

Building a Cloud-Ready Government Database



Introduction

Regardless of how mature your agency is when it comes to cloud adoption, there are key questions that must always be considered. How do you take a thoughtful approach to cloud that takes into account security, value, necessary process changes, workforce impacts and more?

These were among the topics of discussion at a recent roundtable event, “Building a Cloud-Ready Government Database,” hosted by GovLoop, Oracle and Intel. Roundtables are discussion-based events where 20 or so government professionals have the opportunity to discuss challenges and solutions.

In the following pages, we highlight key themes and new initiatives discussed during the event, including shared responsibilities in the cloud between agencies and their service providers and how agencies can ensure that applications and databases are cloud-ready.

The event featured several government and industry attendees who helped to guide the discussion:

- **Bob Thome**, Vice President of Product Management, Oracle
- **Sandy Krawchuck**, Group Vice President, North America Public Sector, Cloud Infrastructure, Oracle
- **Shyam Raju**, Partner & Americas Leader, IaaS, PaaS, and Hyper-convergent Cloud Offering, DXC Technology
- **Keith Trippie**, Founder and CEO, The Trippie Group LLC
- **Edward J. Mays**, Enterprise Data Management & Engineering Directorate, Office of Information and Technology, U.S. Customs and Border Protection

Charting Your Path to the Cloud

Takeaways

- ✓ Cloud adoption across government is mixed, with about half of agencies moving their email to the cloud.
- ✓ For some, starting with on-premise cloud solutions is an interim step to fully embracing the cloud.
- ✓ Cloud adoption is about more than moving the location of applications and systems; it's about changing operations models and processes.

Agencies are at different stages of their cloud adoption journey. For some, starting with on-premise cloud solutions is an interim step to fully embracing all that cloud has to offer.

“Sometimes agencies are not ready to completely lift and move to a cloud environment, so they move to an on-premise, private cloud implementation before they move over to a public cloud environment,” said Sandy Krawchuck, Group Vice President, North America Public Sector, Cloud Infrastructure at Oracle. “It’s more of a progression as opposed to going all the way to a public cloud environment.”

But Krawchuck acknowledged that cloud adoption is about more than moving the location of applications and systems; it’s about changing operations models and processes.

“What we see across the federal government is an entire spectrum of maturity in both adoption and understanding of cloud and the implications,” she said. “What’s difficult for one customer may be a piece of cake for another, in terms of how to rearchitect, or rethink a business model for their organization in terms of delivering flexibility, governance, reliability, and how to think through those things ahead of time.”

One of the challenges for some customers who move from an on-premise environment to the cloud is that they never truly understood their IT costs before migrating applications to the cloud. Krawchuck encouraged agencies to think through their on-premise costs before moving to cloud so that they can properly plan for future costs in the cloud.

Are Your Databases Ready for the Cloud?

One of the frustrations we heard from government employees is that they’re managing a sprawling number of in-house databases to support various tasks. For smaller offices, the number of databases nearly outnumber employees.

Ultimately, these agencies want to consolidate several databases down to a single, innovative solution that meets their varying needs. But they must first consider where to put that new database and who will manage and administer it, said Bob Thome, Vice President of Product Management at Oracle.

The angst of having to go through the procurement process to get a new database and then figure out who will own and manage it often stop agencies from moving forward. But the cloud makes it easier for agencies to carry out these tasks and even take on bigger projects like modernizing databases and other applications. “Cloud takes away a lot of the pain in those processes and creates new opportunities,” Thome said.

In the cloud, agencies can rapidly provision standardized database environments on shared infrastructure. They can also take advantage of intelligent resource management, which uses automation to manage resources efficiently and securely.

Developing a Cloud-Ready Workforce

Takeaways

- ✓ Government agencies must prepare their workforce for any changes that cloud will have on their jobs.
- ✓ Business units and acquisition professionals must collaborate to buy and implement cloud services.
- ✓ Town halls and training programs are some of the tools agencies can and should use to prepare employees for the change.

A key part of transitioning to the cloud is preparing the government workforce for any changes that will impact the way they work. Town halls, training and educational programs are among the tools agencies are using to ensure their workforces are cloud-ready.

“This [move to cloud] is very positive, but it does require change,” said Edward J. Mays, Enterprise Data Management & Engineering Directorate, Office of Information and Technology at U.S. Customs and Border Protection (CBP).

Mays highlighted a scheduled town hall for his organization to talk with employees about preparing themselves career-wise and technically to understand what the transition to the cloud means for them.

“We’re not ... racking and stacking servers anymore [or] pulling cable,” he said. “Most of that’s gone.” Mays explained that CBP’s IT presence will be primarily in the cloud going forward.

