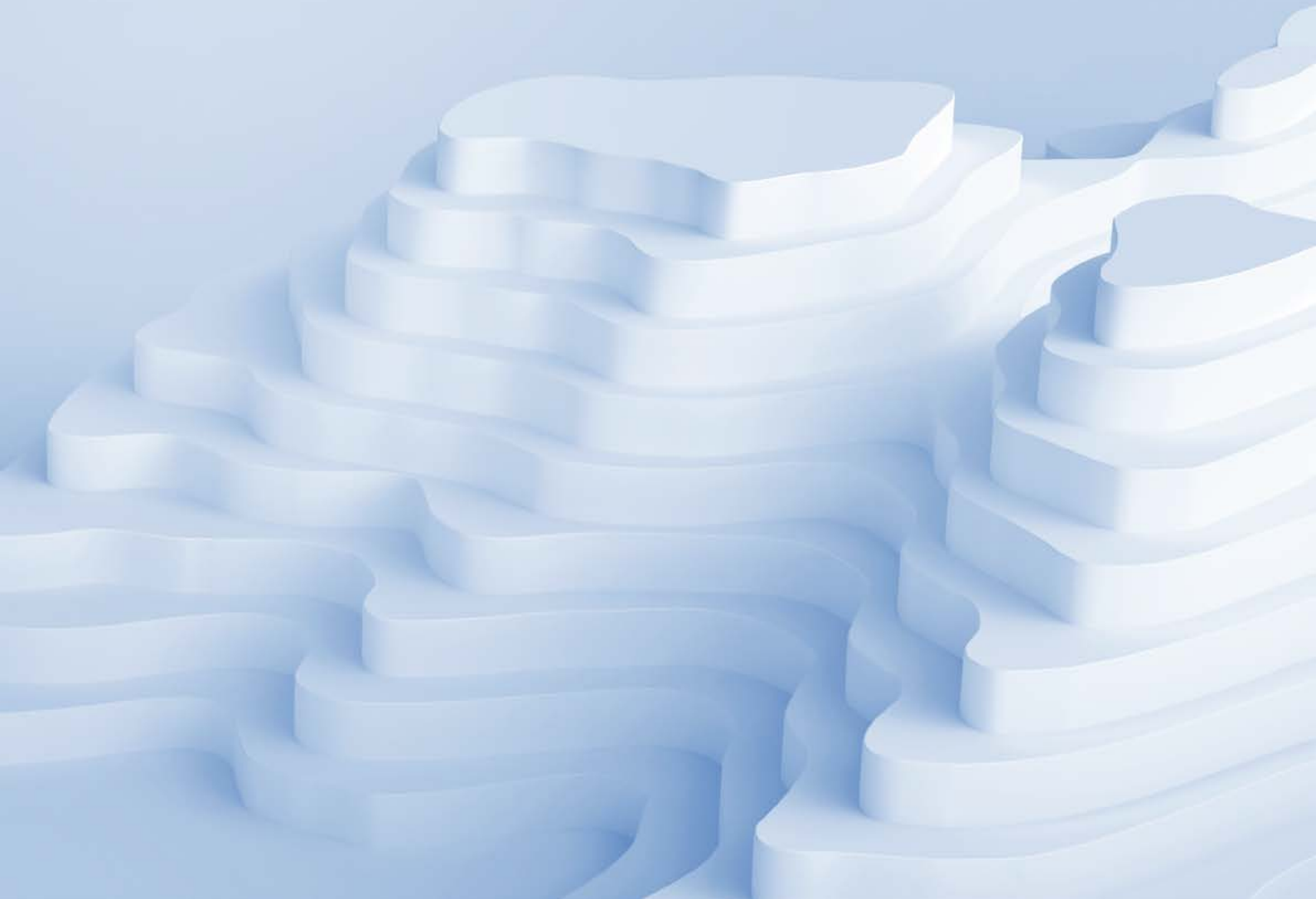




THE CLOUD IMPERATIVE FOR THE PUBLIC SERVICE INDUSTRY



CONTENTS

03 Executive Summary

05 Industry Context

09 State of Cloud in
Public Service Today

12 Value Case for Cloud Now

16 Moving to Action

EXECUTIVE SUMMARY

The cloud provides public service organizations with flexibility and scalability to help tackle uncertainty and unplanned demand, as well as providing new opportunities for bringing forward new ideas. The public sector recognizes the strategic importance of cloud: in a 2019 global Accenture survey, 70 percent of public service executives indicated that migration of technology infrastructure to cloud would be critical or very important to the transformation of their organization's core models and systems in the next three years.¹

Using cloud, public service organizations can rapidly access new capabilities when they're needed most. For example, applying analytics to data super-sets and AI-driven processes for cross-agency insights. Another real benefit is the variable costs that come with cloud. Because consumption can be dialed up and down on demand, governments can closely monitor and control spend.

