

NZ's largest business transformation: put to the test with Assurity Cloud.



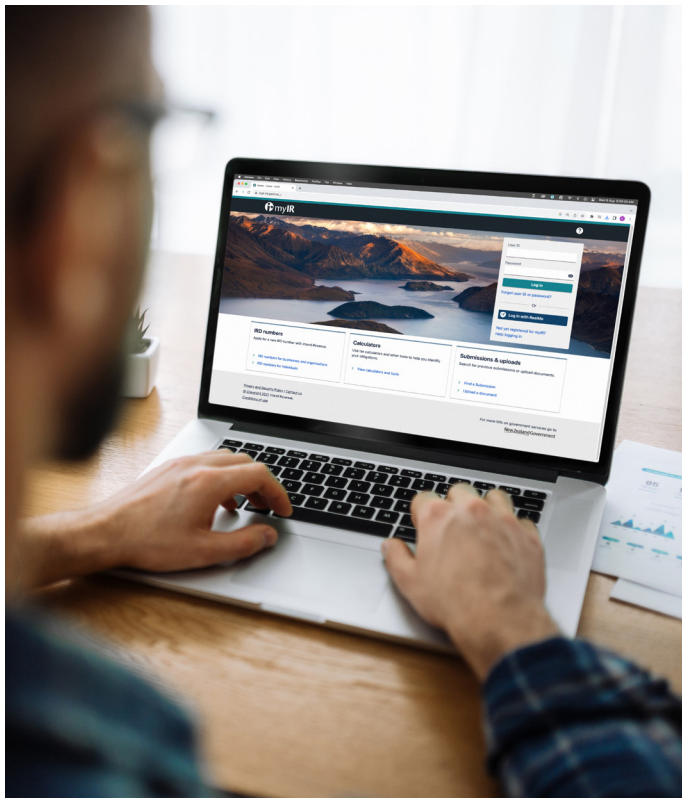
While supporting the Inland Revenue Department on its transformation journey, Assurity Consulting introduced an innovative approach to systems integrity named Digital Partner Services (DPS). A cloud-based automated solution, DPS empowers partners with the tools they require for self-service testing, validation, and real-time confirmation of system integration quality. This solution expedites the rollout of new services by automatically identifying errors, minimizing manual interventions, and affording partners the flexibility to work at their preferred pace.

Results ✨

Transformed testing approach
– Multiple parallel parties' systems tested vs previous 'one on one' approach

Reduced time taken for integration testing from weeks to days

Reduced time required for firewall changes from days to minutes to enable customers to engage in testing



Challenge

At the heart of IR's business transformation is the replacement of the legacy tax system with a new custom-off-the-shelf solution. IR shares information from this core tax system with other government agencies, software providers, partners and suppliers, which integrate with its systems for the delivery of IR services countrywide. In an increasingly common IT challenge, the systems are being upgraded without interruption to services provided – the equivalent of changing engines on an aeroplane whilst in flight.

IR's Director of Digital Change, Rogan Clarke, describes the business transformation as one of the most ambitious he's ever seen. "IR got into the transformation programme because legacy systems limited our ability to adapt to new policy. At the heart of it, it was decided that if we're going to change, let's think big – exceptionally big."

IR Business Transformation Testing Lead Chris Hourigan points out two essential factors relating to the organisation's systems: "We operate complex systems engaging with hundreds of thousands of customers across multiple channels. At the same time, the requirement for accuracy is high, so we must execute assurance practices that maintain integrity and consistency for all channels and customers."

"We have to deliver to the highest levels of trust to a large and diverse range of customers, from individuals to social policies, student loans, businesses and the intermediaries, including tax agents, that support the ecosystem."

Hourigan says the goal for testers is ensuring system stability, performance, and integrity across all those touch points as the new tax system is rolled out.

In the past, creating, maintaining, and testing these integrations was a manual and physical process requiring the attention of teams of skilled people. Each integration took weeks and drove up costs as service consumption had to be tested individually with every external party.

