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AUTHORS

Dilip Guna

Government transformation advisor for Canada at AWS

Isabella Guzman Azcarate

State and local government account manager for Colombia at Amazon Web Services (AWS)

EDITOR

Sarah Ryle

Content lead, AWS Institute

AWS INSTITUTE

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A cloud-first policy directs or requires public sector agencies to use cloud technology as the primary enabler for IT procurement and digital transformation projects. We see that governments whose cloud-first policies are effective have additional measures and reforms. Best-in-class policies make it simpler for government departments and agencies to use hyperscale cloud technology. Spend control mechanisms act as a powerful forcing function for digital transformation through cloud adoption. Building capability, reforming ways of working, and modern procurement vehicles for cloud technology accelerate the creation of transformative services for citizens, which foster new ways of interaction between people and the state. For all of these components to succeed, there must be central oversight and accountability for delivering digital transformation.

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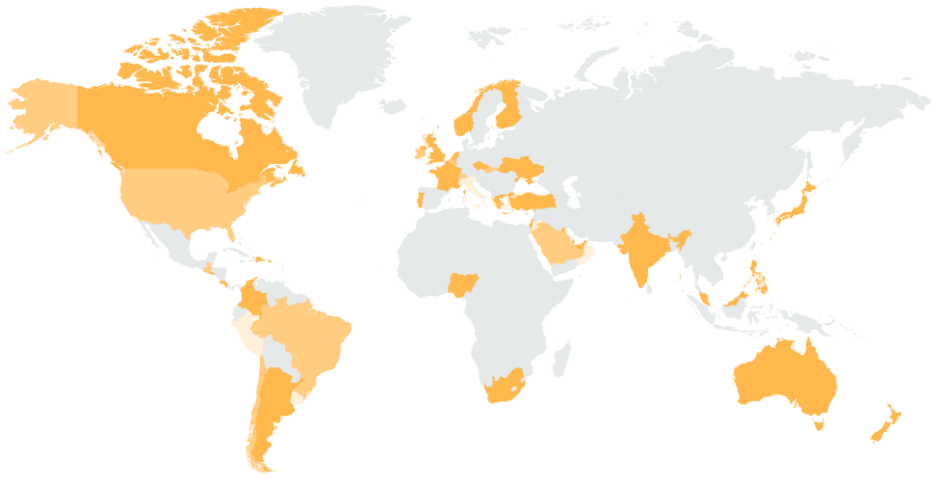

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Setting a cloud-first code of practice

The UK government published its Cloud First policy in 2013. This states that cloud technology should be considered first for services in public sector organizations, prioritizing hyperscale cloud over other models including private cloud. The Cloud First policy directs that organizations will have to demonstrate better value for money if they adopt another solution. The UK government has a series of supporting principles, mechanisms and guides that are brought together in the UK Technology Code of Practice (TCoP). These criteria help the government design, build, and buy technology. All government technology projects and programs must follow the TCoP: it is part of the UK Cabinet Office spend control process. This mechanism is a forcing function for the UK's Cloud First policy because it means that non-compliance can lead to no funding, or fund suspension. The TCoP has 13 principles, linked to guides and case studies, covering elements such as security, privacy, and design. These guides reflect other cloud-enabling initiatives the UK government implemented, such as data classification reform to meet digital-era data protection and security needs. This reform simplified data classification, which then enabled procurement reform so that government could access modern technology and the most innovative providers.

Successful policies for security and data protection

Colombia's Cloud First Policy was introduced in the National Development Plan under law 1955 of 2019 and was reiterated under a Presidential Decree (1263 of 2022). This includes digital transformation policies for the public sector, such as a cloud procurement vehicle, a series of cybersecurity rules, a cloud adoption regulatory framework, and guidelines for public organizations. The regulatory framework recognizes the full benefits of the hyperscale cloud compared to other models, and the trade-offs involved. It includes:

- A presidential directive that promotes the use of hyperscale cloud.
- A cloud-computing guide with best practices to migrate data to the hyperscale cloud, which does not limit cloud use according to the type of data.
- A cloud-security guide with best security practices, which also does not limit the cloud's use according to type of data.
- A directive that contains standards for an adequate level of data protection in countries that will receive and host personal data in the hyperscale cloud.

The terms and conditions of the fourth version of the Public Cloud Framework Procurement Agreement contain no restrictions on hosting data in the hyperscale cloud.

Countries like Iceland, Poland, and Guatemala view the cloud as the way to improve security, user experience of services, and innovation through open government software and standards. Iceland closely tied its Cloud Policy to a digital transformation agenda, which has eight principles to optimize the outcomes from using cloud services. Within this digital transformation agenda, the policy states the benefits of reliable security, flexibility, scalability, efficiency, and cost effectiveness of cloud services. The Cloud Policy is accompanied by digital strategies and policies, covering cyber security, data security, and Artificial Intelligence (AI). Poland introduced its policy in 2020 as part of a broader Common State IT Infrastructure (WIIP) initiative alongside a set of Cloud Computing Cybersecurity Standards. Poland's digital agenda aims to facilitate adoption among public sector organizations through a common framework . This offers practical guidance on the use of the cloud. Guatemala's Presidential Commission for Open and Electronic Government (GAE) published a Cloud Guidebook in 2022. This asks state entities to evaluate preferential use of cloud services when making IT investments. The document clarifies terms, provides guidelines for public officials to adopt the cloud, addresses security and data localization myths, and defines procedures on how to adopt the cloud.