Ultimately, cloud platforms and modern architectures will allow public service agencies and organizations to become more data-centric. This will support better decisions, improve program design and enable more personalized and responsive citizen services. These capabilities will be even more important as budgets fluctuate and nations grapple with the consequences of COVID-19.

All too often, public service organizations start from a heritage of aging legacy systems and costly technical debt established over multiple decades and resulting in an information technology (IT) estate which consumes investment and is slow and rigid. For example, between 2014 and 2019, spending on the maintenance of legacy IT systems rose by 13 percent to account for nearly 80 percent of the US government's total IT spend.^{2,3}

COVID-19 has been an unprecedented wake-up call. Organizations everywhere have had a powerful and direct reminder of the importance of systems resilience, flexibility, adaptability, and scalability. As public service organizations look to outmaneuver the uncertainty heightened by the pandemic, the focus has shifted to sustaining operations under severe upheaval, flexing to address volatile service demand, and managing vastly increased needs for remote network access. Cloud can help public service organizations to mitigate business risk, emerge stronger and be prepared to thrive amidst uncertainty in the future.

There is broad acceptance of the flexibility and compute-power benefits that cloud provides, and most governments and public service organizations have established cloud strategies, embraced a level of cloud-based use-cases and scaled Infrastructure as a Service (IaaS) implementations. Market researcher IDC recognizes the continued importance of cloud in the new landscape, indicating in its June 2020 forecast that IaaS

Between 2014-19, spending on maintenance of legacy IT systems rose by 13 percent to account for nearly 80 percent of the US government's total IT spend.^{2,3}

will grow by 30 percent over the next five years.⁴ This is especially notable when every other IT service shows downward or very modest growth (ranging from negative four percent to 8 percent).

Many public service organizations are, however, still struggling to move away from costly on-premise estates and legacy providers and achieve cloud migrations at scale. For a range of reasons—cost and budgetary pressures, technology, security, complexity, legacy, data classification, data sovereignty, capability, and/or human psychology—many workloads are still in on-premise data centers.

There's a real opportunity for public service organizations to realize cloud's full potential, enabling them to provide better citizen services, become more agile and to innovate. Nevertheless, however clear cloud's value proposition may be, its adoption by public service organizations can be complex.

There's no panacea for transitioning applications and services to the cloud, and lack of a clear migration strategy can end up costing more, leaving unresolved legacy issues, and racking up consumption and costs at an alarming rate. But many organizations have made this transition successfully. Success comes from an intelligent cloud journey that balances speed and value, is business-led and focused on citizen outcomes. Cloud is only a means to success, not an end.

INDUSTRY CONTEXT

Backdrop: Trends shaping public services

Public services have long recognized the need to modernize and reduce costs. After all, many governments have operated in an environment of austerity and cost pressures over the past decade, and all are expected to demonstrate value for money.

Against this backdrop, citizen expectations have grown and demands on public service organizations have steadily increased. Governments and citizens now look to public service organizations to drive digital change and provide personalized and tailored services across previously siloed agencies.

COVID-19 has magnified the need for service resilience, as well as the need to be far more agile and responsive. Post-pandemic, there will be an ongoing demand to do more with less, with further budget constraints likely to limit IT investment. This is not limited to public services. Market researcher Gartner revised its forecast for IT spending in April 2020, outlining a worst-case scenario for this year in which spending will decline by five percent (to US\$3.56 trillion), 8.6 percent lower than the growth rate published in February 2020.⁵

Market researcher Gartner revised its forecast for IT spending in April 2020, outlining a worst-case scenario for this year in which spending will decline by five percent (to US\$3.56 trillion), 8.6 percent lower than the growth rate published in February 2020.⁵

The power of **technology**

The following key challenges create a compelling need for solutions for public services organizations, but also allow for creative, new services to emerge:



Demand for modern services

There are expectations for personalized and tailored services by channel of choice. What if public service agencies could serve citizens right where they are, through their channel of choice? Agencies could use virtual technologies to conduct eligibility assessments for government subsidies, for example. Many of these new ways of delivering public services would also enable better working experiences for public servants, e.g., technology-enabled, remote working.



Demand for flexibility

There is a growing need for public service organizations to be responsive to demand; the ability to scale up and scale down capabilities based on immediate need has been sharply highlighted by the pandemic (for example, meeting soaring claims in many countries for unemployment benefits at speed). What if public service agencies could increase access to, and speed of, justice; embracing the power of the cloud to allow people faster access to legal services virtually and handle cases more quickly to avoid delays?



