What is cloud as a service, and why it may be the answer to state government technology transformation challenges

Government leaders at all levels are well aware of the incredible technology advances enabled by the cloud that have transformed the world around us—and the potential they hold for government. These technologies can help meet rising constituent expectations, increase transparency and accountability, enhance decision-making, tighten security, improve efficiency, and more. As a result, most state agencies are long past the "why should I move to the cloud" stage and are now focused on the "how," "how much," and "when."

Many agencies have already plunged head-first into the cloud, some at scale. These early adopters quickly discovered they must re-evaluate how to procure, budget for, govern, secure, allocate, and support cloud services; their legacy approaches didn't translate to the new cloud model. In many cases, each agency decided for itself what the right approach would be, what vendors and hyperscaler platform(s) to use, its governance and security model, and so on, rather than relying on a centralized state IT organization or single, statewide cloud management model.

States are not blind to the inefficiencies of this decentralized approach, and they're now dealing with "cloud spread" and a legion of "shadow" IT organizations, with multiple siloes of technologies, siloes of data, siloes of process, siloes of governance—siloes of everything, built with competing strategies, conflicting "best standards," a web of vendors, duplicated effort, and other costly inefficiencies. The incredible cost and complexity of technically and financially supporting multiple independent cloud systems and the ever-increasing number of decisions that go along with running, modifying, and growing this expanding portfolio is unsustainable.

Why modern government is important

Government agencies in the US must modernize in order to keep up with changing user needs, regulations, and health and public safety requirements. Leaders of modern governments rethink business processes and service delivery models to more effectively achieve their mission. This article is one of a series that features how modernizing affects the government workforce and the user experience, improves security and public trust, and accelerates the digital journey. KPMG team members offer insights intended to help guide governments in their modernization efforts to encompass all processes, technologies, policies, and the workforce so each works together to create connected, powered, and trusted organizations.

States without a centralized IT organization may feel forced to throw up their hands and accept the status quo as inevitable. Others with such a centralized state IT organization whose mission ostensibly is to provide a consolidated ecosystem and shared services model haven't seen the expected benefits. The allure of the cloud has opened up a firehose of requests from agencies seeking help from these state IT organizations. Few, however, may be equipped to handle this surge in volume, and so many agencies are being told to "get in line and wait." Agencies frustrated with delays may bypass the central IT organization and push forward with their own independent implementations—adding to the cloud spread and creating yet more siloes.

Is the chaos inevitable?

These difficulties are understandable. The scope of a typical technology modernization project includes IT strategy, architecture, build and integration, and ongoing operations, security, and maintenance. It involves nontechnical aspects such as financial planning, change management, procurement, and contract negotiations. Executing these well at scale requires a large team with an incredibly diverse set of skills, deep knowledge, and experience. The essential nature of state agency services, the complexity of many state IT environments, and the regulatory, security, privacy, and other constraints that are unique to the public sector make any replatforming, rearchitecting, or re-solutioning effort all the more complex. Simply determining what should be moved to the cloud and what shouldn't can be a challenging yet critical strategic decision.

Without adequate resources and expertise to respond effectively in a timely manner, state IT organizations may opt simply to play the role of central broker, connecting agencies to vendors, writing specifications, and handling requests for proposals (RFPs) but otherwise largely directing agencies to execute on their own. This approach, however, may be more of a band aid than a cure for the larger problem.

Inefficient, chaotic environments are not the only risk. As the pace of technology innovation continues to accelerate, government risks falling behind. Hyperscalers continue to add features at a rapid pace, including artificial intelligence (AI) and machine learning. But with a lack of resources and disparate cloud environments, state agencies may be slow to take advantage of them. For example, 52 percent of government leaders surveyed by KPMG said they saw their agency implementing generative AI within the next five years. In contrast, 60 percent of private sector leaders say their companies are just one to two years away from implementing generative AI solutions.[1] Also, 83 percent of private sector leaders expect their investment in generative AI to rise by more than 50 percent over the next 6–12 months and roughly 40 percent of executives expect to double their speed.[2]

[1] Source: "KPMG Tomorrow's government today," November, 2023
[2] Source: "KPMG Generative AI Survey," August, 2023

Cloud as a service to the rescue

To address this challenge, states are considering a new approach to managing cloud: **cloud as a service (CaaS)**.

By now, most everyone is familiar with the "as a service" business model and the "-aaS" acronym soup that accompanies it. Since the appearance of software as a service (SaaS) more than 20 years ago, we've seen others emerge, including infrastructure as a service (IaaS), platform as a service (PaaS), even things such as business-process-management as a service (BPMaaS).

CaaS isn't intended to replace SaaS, PaaS, or IaaS solutions; it's a managed service designed to provide the necessary expertise and experience required to use them effectively. A CaaS provider, for example, may rely on one or more hyperscalers such as AWS, Google, Microsoft, or Oracle to provide the necessary infrastructure, and would be able to help a state select the appropriate solution(s) from various options based on the state's or agency's needs or preferences.

