

Why the public sector is going cloud first in Australia & New Zealand



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Cloud migration in the A/NZ public sector is rapidly increasing, with many government organisations now looking to optimise their cloud strategy.

Governments agree on a cloud-first strategy

There is now broad consensus across both New Zealand and Australian governments at all levels that cloud should be the first choice for all public sector IT projects.

The number of private companies now managing highly sensitive data on public cloud infrastructure has convinced governments that it is not only a viable path, but for many reasons (including better than on-premises security), should be the first choice.

In New Zealand, public sector organisations are now mandated to adopt public cloud services. The government cites clear benefits to cost, improved workforce mobility and collaboration, faster adaption to change, better security and resilience of services.

In Australia, both the federal government and the states are following a similar cloud-first path. New South Wales is pushing aggressively for migration to public cloud, with a published target of migrating 25% of its government workloads by 2023.

The Victorian government has said that from now on it will only design for cloud, and only consider on-premises if it can't find a suitable cloud technology. By 2025, it expects the digital economy to generate 8,000 jobs for Victorians, with a \$1.5 billion economic benefit and a further \$25-30 billion uplift in the Gross State Product.

Queensland is now cloud-first too, with the government noting that agencies are required to adopt cloud-based services as the default ICT-as-a-service solution unless a sound business case exists for a contrary solution.

It says this will help avoid vendor lock-in including being held up by vendors' upgrade schedules, allow for better service delivery and greater flexibility with provisioning of services.

Better security from public cloud

CERT NZ reported a 13% increase in cyber attacks in 2021 year on year, while the Australian Government received a report of a cyber attack every eight minutes in 2021, compared to every 10 minutes the year before.

Moving or modernizing workloads on the AWS Cloud, provides better compliance and security outcomes, says Koan Managing Director, Gareth Lawrence.

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Making the transition to public cloud

Each government has its own guidelines for adopting public cloud services, covering information security and procurement rules. There may be whole-of-government contracts with large cloud providers to allow government organisations to be considered a single customer for pricing and support efficiencies.

Customer success World Rugby

World Rugby is the global Rugby Governing Body with over 500 staff, the CMO and Medical Teams oversee the World Cup and Rugby both at the Elite and Club level. The goal of the organization is to increase Player Welfare.

Problem: World Rugby wanted to digitise its head injury management process from start to finish in a cloud-based system. But with players all over the world, it faced challenging security and regulatory requirements including GDPR and HIPAA.

Process: Koan designed an end-to-end solution that addressed World Rugby's implementation goals, security, compliance by using cloud-native AWS development approaches and best-of-breed practice, frameworks and methodology. It is providing full stack development for an Administration Portal and Mobile Application. The application includes a GDPR compliant data lake deployed using AWS Lake Formation.

Outcome: Koan has delivered the ability to manage a whole head injury management process online from start to finish, from medical professionals using mobile apps in rugby games sending reports directly into AWS cloud. This is improving player welfare and allowing World Rugby to own and control all their own systems while remaining in full compliance with regulatory requirements. The application is currently being used throughout elite and international level competition, and including the World Cup later this year.

Engaging early with an AWS Partner that is strong with public sector compliance and procurement requirements can help organisations move through the approval processes required with fewer unexpected holdups.

Koan can help public sector organisations navigate the cloud:

- Completing a strategic assessment and cloud adoption framework
- ‘Lifting and shifting’ applications from on-premises server infrastructure to AWS cloud to achieve better performance and lower costs
- Increasing DevOps Maturity and moving customers to high levels of “IAC coverage”
- Modernising existing applications to use higher performance, more resilient AWS “cloud native” services as their underlying foundation
- Developing new cloud applications or replacing legacy applications on AWS, converting an organisation’s existing business processes to an optimised digital equivalent
- Managed Services and Security Review
- Data and Machine Learning/AI Practice

Koan is an AWS Advanced Tier Public Sector Partner which means Koan has been qualified by Amazon as having the necessary AWS certifications

Customer success

Quotable Value (QV)

Quotable Value is the housing valuation provider to 80% of New Zealand councils, which determines the rates they can charge residents.

The problem: QV faced challenges with a system it had previously ‘lifted and shifted’ to the cloud. It wasn’t scaling as it needed to and QV wanted to modernise backend services.

Koan’s process: Koan provided a risk analysis and detailed modernisation plan, then modernised all of QV’s microservices, including merging complex duplicate data structures into a core database. Many dependencies on legacy systems were removed, while keeping all business logic intact, and the system was transitioned to a serverless Lambda infrastructure.