Need to derive insight from data

Public service organizations face the challenge of extracting and gaining meaningful insights from an array of data sources in legacy applications, as well as new volume-intensive sources such as body-worn cameras. COVID-19 has shown what can be done with real-time data shared across public and private sector organizations for track and trace, with new services being created in days rather than months. What if cities could use a dynamic urban mobility platform, powered by the cloud, to maximize transport and transit decisions, using predicted demand to best manage planned or unplanned events?



Growing cybersecurity threats

As cyberattacks increase in volume and sophistication, agencies need to invest in more resilient and secure architectures and platforms. Otherwise, they run the risk of service discontinuities or security breaches that could critically impair governments' ability to operate. What if cloud could offer increased data security and protection by partnering with industrial scale cloud-based platform providers to reduce risk?



Complexity of decoupling from legacy technology and providers

Several governments have experienced "lock-in" from IT outsourcing providers and are struggling to extract themselves from existing sourcing arrangements to move away from on-premise data centers. What if public service agencies could decouple from legacy technology—and innovate new products and services quickly?



Further cost pressures

Governments will be required to maintain or improve services to citizen, but often with reduced capital expenditure. What if public service agencies could increase social equality? Cloud-based technology allows government to provide faster, better services, making it cheaper and easier for those most in need to get the services such as video-based service delivery in child welfare.

As a sector, public service encompasses several agencies with different demands, needs and priorities. While there can be no one-size-fits-all approach, public service organizations need to individually define the value they're seeking, map out the journey and determine the organization's ambition level. This is less daunting than it sounds.

Perhaps more complex for public service organizations, compared to other industries, is the need to put data and citizen events at the heart of the transformation. This in turn means interoperability across the ecosystem is key.

Path forward: **Technology-led response**

In response to the challenges they face, governments need to pursue four modernization imperatives, each of which are supported and enabled by cloud:



 **Transform citizen services**

Through human-centered design, enabling a true omnichannel and increasingly virtualized experience, personalized to the user, that enables self-service with straight-through processing. Agencies need to move away from traditional organizational silos and focus the experience around user-recognizable life events.

 **Become more data-driven**

Governments have an opportunity to unleash and exploit data to drive better operational insight and be more efficient and effective. Better management of data will support adherence to compliance requirements as well as improving data quality.

 **Address technology debt**

Shift to modern, secure and resilient architectures, pursuing consolidation and reduction of legacy applications with a benefits-led plan.

 **Move to new ways of working**

To take advantage of cloud and associated technologies, governments need to invest in capabilities and work across the ecosystem to build and use new skills and ways of working.

Public service organizations are at different points on their digitalization journeys. And while the focus to date has been on modernizing existing functions and cost reduction, true digitalization means doing things differently with technology.

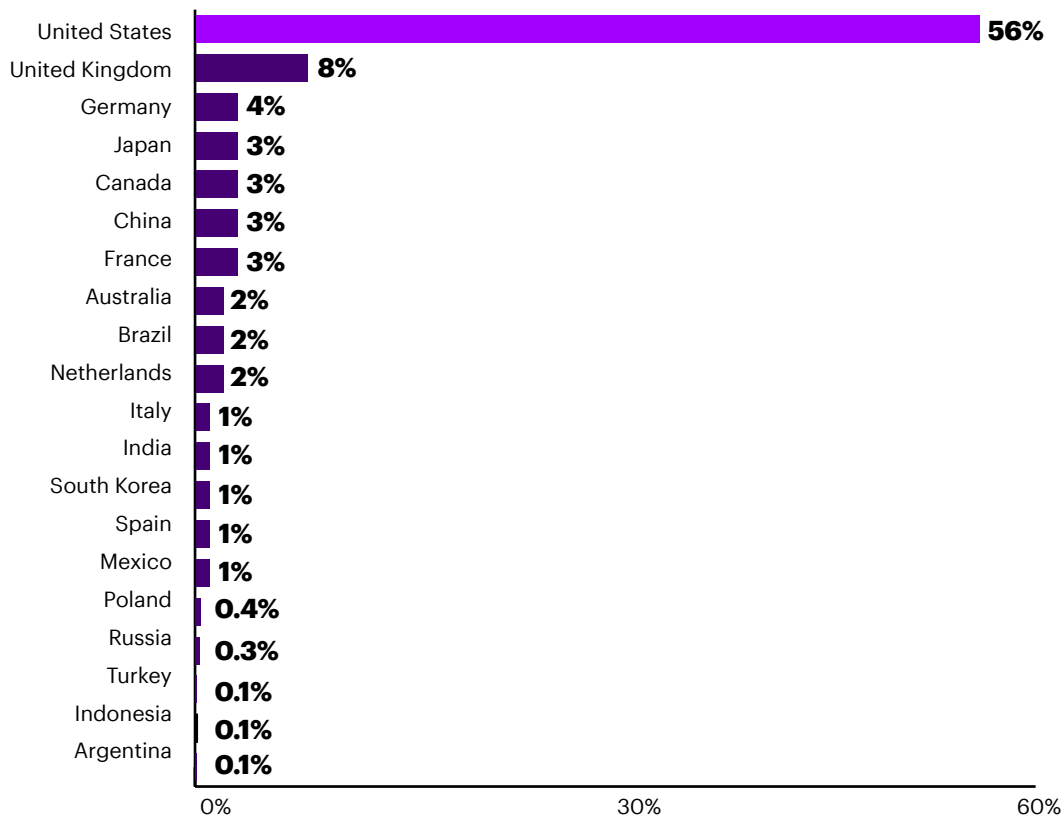
The pandemic has made people more aware of the role of government in their lives. This hyper-focus on public service offers a window of opportunity to re-establish or reinvent the public service brand, using cloud to meet the demand for new, more responsive and personalized citizen experiences.

