Assuring Inland Revenue's shift to Oracle goes smoothly with QA & testing

Changing systems of record is a significant challenge for any organisation. With Inland Revenue (IR) playing a key role in the lives and businesses of all New Zealanders, its shift to the cloud is part of a strategic goal to achieve cloud-based services for Enterprise support, allowing IR to focus on its core mission of collecting and distributing monies for New Zealand.

IR engaged Assurity Consulting to deliver testing and quality assurance on its Enterprise Support Services in the Oracle Cloud, de-risking the process and giving certainty to changes in a complex application environment.

Results

Provided testing and assurance for 26 integrations with other systems within and external to IR.

Reduced maintenance costs while accelerating time to market for the Oracle Cloud.

Automated Regression tests now take just 6 hours; an equivalent manual test would take 15 person-days.

Inland Revenue
Te Tari Taake

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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

Enterprise Support Services (ESS) is a NZ Government term for the internal core systems supporting daily operations and providing oversight and management of internal activities. ESS encompasses Human Capital Management (Human Resources), Finance, Enterprise Performance Management, Procurement and Recruitment.

With Oracle Cloud Applications selected for ESS, IR's implementation provides a reference account for other agencies. "We started our ESS transformation on the basis that as a government agency, we don't need any specialisation in our ERP systems," explains Lara Ariell, Inland Revenue CFO. "That's why we've used a common process model for back-office transformation, which can serve as a template for any other government agencies."

System standardisation means the necessary testing which assures service quality prior to rollout can also be standardised. "The theory is that with software as a service configured to common processes, others can pick up and use our implementation and artifacts and get the same result. And that's where Assurity comes in; they have worked with us to create a set of use cases, test scripts, and other testing tools to get our system up and running. We know these artifacts work, which means other agencies don't have to invest in creating these assets again."

IR's ESS systems integrate extensively with internal and external applications, interfacing with multiple other solutions. As a result, a key challenge in replacing incumbent systems with Oracle Cloud Applications is testing every system with which it integrates.

"ESS is the glue that holds an organisation together, and you know your ESS is performing when you don't notice it. We wanted to be sure of this outcome, and testing is essential to ensuring information flows as it should," says Ariell.

She adds that testing must span integrations and applications, considering IR's commitment to providing its employees with 'work anywhere' functionality. "No one teaches you how to use a smartphone because it's obvious. We wanted our applications to be that intuitive so we don't have to invest in training continually – and a big part of that is investing in testing at the front end. That tells you quickly if you're on the right track."

Solution

Assurity delivered Business Analysis, Managed Testing and Automated Testing Services to assure the delivery of IR's Oracle applications. This included introducing highly automated testing wherever possible and creating about 750 standard tests.

"The team has worked with us to ensure that everything that can be automated is automated. Where repetitive testing is necessary, it happens automatically in the background, providing a high level of quality assurance," confirms Ariell.

As master data was migrated from the legacy system to Oracle, the integrations were simultaneously established, with exhaustive testing of the links. In some cases, the integrations were 'like for like' and behaved in similar ways. In other cases, enhancements were made, adding new capabilities through data exchange for greater automation, reducing manual interventions and further driving out any potential for errors associated with manual processing.

Through its responsibility for testing integration between Oracle Cloud applications and other systems, Assurity built enduring assets which now support automated regression testing for quarterly Oracle Cloud upgrades (regression testing confirms that program or code changes do not adversely affect existing features).

"There's a very narrow window for testing quarterly patches, so it's an intense process. Assurity's work streamlines this crucial task; without the support of automated testing, it's hard to see how managing these updates would be feasible."

Results

In all, Assurity has provided testing and assurance for a total of 26 integrations with other systems within and external to IR. Each cloud product has its change cycle with constant updates, patches and improvements; whenever there is a change to any of these systems, or indeed to the Oracle applications, the automated testing framework provides a mechanism for confidence that the systems will continue to deliver a business outcome consumable by IR.

From Ariell's perspective, she looks to her Head of Testing, Chris Hourigan, each time a new function is introduced. "I ask him, 'How comfortable are you?' His answer is a barometer of programme health. More often than not, Chris isn't worried, which indicates the value delivered by the test team. If Chris is worried, I'm worried, and we use the insights we get from testing to troubleshoot and solve problems."

Automated quality assurance reduces maintenance costs and overheads, accelerating time to market for the Oracle cloud – and that's led to learnings and ways of working from IR's ESS implementation being shared as the reference for a number of other government agencies.

By taking a holistic approach to testing the entire customer/data ecosystem, Assurity's work has helped guide the Oracle system configuration vendor. It also allowed for a reframing of User Acceptance Testing – effectively extending the coverage and quality of 'systems-wide' testing.

Examples of the successes of this approach include the automation assets identifying (and correcting) a 7-second network latency issue. Regression tests now take just 6 hours; an equivalent manual test would take 15 person-days.

Finally, test assets are potentially transferable to support other government initiatives, allowing accelerated migration to modernised applications and processes across the wider public service.

"Automated testing and reusable test assets go beyond the value delivered to IR. Each agency can access proven artifacts and the reference architecture for systems implementation. And that means taxpayers get more value for their money as government agencies transform for the future."

— **Lara Ariell**
CFO, Inland Revenue

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