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Introducing a fresh approach to public sector **cloud transformations**

How agencies can build a future-proof platform that delivers continual improvements to operational efficiency while enhancing public service capabilities.

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Executive summary

Australian governments and their agencies have long understood the benefits of migrating to the cloud. The federal Digital Transformation Agency (DTA), for example, developed its Secure Cloud Strategy back in 2017 to help agencies adopt cloud technologies, before updating the strategy in 2021.[1]

Others have followed, with state and local governments accelerating their cloud initiatives during the pandemic to deliver what have become essential digital services to citizens. The New South Wales Government now even mandates that its agencies adopt public cloud services "by default" and only use its data centres "by exception". [2]

However, cloud adoption and maturity still vary widely between agencies. The DTA's *Secure Cloud Strategy* acknowledges there are ongoing barriers to cloud adoption, such as a "shortage of knowledge and experience" and "decades-old, stubborn operating models".

Furthermore, an effective cloud migration requires much more than a 'lift and shift' transition. Instead, as the DTA states, "the strategy aims to lay the foundations for sustainable change, seizing opportunities to reduce duplication, enhance collaboration, improve responsiveness and increase innovation across the Australian Public Service".

The NSW Government's cloud strategy is just as ambitious: to "enable government-wide adoption of public cloud services in an aligned and secure manner, to accelerate innovation, modernise service delivery and drive better outcomes for the citizens of Australia".

In this paper, we reveal how agencies of all sizes and at all levels of government can succeed with their cloud migrations.

We explain how agencies can break down the barriers to change, tackle complex projects such as modernising enterprise resource planning (ERP) systems, choose the right cloud architectures, and extract more value from – and reduce the risk of failure of – their transformations.

We reveal how, by taking a fresh approach to using external consultancy services, agencies can accelerate cloud migrations and achieve their goals, while improving the capabilities and skills of their internal teams.

This paper presents a services model that will enable agencies to build a future-proof platform for delivering continual improvements to operational efficiency and innovative citizen services.

Building public service cloud capabilities

In some cases, agencies face a hard deadline for their transformations.

For example, the Australian Government's GovERP project aims to replace ERP systems that are expected to reach end of life by 2025. The project also aims to consolidate ERP systems across six shared service hubs. That would save each hub from having to invest in a new ERP system separately while standardising core transactional services across dozens of departments.

However, successfully completing ambitious projects such as GovERP won't be easy given the barriers to change. Australia's chronic skills shortage, for example, is unlikely to ease any time soon. A global Korn Ferry study predicts that by 2030, Australia could be forgoing US$588 billion annually in unrealised output due to skills shortages. That would be equivalent to 25 per cent of Australia's economy, the second-highest nation globally by this measure.[3]

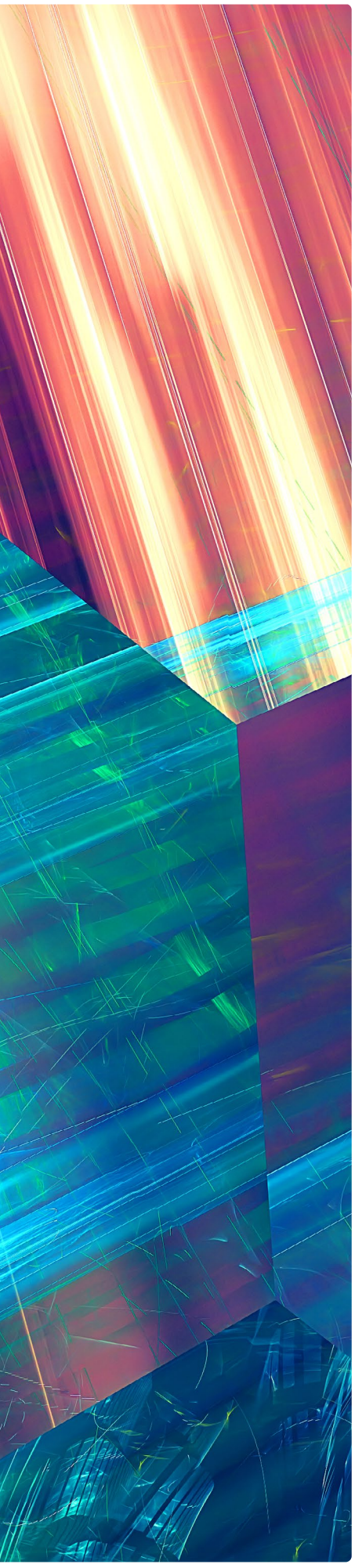
The DTA's 2021 Digital Review found that three-quarters of the top 20 Australian Government agencies reported a lack of staff skills and agencies' inability to develop their staff were among the key barriers to adopting new digital capabilities.[4] The review further observes that "there is a view that existing levels of reliance on contractors and consultants have eroded skills and expertise within government departments and agencies".