STATE OF CLOUD IN PUBLIC SERVICE TODAY

Cloud is not a new concept to governments. For example, the UK government introduced a “Cloud First” policy in 2013 for all technology decisions and, across the globe, cloud solutions in the public service are growing year on year. That said, and underlining the fact that approaches to cloud adoption for public service organizations remain nuanced, the UK government digital services clarified in 2019 that the policy “requires them to ‘consider’” public cloud services before any other option, but that those other options do remain open to them.

IT Spending on public cloud services as a percentage of the worldwide total, 2018

Percentage of Respondents



Source: <https://www.gartner.com/document/3947406?ref=solrAll&refval=256471319>

Most government organizations have a cloud strategy in place by now. But while consumption is growing, we have yet to see scaled adoption of public cloud and modern architectures in many countries.

Government agencies too often struggle to break free from incumbent IT providers following decades of outsourcing and, as a result, many are looking to grow and develop core internal capabilities such as architecture, program management, and delivery operations.

These experiences of long-term contractual lock-in with IT outsourcers mean that some governments are also understandably concerned about similar situations arising with cloud service providers (CSPs) [e.g., Microsoft Azure, Alibaba Cloud, Google Cloud, AWS] going forward. Strategies to address this—such as multi-sourcing clouds—may be helpful here, although the potential cost of doing so needs to be factored in.

CSPs are investing in industry specific offerings for the Public Sector and advantages can be gained in exploiting these to accelerate Cloud journeys. Accenture has worked with our 17 ecosystem hyperscale/cloud and platform business group partners to develop over 100 Industry Precision Plays (Solutions). Public Service examples include:



 **Azure Video Enabled Justice**
Azure Social Services – Azure – Accenture
Virtual Visits Solution

 **AWS HomeCare for the elderly**

 **AWS Public Safety Platform**

Historically, concerns around security and Personally Identifiable Information (PII data) have limited growth in public cloud adoption. The European Union’s General Data Protection Regulation (GDPR) is a case in point, particularly where European government organizations are concerned.

Most government organizations do, however, now accept that public cloud is viable below secret levels of data classification. But data sovereignty is still a concern for European countries, as demonstrated by projects such as GAIA-X, alongside issues linked to the prevalence of US-based hyperscale providers.⁶

The slow adoption of cloud at scale means that the full transformational benefits of cloud remain elusive. Public service organizations need to act now to map a route that raises cloud from scaled IaaS to Platform as a Service (PaaS) and Software as a Service (SaaS) models that will create real value.

While challenges to public cloud adoption by government remain, there are also many positive stories—for example, in the US, UK, Australia and New Zealand, where there have been various successful rollouts of local cloud instances.

An example of this is the Metropolitan Police in London. A massive user of Azure, it is now collaborating with Microsoft to develop innovative digital investigation processes using Azure cloud storage, automation, flexible computing power, and advanced data techniques.

So how can public service organizations move ahead to capture the benefits of public cloud? The first step is to build a strong value case for adoption.⁷



VALUE CASE FOR CLOUD NOW

Why cloud?