"This quickly becomes untenable. Around 50 partners work across 5 or 6 tax products, each requiring a specific integration with our systems. It's a 'multiplier world', where this large number of partners and the things they can do constantly changes," Hourigan explains.

About

Organisation

Inland Revenue

Industry

Public Sector

Solution

Digital Partner Services (DPS)

Assurity Cloud

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.

Solution

Assurity initially set out to test the 'digital border' between IR and its partners. This allowed for easier integration by bypassing structures which interfere with testing, such as firewalls, network, and hardware configurations. The exercise gave way to the creation of cloud-hosted test assets accessible by partners, which would allow them to emulate live interactions and evaluate the results.

The resultant Digital Partner Services (DPS) platform adheres to government security standards and expands self-service automated testing for partners. This empowers them to understand, code, and test their integrations with IR APIs, detached from IR's infrastructure. Provided as a pay-as-you-go service, IR partners can access it as required.

An initial trial validated the DPS concept by providing emulated digital border testing services to a United Kingdom-based partner. With no engagement with IR, this partner consumed the test assets as a service to conduct hundreds of tests in a day – a considerable result which replaced the previous two to four weeks of engagement for integration assurance.

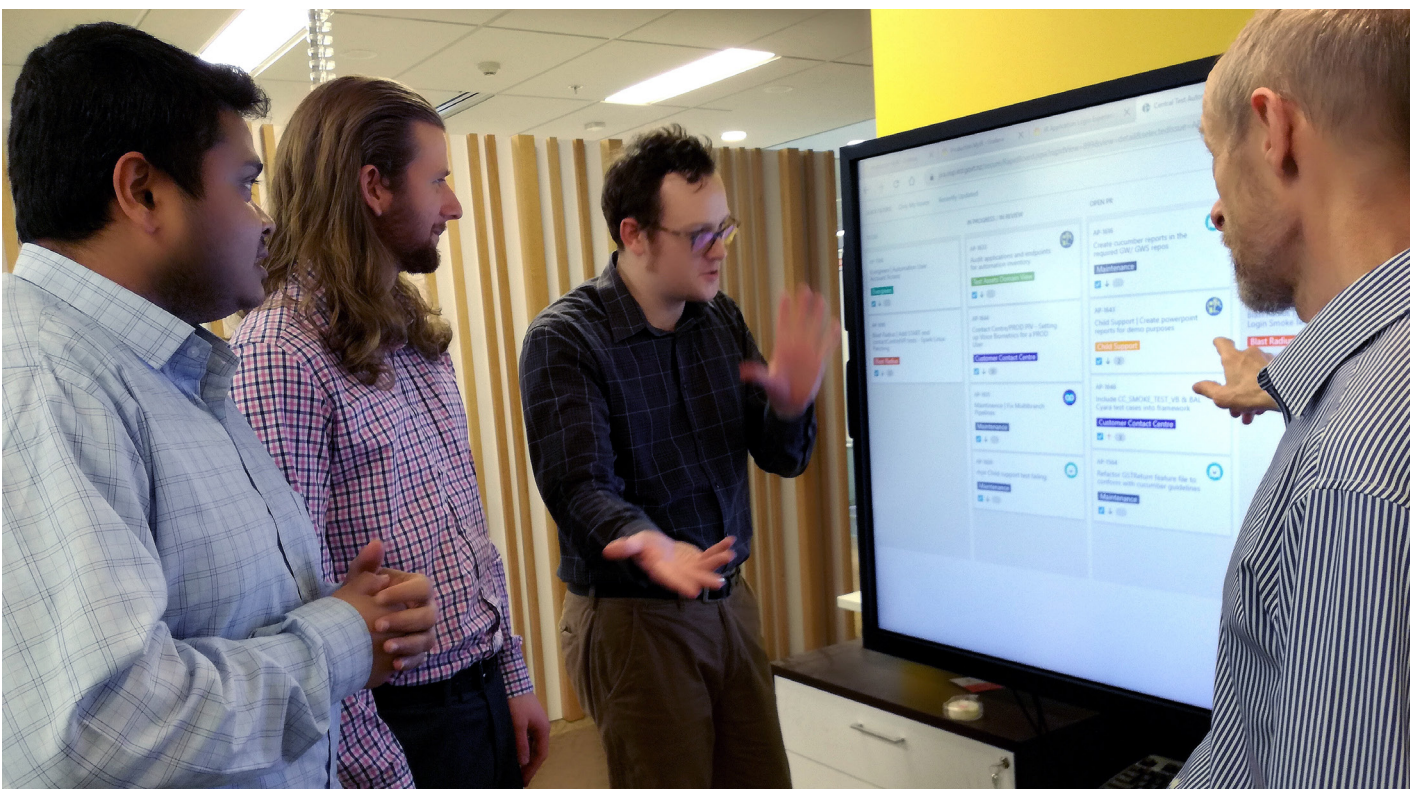
In due course, additional functional and smoke service tests were employed through all environments to ensure an automated regression ran daily, capturing change impacts at the source. To promote asset reuse, partner performance test teams use the emulated service tests to evaluate IR's exposed APIs.

