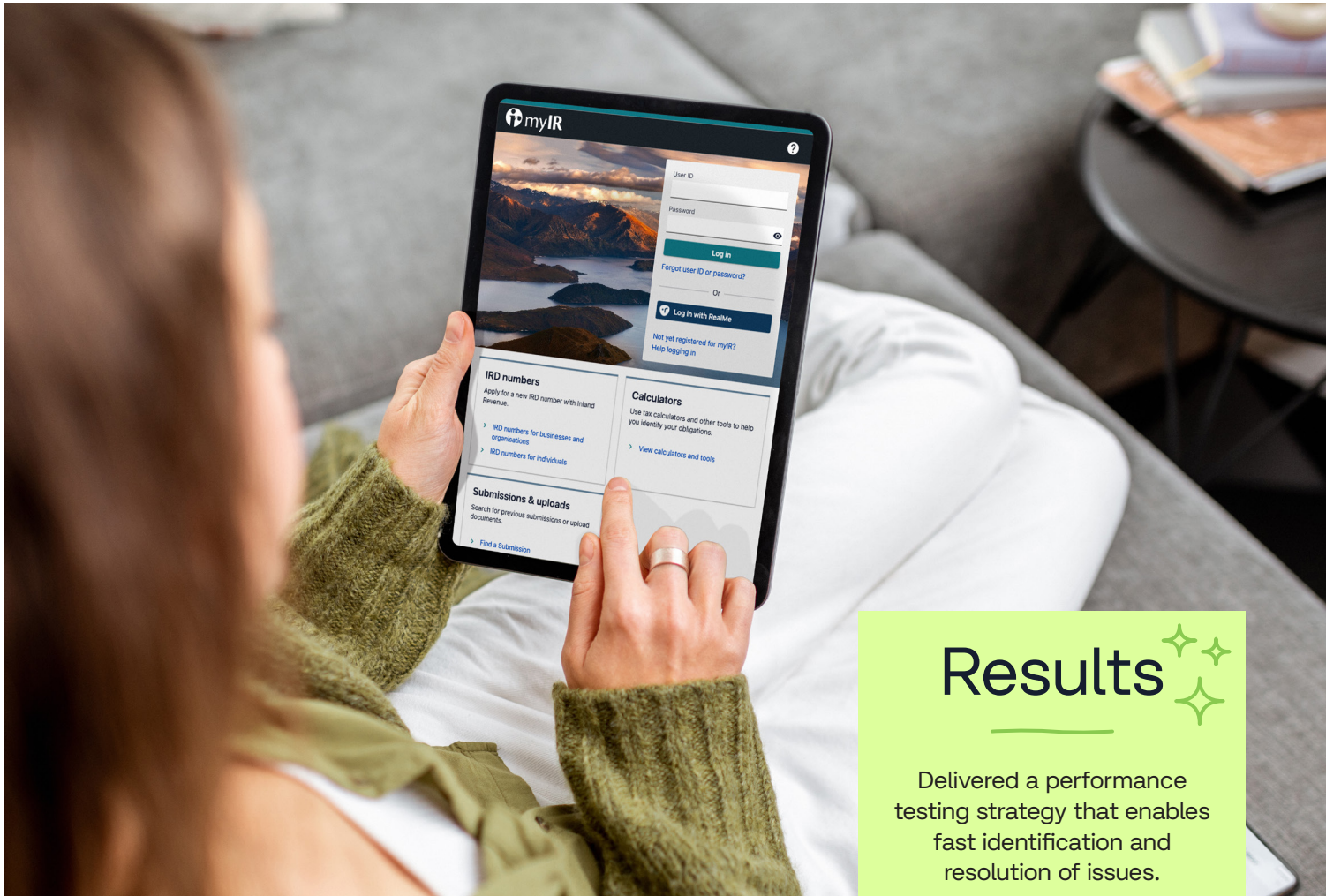

With an extensive $1.8-billion transformation programme to implement, Inland Revenue is leaving no stone unturned to deliver positive experiences for every user of its systems and services. A vital component of this is the Quality Assurance provided by Assurity Consulting, which includes performance testing and fully stress testing all systems before rollout to production.

Results

Delivered a performance testing strategy that enables fast identification and resolution of issues.

Created a suite of proven performance testing assets IR can use to accelerate delivery, reduce risk, and drive down the cost of assurance.

myIR website updated to handle over 500k logins (3x more than before).

Inland Revenue
Te Tari Taake

ASSURITY

About

Organisation
Inland Revenue

Industry
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Inland Revenue (IR) plays a critical role in improving the economic and social wellbeing of New Zealanders, collecting 80% of Crown revenue, as well as collecting and disbursing social support programme payments and providing the government with policy advice. Since 2014, IR has embarked on a $1.8-billion business transformation project, making it simpler and faster for New Zealanders to pay taxes and receive entitlements.