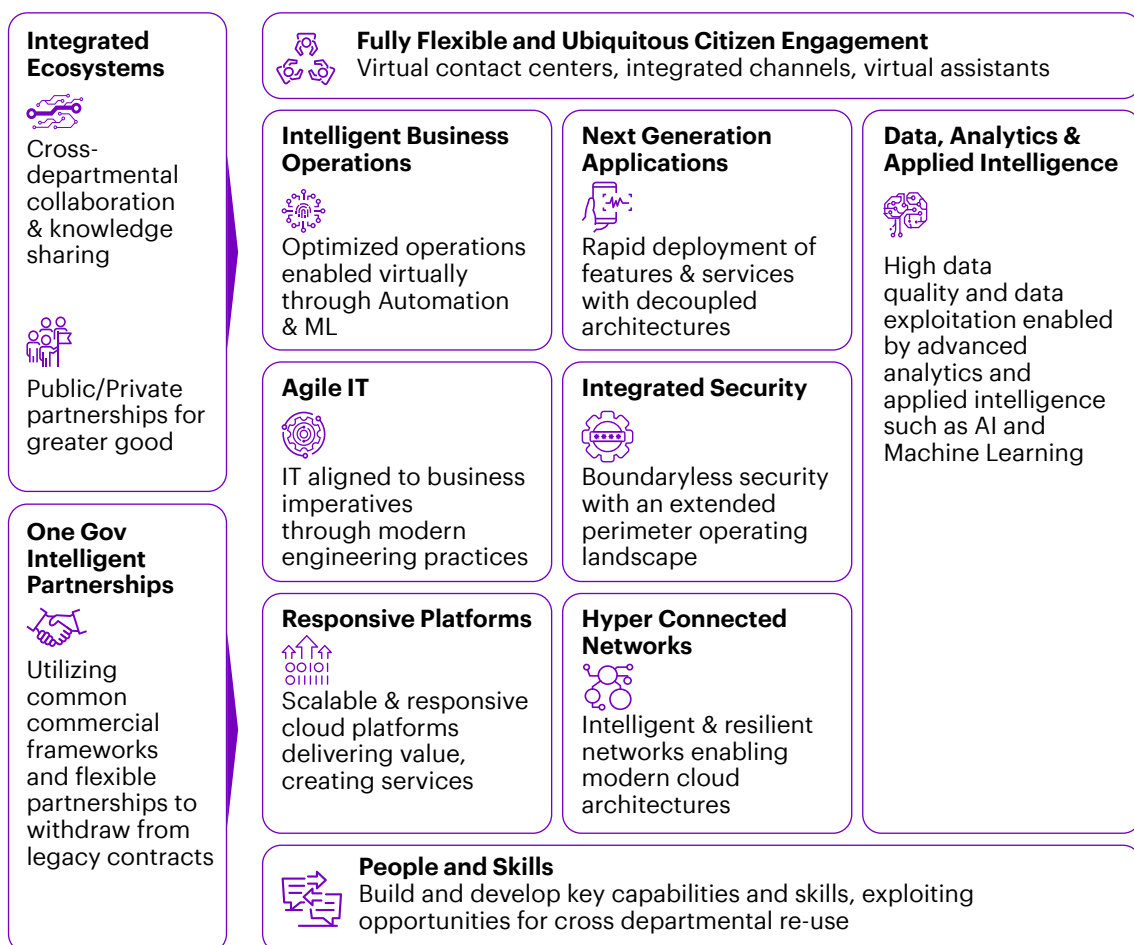
Responsive cloud platforms support the modernization components that will constitute the technology blueprint of public service organizations in the future.

Cloud technology helps services to be deployed rapidly and provides the power for applied intelligence (AI)-powered security to defend against sophisticated cyberthreats. Services on cloud can also be scaled up and down based on demand, and accessibility to business data, and the insights it holds, can be vastly improved.

A flexible and accessible technology architecture also increases the potential for cross-agency and external partner information-sharing, and for valuable public-private partnerships to be established. Both are key to building and extending the ecosystems within which public service organizations must increasingly work.

The case for cloud is compelling and summarized in the blueprint below.

Fit for future government department technology blueprint



The service transformation that this technology blueprint enables has a number of elements:



Integrated ecosystems

Productively harvesting data across the ecosystem to deliver better citizen experiences, provide a “single view of customer”, and enable digital identity and verification.



Intelligent partnerships

We are seeing new ways of working and investment coming from hyperscale providers which public sector organizations should look to make use of, as well as cross-government discounts and commercial terms that recognize the scale and buying power of governments.



Citizen engagement

Citizen services are increasingly available through self-service channels, with the experience being tailored and personalized based on the circumstances of each citizen—e.g., US Vets.gov on AWS GovCloud (US)⁸ and scalable in times of need such as Rhode Island Case.⁹



Intelligent business operations

Front-office services become integrated with automated back-office services; by enabling straight-through processing without clerical intervention this reduces cost to serve—e.g., DWP Intelligent Automation Garage.¹⁰



Next-generation applications

Core business logic encoded in legacy systems is increasingly being disaggregated or migrated to more modern platforms. This avoids the need for whole system replacements, and the business risk associated with “big bang” implementations.



Agile IT

Using iterative development methods, and flexible application development infrastructure, services can be created, tested, and deployed more quickly. This in turn allows citizen services to be incrementally enhanced based on feedback from users following implementation of initial core functions.