Outcome: QV was able to retire several frameworks that were no longer supported by their original developers, while also eliminating significant licensing costs, which provided an immediate ROI on the project. QV can also manage its simplified backend architecture more transparently.

Selecting the cloud vendor best aligned to your organisation

Finding the right cloud vendor is critical for executives looking to build a comprehensive cloud adoption strategy. Getting the best quality strategic and architectural people makes the difference in building a well-considered strategy in the shortest possible time.

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Cloud Deployment

Koan helps its customers maintain deployment certainty using a comprehensive toolset for repeatable cloud system deployments.

Koan's DevOps practice uses modern "infrastructure as code" tools that ensure secure and repeatable deployments into AWS cloud. Specialising in Terraform, Koan is able to work with enterprise to increase Infrastructure as Code (IaC) coverage, which increases infrastructure teams' operational efficiency. In cases of migrating to the cloud, Koan builds IAC into plans from the beginning, rather than retrofitting it later.

Koan is experienced in containerising or modernising legacy applications, which ensures greater depth of usage for the AWS Platform (rather than simply lifting and shifting 'like for like').

Koan's Cloud Native practice focuses on building serverless applications. This means new applications can be built, or legacy applications modernised, using AWS services instead of running on dedicated servers. As a result, customers don't bear the cost of maintaining servers and only pay for what they use in terms of resources.

Customer success

Hnry

Hnry provides an multiple award winning Software-as-a-Service (SAAS) to New Zealand and Australian customers enabling full management and filing of sole traders tax returns.

Problem: scale, secure and improve DevOps maturity on AWS, implement Control Tower to standardize AWS multi-account management, and Security Maturity Assessment.

Process: Hnry's AWS deployment automation was increased to 100% (no Tf drift), Control Tower was implemented with multi-account patterns applied. Security items were identified using Koan's Security Maturity Assessment, and remediated. Scale patterns were analysed and database read-replicas were enabled to significantly scale Hnry's backend.

Outcome: Hnry is securely processing a billion dollars of payments annually.

Managing risk while driving transformation

There's a natural tension between making progress in digital transformation and preserving stability of existing business processes and systems. Partnering with an experienced cloud developer can help customers achieve transformation objectives smoothly.

Protecting data

Cloud data centres now provide better security than many organisations can provide at their own on-premises datacentres. This ranges from much stronger physical security and surveillance to more multi-layered online defence systems.

AWS, together with Koan Technology, deeply understands what is needed to protect through data controls and residency, data sovereignty, data privacy and security.

Protecting network infrastructure

Knowing how to organise and protect your network traffic at all layers while reducing the attack surface are complex topics requiring specialist skills and tools.

Groups like the Cloud Capabilities Network offer a community of practice for learning about public cloud adoption, while specialist consultants like Koan offer services in these areas.

Project delivery

The public sector is facing the same skills challenge as private sector organisations: a chronic shortage of people with up-to-date training to build and deploy cloud systems.

New Zealand requires an additional 4,822 digitally skilled employees by 2022, an increase of more than 41% on original 2017 forecasts. The situation is even worse in Australia – an additional 6.5 million skilled digital workers are needed by 2025 – 79% more than it has today.

Working with an external provider like Koan that already has qualified and experienced cloud developers can alleviate the in-house skilled staffing crunch.

Incident response and management

Preparation is critical to being able to rapidly respond to and recover from security incidents.

Developing incident management plans including key personnel and external resources ahead of time will help you respond to, communicate and recover from an incident.

The AWS Well-Architected Framework identifies incident response best practices across the domains of people, process and technology. Koan provides end-to-end Well Architected Framework solutions including planning and design, building and migration, operations and support, and automation and optimisation.



In Australia, Koan takes advantage of the Digital Transformation Agency's recently signed whole-of-government volume sourcing agreement with AWS to deliver public sector customers with highly cost-optimised solutions.

Why the public sector is turning to AWS

Amazon Web Services (AWS) is the world's most comprehensive and broadly adopted cloud platform, offering over 200 fully featured services from data centers globally.

Instead of having to buy or develop new capabilities, public sector organisations can simply start using Amazon's existing high-performance services. AWS has more services, and more features within those services, than any other cloud provider.

This provides more time for implementing an organisation's processes digitally and less time needed to build underlying foundations. Infrastructure technologies like compute, storage, and databases, machine learning and artificial intelligence, data lakes and analytics, and

Internet of Things capabilities are all there, ready to use.

Koan is an AWS Advanced Tier Partner organisation, which means it is certified in developing using these services and understand how to meet government organisation requirements with them.

Amazon is building dedicated New Zealand Region, which represents an up to \$7.5 billion investment over the next 15 years.

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