This dependency is highly concentrated, with five major consulting firms securing a total of $2 billion worth of Australian taxpayer-funded work in 2021–22.[5] Harvard University research suggests such reliance on consultants can easily lead to vendors effectively shaping digital transformation in government, rather than governments leading their own transformation agenda.[6]

To reverse this trend and reduce its outsourcing expenditure, the Australian Government recently announced plans to rebuild the public service's capabilities. That includes introducing an in-house consulting model that will give agencies access to high-level expertise in fields such as strategy, evaluation and project management.[7]

$2B

Taxpayer-funded work secured in Australia by five major consulting firms in 2021-22[5]



At HCLTech, we support government initiatives to retain control of transformation agendas and lift technology skills in the public service. We advocate a fresh approach to public sector use of external consultancy services that can add value to this contemporary services model. We believe consultancy services should:

Complement an upskilled public service with specific capabilities that would be uneconomical for agencies to build internally or where there are temporary skills gaps

Contribute meaningfully to improving the technology skills and capacity of Australia's workforce, including public services

Accelerate public sector innovation and transformation with new and advanced capabilities and technologies

Leverage global capabilities as well as onshore skill development

Breaking down the barriers to change

Nevertheless, even tech giants need technology partners to help them achieve their goals. And for government agencies, partners can help break down barriers to change.

The DTA's *Digital Review* found that public sector cloud adoption is complex and often considered risky. "Agencies agree that cloud adoption enables increased agility and responsiveness, but cloud adoption remains inconsistent and influenced by the risk tolerance of individual agencies," the review states. "Some agencies find the lack of central or trusted sources of security certification for cloud platforms a significant barrier to adoption."

Those concerns are being addressed, particularly the perceived risks associated with hosting public sector data in the cloud. The DTA last year launched a hosting certification framework, and several cloud services have since received the highest level of accreditation as Certified Strategic Service Providers that meet "enhanced privacy, sovereignty and security requirements".[8]

Funding is another barrier to cloud migration – and not just the actual budgets but the type of funding. The *Digital Review* found that less than half of the agencies agreed that their internal budgeting systems and processes supported modern funding approaches.

It's therefore vital that agencies develop compelling business cases for their cloud-based digital transformations.

Procurement, another stumbling block, has been simplified at a federal level, with the DTA establishing a Cloud Marketplace.[9] Nevertheless, cloud service providers need to earn and keep agencies' trust by delivering reliable services and desirable outcomes within budget.

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Digital Review 2021, DTA

Addressing the skill shortage

Perhaps the biggest long-term barrier to cloud adoption – and the success of cloud migrations – is Australia's skills shortage. Even the best-planned transformation won't get off the ground and deliver results without the right people.

The 2021 launch of the Australian Public Service Academy – and particularly its digital and data professional initiatives – will help address this issue. However, at HCLTech, we believe that the private sector also has a big role to play in skilling, upskilling and reskilling the Australian workforce.

To this end, we have rolled out our TechBee and Rise at HCLTech job-ready programs around Australia. Rather than relying on university graduates and migrants to address skills shortages, these programs broaden Australia's talent pool by taking in trainees ranging from high school graduates to mature-aged people with diverse work and life experiences and backgrounds.

To help support the public sector, for example, HCLTech and our partners will identify and bring trainees through the program for deployment in government engagements, aligned with government requirements.

In addition, our EdTech learning platform can help organisations ensure their technology teams continuously update their skills and add to their capabilities as needed. EdTech offers a range of learning and assessment solutions on topics ranging from cloud and cyber security to digital applications, artificial intelligence (AI) and machine learning (ML).

Hyperscale, private or hybrid cloud?

There is no single best solution for every public sector cloud migration. Depending on each agency's requirements, a good case can be made for highly secure private cloud facilities, public cloud services or a hybrid solution.

Nevertheless, there are good strategic and technical reasons for at least considering hyperscale cloud providers such as Amazon Web Services (AWS), Google Cloud and Microsoft Azure.