Integrated security

The adoption of proven public cloud platforms brings an integrated and robust set of security controls and features.



Responsive platforms

By moving data onto flexible cloud platforms, data can be accessed and shared more easily. With proper security controls, this supports richer and more integrated citizen interactions, supports crime detection and prevention, national defense, and global security.¹¹



Hyperconnected networks

Exploring cloud and how it fits with Internet of Things (IoT), edge computing and 5G. This makes future solutions possible such as last-mile delivery via autonomous drones and connected sensors enabling traffic monitoring and control.



People and skills

Traditional separation between application development and subsequent maintenance and support is dissolving. Integrated development, security, and operations teams are becoming commonplace. This allows applications and services to be built and deployed with fewer hand-offs, supporting greater flexibility.



Data, analytics, and applied intelligence

Alongside the benefits of increased data-sharing, the aggregation of data on a cloud platform allows more extensive interrogation of that data, e.g., to identify child-trafficking victims faster.¹² Government agencies have valuable insights about citizens that are often inaccessible within siloed applications. By migrating data from multiple applications onto a common platform, more holistic insights can be derived. This in turn can improve personalization of services, and informs both policy-setting and operating model design.

Why now?

From the outset, public service organizations were at the forefront of COVID-19. Many of the aspirational “nice to have” capabilities suddenly became “must haves.” Moving at speed, adapting, and scaling becomes a lot more straight forward with cloud. The pandemic graphically highlighted the benefits cloud provides—and underlined why it is so important for governments to accelerate their cloud adoption from now on.

The need for public service organizations to respond rapidly in volatile and unpredictable situations looks set to continue. Governments must be ready and that means using cloud’s power to analyze the mass of data to which they have access. The cloud is no longer something for public service organizations to work towards. It is a mission-critical priority.

Against this backdrop, the cloud value proposition has never been stronger.



Costs—costs have decreased consistently over the past five years with continual price drops and structural pricing improvements.



Functionality—in parallel, cloud functionality has been expanding at 33 percent compound annual growth rate (CAGR) during that time (four-times the number of services, and four-times the rate of new releases compared to 2015).¹³



Transformation—the major public cloud platforms are releasing several thousand new, transformation-enabling services each year with increasing sophistication and tailoring for specific industries. In fact, many of the latest new technologies are now only being built in cloud.



Security—security measures and regulatory compliance have fully matured and public clouds now offer stronger controls than on-premise solutions. Add to that the increased number of cloud instances and offerings, such as AWS GovCloud in the US, that address data sovereignty and security concerns. This enhanced security, together with greater transparency over how data is being used, will be key to earning and keeping citizen trust—particularly in the pandemic’s wake when so much more citizen data is being collected by governments.



Co-investment—cloud service providers are now willing to co-invest to accelerate the journey in exchange for committed workload consumption. This is a great opportunity for government to move forward with cloud adoption. Alongside the cloud service provider, industry specific offerings are growing and can provide new accelerated routes to market for the cloud service offerings.

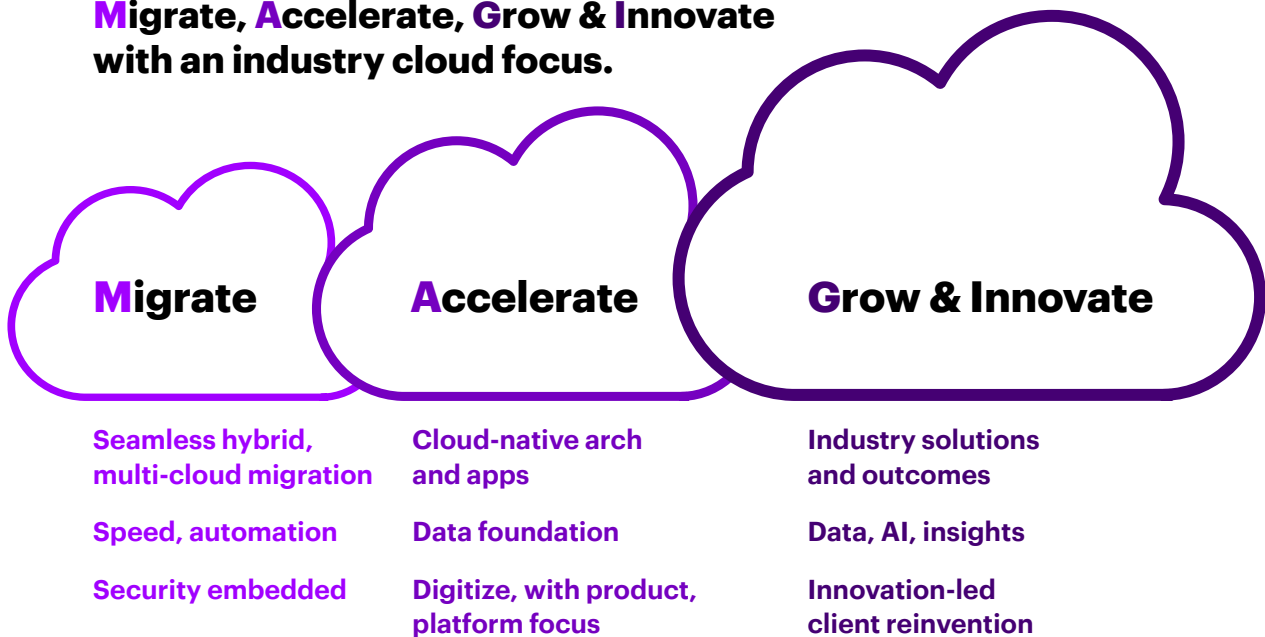
Cloud functionality has been expanding at 33 percent CAGR during that time (four-times the number of services, and four-times the rate of new releases compared to 2015).¹³