Keith Trippie, a former government senior executive, recalled losing a valued employee who did not have a clearly defined role after his agency moved to the cloud. “I lost one of my best employees because human-capital wise I couldn’t figure out a landing spot for him in the post-cloud world,” said Trippie, who now serves as Founder and CEO of The Trippie Group LLC.

He added, “The government can’t afford to lose really good people.” To prevent that from happening, Trippie recommended that agencies put the right training programs in place to help system administrators move to Infrastructure-as-a-Service managers, for example. Just figuring out how best to buy cloud products and services is a challenge some agencies are still working

through, Trippie said. “Part of the challenge that I still see in the government is we need more 1102s around the table.”

Contracting professionals in government are classified under the 1102 job series, and there’s a dire need for more of them who are adept at buying cloud services. These professionals must work closely with the mission and business units to adopt the right solutions in a timely manner.



Sandy Krawchuck speaking to attendees

Cloud Security: A Shared Responsibility

Takeaways

- ✓ Cloud security is a joint responsibility between agencies and cloud services providers.
- ✓ Although CSPs provide the tools for cloud security, agencies must understand how to properly use those tools and capabilities.
- ✓ The complexity of government IT environments and unusually long waits to grant ATOs are among the challenges that agencies and their industry partners must work through.

When it comes to cloud security, too often negative perceptions can trump reality for some agencies.

Making the switch from managing physical infrastructure to managing IT as a service can leave skeptical agencies feeling as though they're giving up control of their IT operations. But that isn't the case.

Cloud security is a joint responsibility between agencies and cloud services providers. Although CSPs provide the tools for cloud security, agencies must understand how to properly use those tools and capabilities. Firewalls are one example, Thome said.

"We give our customers the ability to do whatever they want with those firewalls," he said. "The good news is we also have auditing tools and other such things that can warn you and provide checks and balances in the cloud."

The complexity of government IT environments, coupled with shadow IT and unusually long waits to grant ATOs (authority to operate) are among the challenges that agencies and their industry partners must work through. An ATO is a formal declaration that authorizes a business product or service to run on a government system. For example, cloud products

and services require an ATO before agencies can use them. But this process can take months and varies across agencies.

"Why in the federal government do we take six to 12 months to do an ATO?" Trippie asked. For companies that have been deemed secure for federal use by the Federal Risk and Authorization Management Program's (FedRAMP) Joint Authorization Board, ATOs should take a day, he said.

A lot of the changes that need to happen around cloud security are cultural, Trippe added. There is still a perception that government data centers are more secure than cloud environments despite the fact that cloud service providers dedicate far more resources and manpower to cloud security than agencies can afford.

"If you look at your own internal data center and compare it to cloud, cloud security is far superior," said Shyam Raju, Partner & Americas Leader, IaaS, PaaS, and Hyper-convergent Cloud Offering at DXC Technology. With this in mind, the question then becomes: Are people ready to change their perception about cloud?



Attendees take notes while listening

How Oracle Helps

The move to the cloud is not a destination; it's a journey. Speed to market, value and mission are among the benefits that Oracle provides government agencies.

"People move to cloud at their own pace," Thome said. "It's really a comfort thing. There are customers who are aggressive and others who are not."

For Oracle, the key is supporting agencies at varying levels. "We are trying to let people adopt the cloud at their own pace and move to the cloud when they're ready," Thome said. In terms of security,

agencies collaborate with cloud service providers to ensure the proper security controls are in place. It's a partnership.

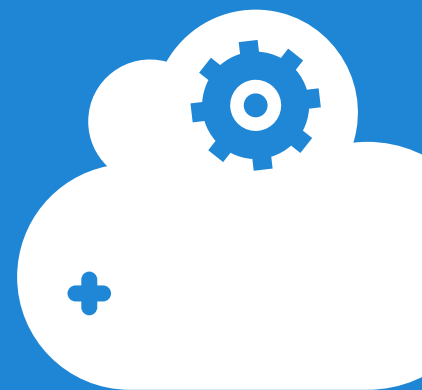
Thome's advice: Don't reinvent the wheel. If you go to the cloud, there will be a lot of standardization — that's true for provisioning databases, applications and mission-critical systems. "It's not just about modernizing infrastructure but [about] modernizing operational processes."

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Conclusion

What was once seen as a technology to help agencies save money is now being embraced as a transformational business model to improve speed to market for critical applications, increase value for citizens and ultimately improve how agencies carry out their mission.

To realize these benefits, agencies must have a clear strategy in place and consider how cloud adoption will impact their workforce and how best to partner with industry to securely adopt cloud services.



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