Jumpstart tomorrow with the right multi-cloud strategy

Cloud remains the most common priority and most mentioned game-changing technology for federal CIOs. But migrating to the cloud is half the journey—managing applications across platforms remains a big challenge for many agencies.

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‘Paradigm change’: Perspectives on the modern cloud landscape

BY DAVID THORNTON

The cloud marketplace is flooded with new products, and while that can be a positive thing for agencies looking to deliver newer, better experiences to the customer, it can also leave them struggling. How do they keep up with the pace of change? How do they evaluate new services, and what common reference points can they compare to? And as agencies start migrating their higher-level applications, which ones go first?

A few agencies on the forefront of cloud migration told Federal News Network how they have been addressing these questions.

Application rationalization

“GSA has been involved with helping to create an application rationalization playbook,” Allen Hill, director of telecommunications at GSA said. “We did that working with the federal CIO Council, and also [the Office of Management and Budget]. That is a great tool that agencies can leverage to help rationalize the applications that are ready to move to the cloud and those that maybe need a little bit more work.”

GSA’s playbook was released in June 2019. In it, Hill said, GSA outlines two main considerations that agencies need to weigh in order to determine their priorities. The first is how it will impact customer experience. Putting an application in the cloud will change the business practices around how customers interface with the service. Are they ready for that? Will it meet their needs?

The second consideration is how does it interface with the network? Agencies need to consider the security aspect, how it traverses the network, and how it gets to the user. And
in some cases, agencies need to consider how their application interacts with other networks as well.

That’s the case at the Small Business Administration, as they look to migrate their loan processing and servicing applications, and their disaster credit management system to the cloud.

“Sometimes, since they are core and foundational to the enterprise, they have tentacles connecting to the other parts of the enterprise. So it’s not easy to just rip it out and replace it with a new solution,” said Sanjay Gupta, chief technology officer at SBA. “You have to take care of the interfaces, the interfaces that run out to other agencies, for example, to the Treasury. You have to be looking into the second-level or the third-level implications of making these upgrades.”

Evaluating new cloud products

One theme is agencies need a common frame of reference to evaluate cloud products. Many of the existing federal frameworks like continuous diagnostics and mitigation or the Trusted Internet Connection weren’t originally designed to operate in cloud.

Steven Grunch, branch chief for enterprise cloud services at U.S. Citizenship and Immigration Services, said his agency has been leveraging FedRAMP extensively.

“The other thing that we look at within our organization is this idea of immutable security, or security as code, if you will,” Grunch said. “We try to put the security components of the applications that we

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Now that your agency has migrated applications into multiple cloud environments, what’s next?

Finding a partner who understands your environment and specific requirements is key. Working with a trusted partner capable of developing a custom approach and who has the knowledge, resources and commitment to follow through is imperative. CenturyLink suggests agencies seek out these four key components in selecting a comprehensive cloud application management tool:

• Application Lifecycle Management – to enable management of any application, anywhere, for on-demand operations

• Managed Services Anywhere - for expert strategic guidance and design services across any hosted or cloud environment

• Cloud Optimization & Analytics - to help determine the resources required to support specific applications based on security, processing, geography, and cost requirements

• Advanced Managed Services - to optimize your existing architecture and to elevate operational governance

The ultimate goal is for simplified management, delivery, optimization and protection of your IT solutions in the cloud.

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develop really early on in the process. And in terms of approving or baking in security into our environment, we’re approving the process [by] which applications or code is put into the cloud. When a team decides which services it’s going to use, and which pipeline it’s going to use to put that code into the cloud, our security team has [already] evaluated and approved that. Once the process is approved, and the pipeline to get the code under the cloud environment is approved, then we can focus on changes to that pipeline, rather than each individual product that’s involved with it.”

Zain Ahmed, vice president and general manager for civilian sales at CenturyLink, said he’s also seen FedRAMP used more frequently recently. He also noted FISMA’s security checks and balances as minimum criteria to solve a problem for the mission and be applicable within the cloud environment.

Gupta said one reason evaluating new cloud products is such a challenge is the increasing complexity of cloud.

“The cloud is a paradigm change,” he said. “What that means is a lot of the forces, [like your] skilled workforce … have to reorient themselves to think in the cloud. The boundaries have changed. It is more abstract. It is more amorphous. So one of the things we are doing at the SBA is simplifying things. Because like we say in the technology world, it’s easier to make things complex, but it’s more difficult to simplify.”

For example, Gupta said he laid out a cybersecurity vision to protect all of SBA’s IT assets, whether they’re on premise, in the cloud, or on mobile devices. SBA is using the same tools to manage, monitor, track and secure everything. And since those tools are in the cloud, they’re scalable. He said he also just completed a 90-day pilot along with DHS for running CDM in the cloud.

**Keeping up with the pace of change**

“The pace of change … is intense,” Gupta said.

The speed with which new products are created and released to the customer requires agencies to almost constantly reevaluate decisions they made as little as two years ago. And that’s a lot for federal agencies to keep up with. Gupta said it requires an entirely new perspective.

“It requires a change in the way you look at your policies and procedures,” he said. “Traditionally … once a week the change management team would meet, and they decide on a change and approve it. Now in the cloud environment, you’re doing changes by the hour, by the minute. This whole notion of the change management board meeting once a week is almost nonexistent anymore in the cloud environment.”

And that also requires changes in the way agencies handle acquisition, GSA’s Hill said. Agencies need an acquisition strategy that accounts for continuous modernization
so they aren’t doing new acquisitions constantly. The acquisition money has to match both the cloud and modernization money, because modernization is ongoing.

“At GSA … we have pricing tools and pricing models that allow them to take what they have in budget and see what they can actually do. Under the EIS contract we have … you can actually see what all the vendors are offering and what their prices are,” Hill said. “And it’s visible for all the vendors, so you can kind of get an idea of what those costs are - whether you’re doing the infrastructure yourself or whether you’re trying to do managed services from a cloud service provisioning, to a network provisioning to a security provisioning, and it allows you to plan much better.”

Network Connectivity

That’s been helpful, CenturyLink’s Ahmed said, because networks are far more complex than they were 10 years ago, and can’t be static anymore. They need to scale, and have dynamic connections to the cloud.

“As you look at building any house, you look at the foundation of the house. Your network is your foundation. And the foundation has to be very strong, and be able to be agile enough in these days where the technology’s transforming every month or so,” Ahmed said. “GSA has done a fantastic job in putting EIS together where the contract allows you to adapt as the technology changes.”

In fact, Grunch said creating a direct connection from his network to the cloud provider was key to USCIS’ infrastructure strategy. It helped to cut down traffic, and allowed them to build applications and move data to cloud faster.

Meanwhile, Gupta said he’s been trying to scale up SBA’s network capabilities, while keeping costs lower than what they have been. He said software-defined wide-area networks (SD-WAN) are a game changer, and that he’s currently working on a proof of concept.

“That’s going to be a significant departure from the traditional concepts of networking,” Gupta said. “It’s a combination of connectivity performance, and cyber security.”

But Ahmed warned SD-WAN is not a panacea.

“Hybrid is where your network is, where you want to be in the new age, because SD-WAN gets you to the edges and the branch offices and gets you the complete portfolio from there,” he said. “But as you go to regional offices and have more security, as well as requirement for bandwidth, Multiprotocol Label Switching (MPLS) comes into play. As you go to your core of your data centers, that’s where your optical wavelengths come in and connecting that at a high speed. And then as you move towards cloud service providers, there’s direct connection into it. So it’s a layered approach to solving a complex problem. And that’s how you get to an agile network. It’s not being static.”