MOVING TO ACTION

Making cloud work in public service

WINNING FORMULA:

Migrate, Accelerate, Grow & Innovate
with an industry cloud focus.



Migrate: Migrating infrastructure and software to cloud reduces IT “run” costs and technical debt, and enables scalability on demand. This is an effective way to build foundational cloud operational capability and set up secure landing zones, stand up core processes and build architectural patterns.

Accelerate: Building on a more robust cloud infrastructure, accelerate technology enhancements and affect basic efficiencies in business operations and reducing IT “change” costs (e.g.; service-center enhancements, less rework, and reduced system lag and downtime).

Grow & Innovate: Platform solutions accelerate and de-risk business improvements with proven, evolving solutions.

Public sector organizations typically undertake a mixture of these transformation types in parallel. Quick wins can be achieved by shifting data-intensive processes to scaled IaaS or by migrating smaller applications which need minimal re-platforming for a cloud environment. In parallel, organizations can start transforming key processes and mapping business systems to the future cloud platform.

In most cases, public service organizations will need to adopt digital decoupling, which is a hybrid approach that allows legacy systems to run in parallel with new technologies as modernization initiatives roll out over time, steadily reducing technical debt.

Regardless of the cloud state(s) that an organization pursues, changes to its operating model will be needed. That is because cloud infrastructure and cloud applications run differently, use different processes, and require different roles, metrics, and data governance rules. A revamp of the operating model for cloud is best achieved by a dedicated team focused not just on the technical aspects of cloud migration and development, but also on the organizational and cultural aspects. IT workforces need to be reskilled to support the cloud transformation and take advantage of new capabilities, like DevOps, that they will support.

Architecture is a core capability, and clear principles need to be in place to ensure consistency in adoption and implementation, as well as frameworks to support the assessment of applications. “Lift and shift” IaaS migrations can generate technology cost savings. But much greater (and longer-term) value comes from the strategic benefits that PaaS and SaaS provide.

Journey to cloud

Discussions on cloud strategy in public service have moved beyond “if” a journey to cloud is sensible, and are now focused on “how best” to make that journey.

Generic templates and approaches will not be able to tackle the complexity of many government agencies’ circumstances. By asking the following questions, it will be possible to shape a bespoke strategy that delivers maximum value:

What are the primary reasons for migrating services to cloud?

Understanding the primary motivation for migration will inform both the migration strategy and the prioritization sequence:

- Access to new and enhanced capabilities and functionality.
- Cost reductions through economies realized by exiting on-premise hosting contracts.
- Realization of more flexible capacity to deal with volatility in operational volumes.
- Architectural modernization to help transform delivery and implementation methods and adopt agile processes.
- Realization of better data accessibility and improved insight from that data.
- Improved security architecture.

How will you approach migration prioritization and sequencing?

By assessing which workloads and services yield the most benefits, versus the cost of their migration, a prioritization approach and migration sequence can be refined:

- Which services are your stakeholders/citizens demanding?
- Which services yield the quickest return on investment in relation to the migration reasons defined above?
- Which services are the costliest or are approaching end-of-life status?
- Which services require migration to enable service transformation?
- Which services can be consolidated or retired?

What cloud capabilities and skills do you require, and do you have them in your organization?

Some cloud migration capabilities are becoming commoditized, but modern cloud platforms enable agile software delivery and maintenance methods to be implemented. This may require re-education of IT development teams and a more holistic IT operating model spanning development, security, and IT operations:

- What is the target IT operating model?
- What skills and capabilities does your existing IT organization possess?
- What is the strategy for training existing staff, recruiting new staff with the required capability, and collaborating with IT partners to bridge capability gaps?
- What is the future strategy for continuous learning, and career development of IT resources?