A key benefit of CaaS is that cloud services are consumed in a strategic, fit-for-as-needed model, as are the skills and talent required to strategize, plan, architect, execute, and support decisions required to implement and operate those services. This is far more financially efficient when compared to retaining employees or other full-time equivalents whose expensive skills and expertise are not needed full time. It allows state or agency IT staff to focus on things that require their specialized skills or knowledge.

Of course, turning to vendors to augment internal resources isn't a new model. Some states may already be using a cloud broker, integrator, or cloud vendor management. But the scope of the service that can be provided under CaaS, and the greater value and efficiencies of having a consistent strategy and ecosystem—and a single point of accountability instead of managing multiple simultaneous projects and vendors—is what's new and compelling.

Addressing complexity with a holistic strategy

CaaS is designed to help organizations develop a comprehensive and cohesive cloud strategy, and then design, build, deploy, operate, and maintain an effective, efficient, and secure cloud environment to execute on that strategy—end-to-end cloud transformation delivered as a "white glove" service.

Decisions about how and even whether to replatform, rearchitect, or re-solution an application can have enormous implications. Beyond the tech side, there are contractual, financial, and accounting considerations that need to be addressed differently than how traditional infrastructure had been purchased and accounted for. This is further complicated by a perception that there is lock-in to one or more cloud provider(s) because of the high cost and effort required to migrate capabilities to another provider to gain economies of scale or to adopt newer, better features and functionality. Disposition matters, too; a consistent plan and execution of it is required for retiring legacy applications and their data.

CaaS is designed to help make those decisions in the context of a holistic strategy. Because different stakeholders are affected differently by any transformation, CaaS helps provide a shared definition of success aligned to the business needs of each agency, which in turn helps implementation flow more smoothly with a clearly understood goal. Security and governance are engaged from the start to address issues such as data protection, controls, auditability, and identity and access management. FinOps, too, is introduced from the outset to provide the operational framework and cultural practices needed to help control costs, drive efficiencies, and create value.

Leveraging the power of AI

CaaS is also uniquely positioned to help bring efficiencies to cloud and IT services through the use of AI, including generative AI. CaaS providers are able to use AI to provide state leaders with detailed recommendations supported by financial, contractual, architectural, and operational impact analyses underpinned by massive amounts of data that otherwise may go unused. AI can help identify and execute on opportunities to migrate quickly across cloud services to gain economies of scale, efficiencies, and new capabilities. AI can automate many aspects of the migration process, reducing manual workload, error risks, and downtime. It can analyze workload, performance metrics, and application dependencies. AI can auto-scale resources based on demand trends to more effectively manage peak loads. AI-powered tools can help identify optimal configurations and services across different cloud platforms to meet an agency's unique needs. Postmigration, AI can enhance cloud management, further helping to increase efficiency and cost-effectiveness.

A flexible, collaborative, and incremental approach

As with most as-a-service models, the options in CaaS are highly configurable since they have to meet a wide range of needs and circumstances. In some cases, a state IT agency may want to retain control of cloud strategy and architecture, for example, but rely on a CaaS provider for execution and operation. In others, it may be the reverse: they may want help building demand for using a centralized service with agencies, deciding what should be moved to the cloud and what shouldn't, determining where it should live, and developing the high-level architecture or standards that will then be handed off for the state's IT team to execute. It's always a collaborative effort between a state, the agencies involved, and the CaaS provider.

Getting started with CaaS can be a flexible and incremental effort. For example, some states or agencies may start with an application rationalization initiative approach so that their applications can be prioritized and sequenced based on the existing architecture and compatibility. Even the contractual models with CaaS providers can be flexible, where terms may be less transactional and based more on the overall value, success, and efficiency they deliver.

How KPMG can help

KPMG is one of the pioneers in CaaS, with both the technology and business experience required to help state governments accelerate their technology-enabled transformation with:

- **Strategy**

- **Governance and cybersecurity**

- **Funding approach and prioritization**

- **Data and analytics**

- **AI**

- **Talent readiness and versatility**

- **Implementation and systems integration**

- **Operations, support, and maintenance.**

KPMG has worked with federal, state, and local governments for more than a century, so we know how agencies work. Our team understands the unique issues, pressures, and challenges you encounter in the journey to modernize. We draw on our government operations knowledge to offer CaaS tailored to help you overcome these challenges and work with you from beginning to end to deliver the results that matter.

The KPMG team starts with the business issue before we determine the solution because we understand the ultimate mission. When the way people work changes, our team brings the leading training practices to make sure your employees have the right knowledge and skills. We also help your people get value out of technology while also assisting with cloud, advanced analytics, intelligent automation, and cybersecurity. Our passion is to create value, inspire trust, and help government clients deliver better experiences to workers, citizens, and communities.

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