Scalability

As the name suggests, hyperscale cloud providers offer an unmatched ability to easily expand or reduce resources as demand increases or decreases over time or during periodic surges.

Multiple services

They also offer hundreds of services, ranging from infrastructure (compute and storage) to ready-built development platforms (with tools such as containers and databases). They can give agencies access to transformative technologies such as AI, ML and the internet of things (IoT), without the impost of a large up-front capital cost.

Data security

The traditional view that cloud services are not as secure as on-premises infrastructure is a myth, the DTA declares in its *Secure Cloud Strategy*. In fact, it says "cloud providers often implement and manage better IT security controls than internal IT teams".

Data sovereignty

Hyperscale cloud providers have made very significant investments in onshore infrastructure in Australia. In fact, some Australia-based services from AWS, Google Cloud and Microsoft Azure are now accredited as Certified Strategic Service Providers by the DTA.

High availability and disaster recovery

The sheer scale of resources that hyperscale providers offer across multiple regions can help agencies avoid downtime by setting up highly available and reliable data infrastructure, along with fast, effective disaster recovery measures. This is particularly important for mission-critical applications that rely on databases, where business continuity is vital.

Cost optimisation

These features, along with the right orchestration and resource optimisation tools, can help organisations minimise their infrastructure spending.

Modernising ERP platforms

Migrating mission-critical applications, such as ERP systems, is a particularly big challenge, but these projects also offer huge potential benefits.

For example, GovERP was largely born out of the necessity to replace SAP-based ERP systems before their expected end of life in 2025. But it's also an important opportunity to transform back-office financial, human resources and other services across dozens of departments.

The project will replace legacy ERP systems with SAP's latest-generation S/4HANA platform, which will be hosted in the cloud. The stakes are high, with GovERP "aiming to achieve whole-of-government efficiencies, operational effectiveness, increased agility, and visibility of workloads through the use of secure cloud infrastructure".[10]

But while SAP is the dominant ERP provider for large government organisations, smaller agencies can also choose from a range of more affordable solutions, such as Microsoft Dynamics. Whichever solution an agency chooses, it should be delivered from a cloud platform that offers the availability, scalability and security the agency needs, while meeting compliance requirements.

An experienced technology partner can help agencies navigate through this minefield, while bringing the technical know-how needed to help migrate from legacy systems to the new platforms. That partner should also have expertise in tools such as SAP Cloud Appliance Library, which offers a quick and easy way to create SAP workloads in cloud infrastructure.

For more details on SAP modenisation, view our paper, Accelerate time to value with SAP on Cloud here.

Accelerating the time to value of cloud migrations

One sure way to break down barriers to change in government is to deliver measurable results. That's not easy, as evidenced by the failed transformation projects that are all too common in both the public and private sectors.

Improving public service capabilities in IT strategy, evaluation, project management and change management should help reduce this risk. But while whole-of-government initiatives provide valuable resources, each agency has its own unique needs that require specific strategies and execution roadmaps to help it set goals, meet milestones and deliver measurable results.

Those strategies and roadmaps require careful planning to ensure the cloud migration delivers early results and lasting value. In addition, the implementation stage can be extremely complex, requiring a broad set of tools, capabilities and experience that very few organisations possess. This includes both technical and organisational capabilities such as change management. The latter is vital in introducing agile new ways of working that can deliver quick and ongoing measurable results.

A technology partner such as HCLTech can augment agencies' internal capabilities with broad and deep expertise in cloud transformations. Depending on an agency's needs, we can help it plan, guide and implement its cloud migration.

Specifically, we can help to:

Align agencies' technology goals with their business strategies so that their migration delivers meaningful change to operating models, business processes and work practices

Reduce the risk of failure by assessing an organisation's IT environment and introducing governance processes

Create a suitable cloud strategy, including a roadmap of applications to be migrated or modernised

Choose the right technology mix and architecture to help meet an agency's needs and achieve its goals

Speed up time to value with accelerators, frameworks and other tools to help migrate workloads to the cloud at scale

Modernise mission-critical applications such as ERP systems by taking a human-centred design approach to solving complex issues such as aligning organisational and end users' requirements

Prevent agencies from becoming the subject of high-profile data breaches by introducing cyber security best practices.

What's more, as a brand-agnostic service provider, we offer impartial advice and expertise across a range of leading cloud providers and technologies. That enables us to deliver a tailored solution that best suits each agency's needs. We can also assist agencies' transformation processes through training and on-the-job knowledge transfer.