How can our organization best align business transformation ambition with IT and cloud strategy?

Cloud strategies are catalysts for business transformation. IT programs which lead with technology as an outcome often lose momentum and business sponsorship. It is therefore important that business and IT objectives remain aligned, and that alignment is regularly checked:

- What are the dependencies between business projects and programs, and cloud strategy milestones?
- How are the benefits of the cloud strategy identified, and how are they measured to prove they are being realized?
- Are the benefits of the cloud strategy articulated in business terms—e.g., benefits for speed, responsiveness, flexibility, and improved customer service?
- Are business sponsors identified for the cloud strategy as well as CIO/IT sponsorship?

Developing a cloud strategy that addresses these different areas and balances the sometimes conflicting demands of public service organizations is challenging. Accenture has experience with pragmatically assessing these factors and working collaboratively with clients to produce customized solutions. We also bring lessons from the private sector to apply to public service clients and utilize our long-lasting partnerships with all the major cloud providers.

Overall, Accenture is well positioned to help public service organizations accelerate the many paths to realizing the full value of cloud through our:

Architecture for transformation

Innovative platforms to accelerate the journey.

Unparalleled talent and experience

World-class learning and talent development expertise.



Unmatched ecosystem of partners

We are the leading partner for AWS, Azure and Google and the #1 co-innovator with SAP and Oracle.

Proven, industry-tailored solutions

We have developed more than 50 industry-specific cloud solutions that meet the particular demands of the public service industry.

CONTACTS



RYAN OAKES

Senior Managing Director
Strategy & Consulting, Global Public Service
ryan.m.oakes@accenture.com



MARK LARSEN

Managing Director
Technology, Global Public Service
mark.larsen@accenture.com



JAMES E. BURROWS

Managing Director
Technology Strategy & Advisory
james.e.burrows@accenture.com



CATHERINE WATSON

Senior Manager
Technology Strategy & Advisory
catherine.watson@accenture.com

REFERENCES

1. Master of innovation, Accenture, March 2020, <https://www.accenture.com>
2. "10 Government Legacy Systems Cost Taxpayers \$337 Million Every Year", June 2019, <https://www.nextgov.com>
3. Modernize with impact, Accenture, March 2020, <https://www.accenture.com>
4. Worldwide Black Book: Live Edition, International Data Corporation, June 2019, <https://www.idc.com>
5. Gartner, Forecast Analysis: Global Recession Scenario, April 2020, www.gartner.com
6. GAIA-X Takes Major Step Toward Sovereign European Digital Infrastructure, Data Infrastructure for Europe, September 2020, <https://www.data-infrastructure.eu/>
7. Microsoft joins forces with the Metropolitan Police Service to tackle crime across London, June 2019, <https://news.microsoft.com>
8. Vets.gov on AWS GovCloud (US): A Single Place for Veterans to Discover, Apply for, Track, and Manage Their Benefits, January 2018, <https://aws.amazon.com/>
9. Amazon Connect customers, Amazon, <https://aws.amazon.com/>
10. AI Week: DWP reaps robotic rewards, Public Technology.net, October 2019, <https://www.publictechnology.net/>
11. Readying the warfighter: U.S. Navy ERP migrates to AWS, Amazon, January 2020, <https://aws.amazon.com>
12. Thorn Uses AWS to Help Law Enforcement Identify Child-Trafficking Victims Faster, Amazon, <https://aws.amazon.com>
13. The Digitization of the World From Edge to Core, Seagate, May 2020, <https://www.seagate.com>

About Accenture

Accenture is a leading global professional services company, providing a broad range of services in strategy and consulting, interactive, technology and operations, with digital capabilities across all of these services. We combine unmatched experience and specialized capabilities across more than 40 industries — powered by the world's largest network of Advanced Technology and Intelligent Operations centers. With 506,000 people serving clients in more than 120 countries, Accenture brings continuous innovation to help clients improve their performance and create lasting value across their enterprises. **Visit us at www.accenture.com.**

Disclaimer: This article has been published for information and illustrative purposes only and is not intended to serve as advice of any nature whatsoever. The information contained and the references made in this article is in good faith and neither Accenture nor any its directors, agents or employees give any warranty of accuracy (whether expressed or implied), nor accepts any liability as a result of reliance upon the content including (but not limited) information, advice, statement or opinion contained in this article. This article also contains certain information available in public domain, created and maintained by private and public organizations. Accenture does not control or guarantee the accuracy, relevance, timelines or completeness of such information. Accenture does not warrant or solicit any kind of act or omission based on this article. The article is the property of Accenture and its affiliates and Accenture be the holder of the copyright or any intellectual property over the article. No part of this article may be reproduced in any manner without the written permission of Accenture. Opinions expressed herein are subject to change without notice.