Following the DevOps ethos, the DPS service tests are employed to validate the production implementation, allowing IR, for the first time to introduce new services tested against IR endpoints without depending on an external party.

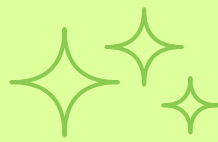
Subsequently, the service journey tests were employed as an enduring Customer Experience Monitor (CEM) service in the production environment, providing real-time feedback on service performance.

Says Hourigan: "With DPS, we can emulate partner interactions using transactional data, feeding that into IR as they would.

Automation means we can test continuously across all services, while at the same time, partners access the DPS test assets from the cloud, testing from their perspective."



Results



The successful delivery of the business transformation project depends on a high degree of assurance that every new service, every customer interaction and every system underpinning delivery across multiple channels works – not only the first time a customer engages with IR but every time.

With DPS, this goal is accelerated, with shortened development cycles and time to market. Clarke confirms that third parties are equipped to build and test their systems in parallel with IR's teams and can conduct their assurance programmes simultaneously and independently. "Across internal, integration, and full business function testing, DPS provides an extensive set of assets available to partners to build right and test right. That gives us velocity with quality, resulting in an edge on testing and quality assurance at large."

Multiple parallel parties have already tested their systems simultaneously, far superseding the previously necessary 'one on one' approach. Hourigan explains that Self-service integration testing makes this crucial process easy for IR partners – and for IR itself.

"The advent of self-service testing technology has enabled significant reductions on partnership testing engagement and reduced the complexity of the testing itself, avoiding the reliance on backend systems."

There's hard data to support claims of efficiency gains. Firewall changes have shifted from days to minutes to enable customers to engage in testing.

Third-party integrations are up to four times faster because service consumers are empowered to identify and eliminate errors before connecting their systems with those of IR. Additionally, the duration of integration testing is condensed from weeks to days.

The deployment of new tax products is inevitably accompanied by a high volume of change internal to IR; with DPS, continuous testing captures issues that would impact external systems, de-risking the interdependent systems of partners by eliminating issues before they reach production.

As the DPS moves towards business as usual, he says IR is discovering that as it makes changes in accordance with the business transformation programme, pushing updates and new functionality out to partners is simplified. "We've got economies of scale for testing. New features are consumable to everyone at the same time, and everyone can test and evaluate simultaneously. That's a big gain on the previous 'point to point' approach, where each partner would engage individually."

As the services offered through IR's transformed systems multiply, he says the revenue authority is seeing high levels of value. "We get the assurance necessary without being overwhelmed by testing overhead." Automated, self-service testing is a lasting feature for IR, he notes. "With systems development, it is never the end. In the world of IR, one thing is certain: change will happen. Self-service testing with DPS makes changes so much faster, easier and more precise."

"The main benefit was acceleration. We can onboard new parties rapidly by enabling them to self-service with testing. Having the right information makes testing easier for them and us, so both parties win."

— **Chris Hourigan**
Business Transformation Test Lead, Inland Revenue



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