

# Give Cloud its Due

Agencies commit to the cloud to expedite modernization efforts.

**A**s agencies move to modernize systems and consolidate data centers, they are looking to the cloud as a way to improve the flexibility, efficiency, and scalability of their operations. Many agencies were initially drawn to cloud because of the potential cost savings, but the conversation has evolved. Now cloud first is a given for many agencies. And the focus is not necessarily on cost savings, but how to sustain cloud in the long term.

Cloud is an integral part of an agency's modernization plan because many want to get out of the business of managing their own data centers and infrastructure, according to industry and government experts speaking at an Aug. 23rd Cloud Summit.

## Farewell Data Center

The Small Business Administration (SBA) was motivated to modernize its enterprise and move to the cloud following problems with its primary data center. Water was leaking into the data center facility because of construction in the building and other equipment such as air handlers was failing, says Maria Roat, Chief Information Officer, SBA.

The SBA first stabilized the data center and then made plans to shift its systems to the cloud. The agency tagged everything in the data center—red it goes, green it stays, and yellow undecided, says Roat. The agency laid out its cloud architecture and migration plan and quickly launched its migration, putting CDM in the cloud and shutting down about 100 systems.

SBA's driver to the cloud was to "get out of that data center," says Roat. She established a policy that prohibited installing any new hardware in the data center. Any legacy systems that couldn't be immediately upgraded or migrated were placed in a separate cloud space for later modernization.

Data center consolidation was also top of mind for the Navy as it looked to the cloud. The Navy adopted a cloud-first policy and plans to migrate all data to the commercial cloud over the next five years, with the exception of some legacy applications that are not a good fit. It also plans to use a cloud access point, which offers boundary protection inside the Navy, says Dan DelGrosso, Technical Director, PEO EIS, Navy. The policy in the Navy is if anyone is using level 4 data in the cloud, there must be boundary protection in place.

The challenge for the Navy is establishing boundary protection without continuously building the Defense

Department infrastructure, says DelGrosso. The Navy is working with industry on protecting the boundary "in a virtualized sense."

While cloud may save the Navy money over the long run, the real motivation is to improve how it operates. "We want to optimize our data. We want to get into data analytics. We want to leverage artificial intelligence. We want to make more informed decisions," says DelGrosso. "We want to have command and control of our information."

## Evaluate Cloud Options

The best time for agencies to consider the cloud is when they are thinking about how to modernize their applications, says Rohan Oswal, Director of Business Development, Acquia. "We see that as a great time to evaluate cloud options for that new application deployment."

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TECHNICAL DIRECTOR, PEO EIS, NAVY

Many applications may need to be modified so they can work in the cloud. Some may need to be abandoned. "That's where I think we can see a lot of efficiencies by looking at infrastructure as a service, platform as a service for managing and deploying those architectures in the cloud," says Oswal.

However, even when agencies move to the cloud, they are still responsible for managing their infrastructure. "You're not just handing over the keys to a vendor," he says. Agencies still own their applications and need to manage the network architecture they created, and ensure it is maintained.

Oswal says he expects to see greater adoption of Platform-as-a-Service and Software-as-a-Service type models once

those applications are tuned for government use. “There are security requirements for government only and I think vendors are catching up to that,” he says.

### Control the Culture

While there are many technical aspects to moving to the cloud, perhaps the biggest challenge for agencies is the dramatic impact it can have on how an agency operates, which directly affects employees. Moving to the cloud requires a culture change, says Shashank Khandelwal, (acting) Director of cloud.gov, 18F/Technology Transformation Service, General Services Administration. Training employees to adapt to new tools and a new way of operating can be challenging. And there will be growing pains.

“Adopting to DevOps and agile is a little bit different,” says Khandelwal, adding that traditionally developers would establish requirements and build an application in isolation. “It’s a different way of working for people. It’s cultural. It’s personal. It can be a scary thing.”

Modernization isn’t “about new and shiny things,” he says. It’s about changing agency processes to meet user needs and then quickly building services and applications to meet those needs. “Cloud lets you do that.”

Agencies realize they have to address the cultural issue the cloud presents. The SBA for example, offers “lunch and learns,”

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CHIEF INFORMATION OFFICER, SBA

and daily stand ups as a way to get employees up to speed with the modernization. Roat says she is also drafting a strategic IT workforce plan to determine what training and skillsets the agency will need over the next several years.

“It’s not the technology, it’s the people and the processes and the shifting and how we do business that’s the harder part of this,” she says. “It is so much about getting people trained and understanding the environment and the tools.”



It’s also important to let people know why the agency is doing what it’s doing. “The ‘why’ is really important in drawing that line between ... why we’re shutting down a data center and what that means in the long term for those small businesses and entrepreneurs across the country, and why were setting this up in the cloud,” she says.

Vendors can be a valuable source of support for agencies moving to the cloud and grappling with new concepts such as git repositories, version control, and automated deployments. The model changes significantly in the cloud, says Oswal. “Our goal as a vendor is to educate our customers on how to leverage these tools in the best way. This includes how to deploy and develop in the cloud more efficiently and avoid any pitfalls.”

One common pitfall is moving applications to the cloud with any modification. “I’m not a fan of lift and shift,” says DelGrosso. If an agency isn’t changing the functionality of an application or system, it’s probably not a good candidate for the commercial cloud.

However, if an agency lifts and shifts an application because it doesn’t have the expertise to modernize it for the cloud, then a commercial cloud provider can step in to help. This is where the concept of the shared service model comes into play. Even when the Navy moves everything it can to the cloud, it will still have an active role in ensuring Navy data is protected in the commercial cloud, says DelGrosso.

The service is still working out the details of this. “We are trying to standardize to the greatest extent possible what the shared services are. What the government does, what industry does, and how we’re going to do incident response,” says DelGrosso. “If you have multiple contracts that gets very convoluted and were trying to avoid that.”