Fostering innovation via "cloud-smart" policy

Canada introduced a cloud-first policy in 2016 as part of a broader digital strategy to modernize government services and operations. The Directive on Service and Digital articulates how organizations manage service delivery, information and data, IT, and cybersecurity in the digital era. Canada's Cloud Adoption Strategy introduced the concept of cloud-smart policy for government organizations to rationalize application portfolios and implement the most appropriate hosting model to help departments navigate modernization decisions. The cloud-smart policy includes guidance on organizational changes, addressing areas such as skills, governance, culture, and finance. Canada's Digital Ambition, built on top of its digital strategy, led to initiatives to support innovation and entrepreneurship in order to encourage collaboration with startups in areas such as healthcare and education.

The government created the Canadian Centre for Cyber Security in 2018, whose compliance assessment program meant government could move workloads to the hyperscale cloud provider's infrastructure.

Departments can buy cloud technology through the cloud service broker, Shared Services Canada (SSC) using a framework agreement. SSC has vetted all listed cloud providers (primarily hyperscale cloud service providers) for all necessary security requirements and contract terms, saving individual departments time they would otherwise spend conducting risk assessments.

Issuing cloud procurement guidelines

The Chilean government began to implement its Cloud First Policy in 2018 following the creation of the Digital Government division in charge of coordinating and advising public institutions on the strategic use of digital technologies. The decree instructed the ministries to evaluate the preferential use of the cloud due to its associated cost savings and delivery improvement, complying with principles of efficiency, legality, technological neutrality, and security. The procurement agency Chilecompra subsequently issued cloud procurement recommendations on cloud services purchase, alongside annual IT project evaluation criteria for all central government agencies. These policies explicitly give preference to a hyperscale or private cloud over a government-owned data center. In terms of cloud procurement, there are two available contract vehicles which reiterate the state's preference for cloud technology, and that simplify procurement processes in comparison to issuing a public tender from scratch.

The Colombian government's Public Cloud Framework Agreement has an open catalog of the authorized cloud service providers, facilitating digital transformation projects in more than 282 public organizations. This procurement vehicle fostered greater adoption of modern technologies and innovation. It promoted faster and simpler procurement, reducing average times from several months to an average of three weeks, with increased transparency. The open catalog concept, which links procuring agencies directly to products and services on the owned and managed catalogs of approved cloud service providers, contributed to the expansion of the digital economy.

In the UK, procurement reform was enabled by data classification reform. This paved the way for the UK Digital Marketplace, the source of approved technology and people for digital projects in the UK public sector. In 2010, 80 percent of government IT spend went to 18 suppliers. After reform, spend went to a wider range of suppliers, including 48 percent to small and medium businesses. Public sector organizations' spending on cloud services grew by 29 percent in 2022 compared to the previous year in the UK.

Cloud-first policy opportunities

The main pitfalls occur when a cloud-first policy lacks additional mechanisms that support cloud adoption. Costa Rica was one of the first countries in the Latin American region to introduce a policy (2013). However, with no overarching framework to support it, it remains somewhat theoretical. While public sector organizations are being encouraged to adopt cloud services, there is no overall digital agenda that addresses the different stages required for organizations to rapidly adopt new technologies and scale their operations while reducing costs and improving efficiency. Peru set a cloud-first policy in 2021 but there is no procurement vehicle suitable for purchasing cloud services, and public organizations state regular procurement processes take between three and six months

In South Africa, the Department of Communications and Digital Technology (DCDT) is the government department responsible for fostering broader economic and social participation of all citizens through digital transformation. The government's cloud and digital transformation agenda will be outlined in the Cloud Computing Policy, expected during 2024. However, another department, the Department of Public Service and Administration (DPSA), is responsible for South Africa's cloud-first policy, the Determination and Directive on the Usage of Cloud Computing in the Public Service (2022). This sets out a cloud procurement framework, which could benefit from a distinction between fixed-cost and variable-cost-based procurement. The government tabled the Public Procurement Bill in August 2023, intended in part to address this need. This may be delayed further by the general election due in 2024.

Cloud-first policy essentials

1. A successful cloud-first policy is clear about how the hyperscale cloud brings benefits for public sector services. These include cost, security, resilience, and increased agility to respond to citizens' needs.

2. It distinguishes between hyperscale and private cloud, and recognizes different service models: software as a service (SaaS), platform as a service (PaaS), and infrastructure as a service (IaaS).

3. It integrates modern approaches to security and data classification.

4. It is supported by a Tech Code of Practice (TCoP) or technical guide for cloud use, which gives technology leaders criteria and guidance on how to move to the cloud.

5. It recognizes that funding models must move from capital to operational expenditure. It introduces practices such as cloud financial operations to help optimize cloud costs and value. This includes not paying for spare capacity while still being able to plan and predict.

6. It clarifies roles and responsibilities for the different parts of government to support a successful roadmap to realizing benefits from using the cloud.

7. It is backed by cloud procurement frameworks, which may include self-service, automated cloud provisioning, and an open catalog, where public organizations access cloud services and support.

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