Challenge

Assessing the performance of IR's newly introduced and upgraded services presented a technical testing challenge which sought to understand performance impacts and customer experience expectations of its new hardware and software solutions.

Chris Hourigan, Business Transformation – Testing Lead at IR, points out, "There are multiple touchpoints to IR systems that customers encounter. From individual taxpayers, business partners and the tax agents who interact with IR, there can be hundreds of thousands of account interactions with our systems daily, generally at key calendar dates."

This is why performance testing is an essential component of quality assurance. "By simulating the full loads expected at those overlapping events, IR has a clear view of how its systems will cope before they go live," he adds.

The purpose of the business transformation, notes Patrick O'Doherty, Enterprise Architecture & Business Design Lead – Business Transformation, is the delivery of a digital real-time interaction replacing traditionally paper-based activities.

The scale of performance testing these interactions is amplified through the range of IR products available to specific customers, while the underlying structure of the systems presents a further complication.

"The underlying technology solution has many moving parts, all newly delivered as part of the business transformation programme. Couple this with the massive shift we are seeing to digital services, and we had a real risk of being overwhelmed if we were not adequately prepared."

Solution

Assurity created a testing solution that provides 'Performance as a Service' to all delivery activities under the program. By adopting a performance risk assessment approach, actual and perceived risks were ascertained across the full gamut of IR products within the scope of each phase of the programme delivery cycle.

O'Doherty says the risk assessment approach to performance testing is not your typical one. "We had to consider 'anticipated' usage as we were delivering a range of new digital services and, in some cases, fundamentally changing underlying processes. We had to estimate how we expected customers to use the new services and risk assess each one against a set of performance targets. Performance testing was then coupled with customer experience monitoring so we could show what was happening and adjust our approach if required."

The information which resulted from performance and customer experience monitoring was made so accessible that monitors were installed on the IR campus. This allowed anyone to view the results.

> "It effectively replaced the water cooler for office conversations. We had real up-to-the-minute facts, not hearsay,"

By creating an enduring suite of performance artefacts, IR has ready access to proven performance testing assets in future, accelerating the delivery and reducing the risk of new products while driving down the cost of assurance.

Results
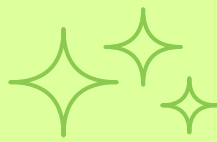
Thanks to the performance testing strategy and assets, multiple potential issues were identified and resolved before reaching production. "The performance testing on the business transformation programme has supported IR in achieving significant gains in system performance for our customers," says Hourigan.
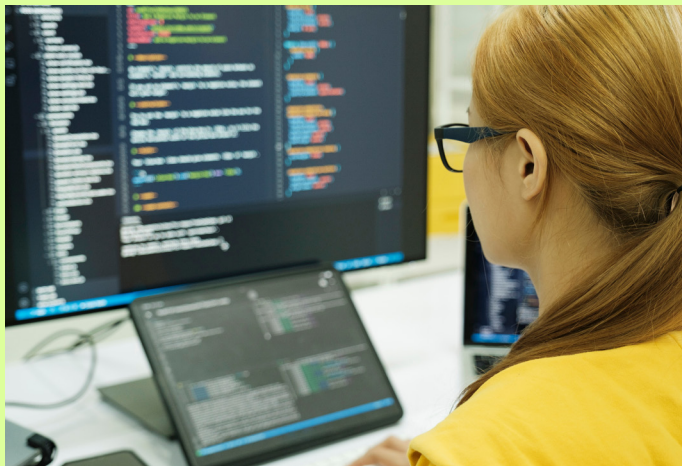
"On peak days, IR can support over 500,000 logins to myIR – more than three times above the peaks prior to transformation – while the stability and certainty provide a better experience for our customers and our business," he adds.

While there were issues identified post-production, the assets and approach in place ensured these were quickly identified and dealt with.

Another significant result of Assurity's approach is an increased understanding of the customer experience of IR products over its existing network. "Performance testing goes beyond 'speeds and feeds' and extends to customer experience," explains Hourigan.

Internally, performance testing tends to be understood in terms of what happens when everyone tries to get through the front door at the same time. "It's all peak volumes, soak tests, memory and scalability, breakpoints and throughputs.

"What we're getting closer towards is the customer viewpoint into IR; a piece of information on what their experience will be, what happens to the system when people behave in certain ways. It has to be 24/7, now, with digital systems, so performance testing must span it all."

"There's a substantial reputational risk every time a new service is introduced. Any failure will taint public confidence. Quality Assurance and Performance Testing is the insurance policy addressing that risk."

— **Chris Hourigan**
Business Transformation – Testing Lead, Inland Revenue

Visit us at assurity.nz

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