



# Building the Government Platform for the Future

Cloud has become part of state and local governments' underlying IT infrastructure, enabling departments and agencies to secure, integrate and analyze data in powerful new ways. A majority report more than half of their current systems and applications can be migrated to cloud environments, and many have — or plan to — move mission-critical applications as well.

As the cloud's underlying technologies mature and governments continue migration efforts, the platform of the future is coming into focus, promising the ability to leverage data in new ways to deliver predictive insights and impactful results.

"The business demands and need for speed are increasing," says Center for Digital Government (CDG) Senior Fellow Dugan Petty, who formerly served as Oregon's state CIO. "We are not going to go back to a pre-COVID time. People are expecting services to be provided and decisions to be made at a faster pace for more effective outcomes."

This paper explores the key components of the rapidly evolving cloud space and what governments need to do to leverage the full potential of their most important asset — their data.

"It's easy to think short term, but it behooves people to take a tiny step back and think holistically about the enterprise," says Celeste O'Dea, Oracle managing director of government and education strategic programs.

## The State of Cloud

Cloud migration efforts in state and local government continue to accelerate. According to a CDG survey conducted in Fall 2021, as many as one-third of all government applications are now hosted entirely in the cloud.

Government leaders are also recognizing the potential power of cloud technologies to aggregate and analyze data. Nearly 30 percent of state and local government leaders have turned to the cloud for data sharing over the last year, according to CDG research.<sup>1</sup>

Data sharing tools are the emerging technology most commonly cited as a priority by government leaders. They are followed closely by artificial intelligence/machine learning (AI/ML) solutions, which governments will need as cloud technologies give them access to growing amounts of data.

As the cloud evolves, government leaders are realizing the platform of the future must be built for and driven by data. This data-focused platform supports modern IT environments by breaking down siloed data stores and using new technologies, including AI and ML, to leverage information for predictive analytics and decision-making. The key, says O’Dea, is combining data from multiple sources.

“Data is only good if you can get insights out of it, and you can only do that if you can collect and integrate it with other data, including data across multiple agencies and departments, from neighboring jurisdictions, the federal government and third-party data providers,” she says. “Having the tools and technology to enable that is critical to deliver the best government services.”



However, the path to creating the infrastructure required to support an enterprise-wide data strategy may not be a straight line. Governments still face familiar barriers to cloud adoption, including costs, security concerns and a lack of trained staff, according to CDG survey respondents. Addressing these recurrent modernization challenges will involve reassessing the state of current cloud infrastructure to determine a path forward, says O’Dea.

“The cloud is not new anymore,” she says. “The lens for those who have already made a decision is whether it is still the right decision. It’s about re-examining the market instead of checking the boxes.”

### A Bridge to the Future

Modern cloud platforms can address these barriers and help government create the infrastructure they need to leverage data to its fullest extent. The government platform of the future should offer solutions in three key areas: choice, confidence and cost savings.

#### Choice: Empowering Hybrid Cloud Through Integration and Automation

In recognition of today’s hybrid IT environments, the platforms of the future will not be one-size-fits-all. Governments will always require specialized applications, but cloud platforms

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offer greater usability and interoperability between information stored on premises and in the cloud.

More than half of government applications now exist in these kinds of hybrid settings, according to a CDG survey, and even the most forward-thinking organizations do not anticipate a future in which all systems are in the cloud. Nearly all — 89 percent — organizations expect to have meaningful on-premises systems three years from now.<sup>2</sup>

Hybrid IT environments also recognize that different cloud environments or configurations may be necessary for different types of applications and use cases. This means technology leaders will need to manage a combination of on-premises services and multiple cloud applications or providers.

“The reality of hybrid is that it is always going to be a mixed bag,” O’Dea says. “The idea of hybrid is not a bad one. But for hybrid to be as successful as it can be, it requires a few things to give you the outcomes you want.”

Integration across the full spectrum of the hybrid environment will be critical, as next-generation government services rely on the ability to connect the dots across various data sets. For example, services provided by disparate social services agencies can be evaluated to eliminate overlapping benefits and identify gaps in services.

Open standards and technology are essential to enable cloud mobility and allow applications and systems to work together seamlessly. Government leaders must ensure vendors and service providers avoid a fragmented approach to data management, with siloed solutions and data sets for each solution — which will make connecting the dots more difficult.

Managing performance and usage across multiple providers and services remains another challenge for hybrid IT environments. Advances in automation can help scale solutions and manage performance in ways O’Dea calls a “monumental shift.”

“True automation through the use of ML and AI that can maintain, secure, optimize and scale based on demand did not exist three years ago,” she says.

### Confidence: Securing Systems with Data at the Center

Government platforms of the future recognize the importance of an overarching security architecture — one with data at its center. Such systems look at data’s “security posture as it relates to the specific scope of the work — the criticality of workload and sensitivity of the data,” Petty says.

That focus on data is critical in hybrid environments given the need to isolate and control “from the core all the way up to the edge, which includes the internet,” O’Dea says.

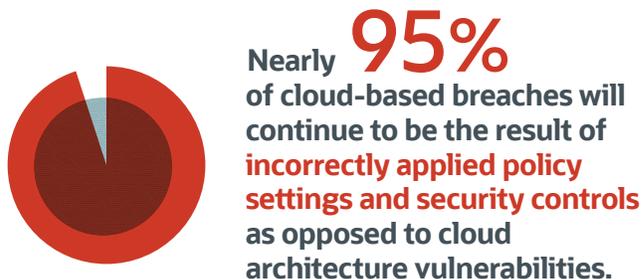
Systems “need to be secured independently, but also collectively,” she says. “That’s one of the trickiest things to get right.” Along with securing the application, data and transactional layers, platforms need to have an overarching security mechanism “that wraps them all together and doesn’t degrade performance,” she adds. “You really have to have a critical lens if you add pieces from different vendors to make sure all the pieces are secured collectively.”