Six key steps to a successful cloud migration

A cloud migration without adequate planning and resources can lead to major problems during and after the project. It can result in unsatisfactory user experiences, cost blowouts, increased system downtime and security vulnerabilities. Here are six vital steps that, in our experience at HCLTech, can help ensure the success of a cloud migration:

1. Embed security into all aspects of the migration

As the DTA's *Digital Review* says, "Security should be embedded into systems, processes and culture, and be regularly reviewed." That starts with ensuring all cloud services offer secure authentication, user identity management and access control.

2. Build in redundancy to avoid downtime

To avoid outages, agencies should consider adopting a multi-location or multi-cloud environment with adequate disaster recovery, backup and availability strategies. Having workloads across multiple locations adds resiliency and greatly reduces the risk of downtime.

3. Test, test and test

Security, integration and performance testing are vital steps in cloud migrations. It helps avoid unexpected gaps in business processes, future scalability issues, server breakdowns, vulnerabilities and database errors.

4. Optimise usage to manage costs

To prevent underutilisation of cloud resources and unbudgeted costs, agencies must define benchmarks and KPIs, establish governance processes, and use analytics and automation tools to monitor environments.

5. Enable continuous modernisation

While it may be tempting to take shortcuts such as 'lifting and shifting' an on-premises application to cloud infrastructure, that does little to reduce technical debt associated with the application and should only be viewed as a temporary solution. By adopting new development processes and tools, agencies can build cloud-native software that takes full advantage of the cloud's inherent capabilities, such as agility and scalability.

6. Include people and processes in the transformation

Planning should include organisational and operational change management to ensure people and processes adapt to cloud solutions. Migrating to cloud applications and environments changes the roles and responsibilities of many different users. It may even include merging teams and changing the way they work, as is typically the case for DevOps teams that adopt agile methodologies to support continuous modernisation.

How HCLTech can help

HCLTech advises, curates and orchestrates cloud technologies and services from market-leading partners. Our 25,000-plus infrastructure and operations professionals support more than 250 customers across all major industries and continents.

We have the capability and capacity to assist agencies at all levels of government with their cloud transformations. We have invested heavily in building our local capability in Australia and continue to do so to support government agencies. This investment includes our acquisition of Australian IT solutions firm, DWS Group.

Our cloud ecosystem includes:

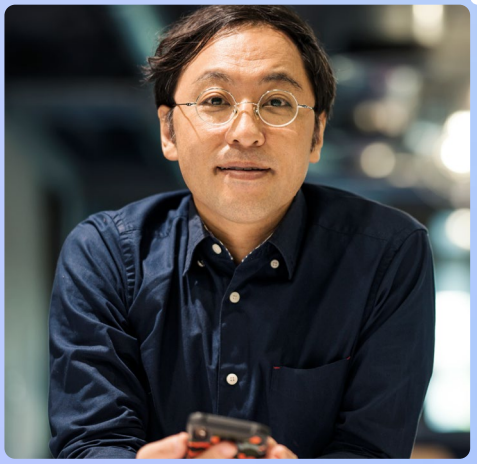
AWS, as a Premier and a Managed Service Partner, and Migration, Storage, DevOps Competency Certified Partner

Google Cloud, as a Premier and a Managed Service Partner and Engineering Partner

IBM and **RedHat**, as a Premier Global System Integrator Partner, with dedicated centres of excellence for hybrid cloud, cyber security, Watson AI and more

Microsoft, as an Azure Expert Managed Service Partner and Azure Gold Certified Partner, with 11 Gold competencies including SAP specialisation

SAP, as a Global Strategic Services Partner with over 25 years of experience



HCLTech's other cloud technology and data centre partners include the likes of Cisco, Dell Technologies, Equinix, Intel, NextDC, Telstra and VMware. Together, we provide scalable, fully integrated cloud services that deliver results.