Cloud providers should offer encryption and tenant isolation to protect data stored in the cloud. Automation and AI/ML can help identify anomalies — both attacks from the outside and behaviors by authorized users that may suggest an inside threat. “You have to know where your failure points are, and the biggest ones in most cases are people,” O’Dea says.

### Cloud security represents an area of growth for governments seeking to develop next-generation platforms. Only one-quarter of respondents to a recent CDG survey have created a cloud security framework.

Cloud providers can also create dedicated government regions to ensure agencies meet compliance requirements for different kinds of data sets. The task for government leaders is to develop governance policies that correctly identify how they should store and use different types of data, which they can then use to create rule-based access controls.

“A vendor can secure your information within the bubble,” O’Dea says. “If someone moves and shares information outside the bubble, there’s not much the vendor can do to mitigate that. There’s shared accountability.”



Cloud security represents an area of growth for governments seeking to develop next-generation platforms. Only one-quarter of respondents to a recent CDG survey have created a cloud security framework.<sup>3</sup> Doing so will be critical, as research shows that virtually all — 95 percent — of cloud-based breaches will continue to be the result of incorrectly applied policy settings and security controls as opposed to cloud architecture vulnerabilities.<sup>4</sup>

“All of us using the cloud have to be laser focused on security vulnerabilities and how they’re addressed,” says Petty.

### Cost Savings: Moving Beyond the Bottom Line with a Focus on Performance and Manageability

Cloud has generally lived up to its promise of reducing costs as the technology has become more powerful. “Even with systems becoming stronger, better and faster, they have also become cheaper,” says O’Dea. “You get more bang for your buck.”

However, as the use of data increases with modern platforms, pricing models must be transparent and predictable to ensure governments stay within budget expectations. “Understanding the business problem will prepare a government for negotiation,” says Petty.

Too often, cloud pricing has been “based on an analysis of initial needs,” says Glenda Sakati, Oracle group director of government resell programs. “Procurement isn’t focused on overages, and governments need to be more intentional on actual vs. anticipated costs.” (To learn more, visit [Cloud Procurement for the Enterprise](#).)

Government leaders should ensure service-level agreements (SLAs) with cloud providers focus not just on availability, but also performance — the ability to scale services as needs shift, often in real time — and manageability. “All three are important, and all three need to work together,” says William Sanders, Oracle director of strategy and business development. “Who cares if your systems are available if you can’t do anything?”

Leaders must also ensure contracts include an “exit plan,” or provisions allowing them to migrate data and applications out of a cloud provider without high egress costs if needs change. “Everything is cyclical,” O’Dea says. “Being able to get your data out of the cloud it is in and into whatever the next place it will be shouldn’t involve an egregious upcharge — it’s your information. Understanding how invested you are and how costly it is to get out of your relationship is important.”

### Conclusion: Strategies To Move Forward

A data-centered platform strategy holds great promise for governments to deliver efficient services by helping them devote time, people and resources to “tasks that add more value to government itself,” O’Dea says.

Governments “no longer have to be one step behind providing the constituent experience that consumers expect,” she adds. “The cloud opens up the ability to do that.”

But harnessing the power of the platforms of the future will require governments to step back and evaluate technology with a longer-term perspective. “It’s easy to put your blinders on and focus on the pain you’re feeling right now,” says O’Dea. “But applying a wider lens to the decisions you’re making by thinking holistically about the enterprise can be hugely impactful.”

Doing so will require establishing new kinds of relationships with vendors. “Have frank conversations about what the needs are to architect a comprehensive vision forward,” O’Dea says. “Taking those lines of play across the enterprise is critically important.”

However, many of governments’ greatest obstacles to building a platform for the future are internal ones. “Being a little more

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flexible in their business processes is the biggest impediment to the adoption of newer technologies,” O’Dea says.

Technology staff will also need new skills to adopt new models for aggregating, analyzing and securing data. Together, these needs speak to a broader shift in the government IT workforce, according to O’Dea.

“Their job becomes more overseeing, integrating, architecting, correlating and reporting,” she says. “It makes it a more interesting job, which could be attractive for recruiting the workforce of the future. In order to be competitive, being compelling is important.”

Providing compelling constituent services has also become a critical goal for government — one which data-centered cloud platforms can help them deliver. “When we can be agile in our business solutions, that prepares us to optimize the cloud,” Petty says.

*This piece was written and produced by the Center for Digital Government Content Studio, with information and input from Oracle.*

#### Endnotes

1. Center for Digital Government Cloud Procurement Survey, 128 responses, conducted April 2021.
2. [https://www.equinixes/content/dam/eqxcorp/en\\_us/documents/resources/analyst-reports/ar\\_esg\\_eBook\\_hybrid\\_cloud\\_trends\\_may2020.pdf](https://www.equinixes/content/dam/eqxcorp/en_us/documents/resources/analyst-reports/ar_esg_eBook_hybrid_cloud_trends_may2020.pdf)
3. Center for Digital Government Cloud Procurement Survey, 128 responses, conducted April 2021.
4. <https://www.gartner.com/en/documents/3850266/clouds-are-secure-are-you-using-them-securely-0>

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