HCLTech's cloud expertise is widely recognised by independent analysts. We have been named:

Leader in the **2022 Gartner® Magic Quadrant™** for Public Cloud IT Transformation Services and the 2021 Gartner® Magic Quadrant™ for Public Cloud IT Transformation Services

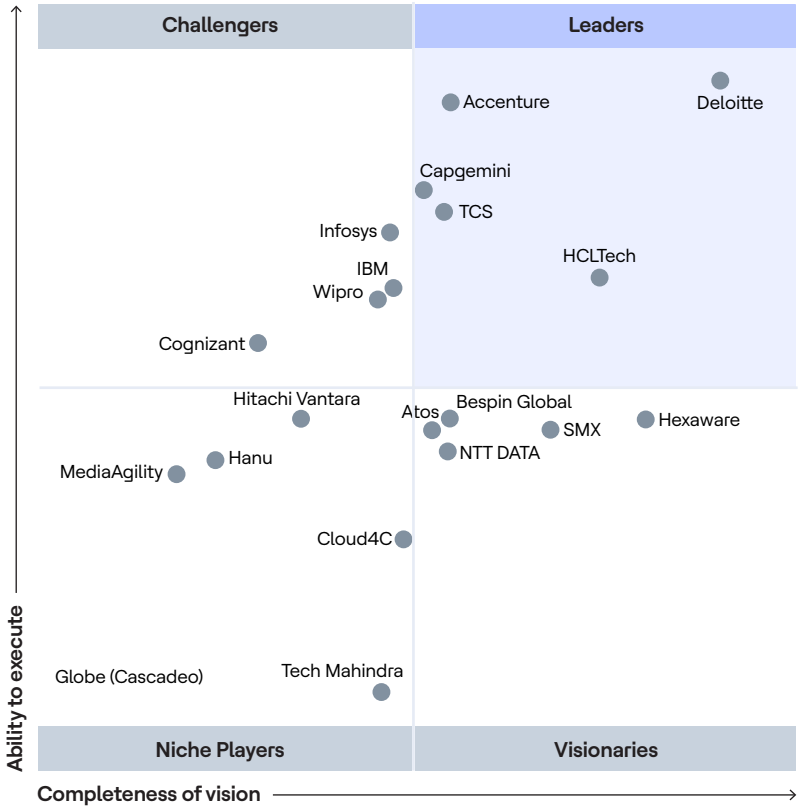
Leader in the **ISG Provider Lens™** AWS – Ecosystem Partners – AWS Managed Services and AWS Migration Services, Australia 2021

Leader and number one player in the **IDC MarketScape**: Worldwide Managed Multicloud Services 2021 Vendor Assessment

Leader in the **Everest Group PEAK Matrix™ Assessment** for Cloud Service Providers 2020

Leader in client reference scores for "extraordinary client satisfaction" by **Forrester Research**

Figure 1: Magic Quadrant for Public Cloud IT Transformation Services



Source: Gartner (July 2022)

Building a platform for the future

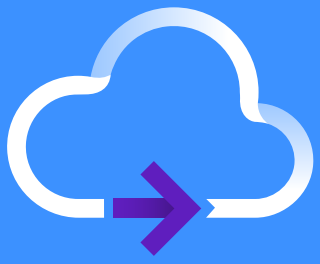
HCLTechs' comprehensive suite of consulting services helps organisations assess their cloud maturity model and develop their cloud strategies, business cases, adoption strategies, execution roadmaps, operating models and governance processes. We also offer specialist expertise in modernising ERP systems and data environments, and adopting AI, IoT and other advanced technologies.

Our consulting services include exclusive access to HCLTech's CloudSMART accelerators, frameworks, reference libraries and other tools that are built on proven best practices. They are designed to simplify and accelerate complex tasks such as selecting the right cloud architecture, scaling cloud migrations and assessing progress. They can be used in conjunction with existing government tools and frameworks to ensure outcomes satisfy stakeholders at every level.

We also help organisations to continuously modernise their digital environments and applications with tools and services that can help accelerate the adoption of agile methodologies and cloud-native development processes.

This reduces the time to market for new applications, accelerates iterations and enables applications to take full advantage of cloud-dependent technologies such as AI, ML and IoT.

In other words, we can help agencies build a digital platform for the future that delivers continuous improvements to operational efficiency and innovative customer services. We can do so by working closely with agency staff members to complement and enhance their capabilities, while contributing to an upskilled public service.



To explore the possibilities of what a cloud transformation can do for your agency, see hcltech.com/cloud

Contributors

Chris Tucker
Vice President –
Australia and New Zealand
chris.tucker@hcl.com

Chris Cohen
Associate Vice President –
Federal Government Public Sector
christopher.jcohen@hcl.com

Lara Higson
Vice President –
Strategic Programs and Engagements
lara.higson@hcl.com

Damir Klaic
Associate Vice President –
SAP Practice – ANZ Lead
damir.klaic@hcl.com

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