



How to Accelerate Cloud Migration (and Reduce the Risks)

Agencies want to take advantage of the scalability and flexibility of the public cloud computing environment, but they often get bogged down in the migration process. The result? Despite the obvious benefits of cloud, many agencies continue to approach it in piecemeal fashion.

It doesn't have to be that way. In this report, we will explore:

- Challenges to cloud migration, including the lack of in-house skills needed to minimize disruption as applications move to a new environment
- Benefits to leveraging outside expertise in support of a virtualized approach to application migration
- Best practices for shifting resources to the cloud in order to realize new cost savings and empower agencies to gain new agility in response to evolving mission requirements



Challenge: The Complexity of Migrations

A number of factors can complicate government's efforts to shift applications to the cloud. Agencies may struggle with...

- **Adjusting to a new operating model:** Cloud offers a different working model, an entirely different architecture. Without expert guidance, agencies may shift resources in a way that interrupts workflows and stymies mission success.
- **Lack of needed skill sets:** Current in-house talent, among developers as well as those tasked with managing IT infrastructure and operations, typically is geared toward on-premises deployments. Those teams may struggle to support a cloud migration, when that is not where their primary skill sets lie.
- **Lack of agility:** Cloud should make an organization more agile, able to adjust IT resources on the fly as business needs change. Agencies may fall short of this goal if, in the course of their migration efforts, they fail to take advantage of the opportunity to shift routine care and feeding of systems from in-house teams to their cloud provider.

Solution: Virtualization as a Bridge to the Cloud

To ensure a seamless migration to the cloud, government needs to make use of its current tools and skills around virtualization. By enabling a computer to share resources with multiple digitally separated environments, virtualization allows IT teams to conduct large-scale migrations to the cloud with minimal downtime, and without having to rewrite those applications.

- **Leverage existing IT skill sets:** Federal technology teams already are familiar with VMWare's ability to create virtual representations of the IT environment. They can leverage this expertise to seamlessly shift applications to the cloud.
- **Remove the need to refactor applications:** With a virtualized approach, IT need not rewrite code in order to make on-premises applications run smoothly in the cloud.
- **Take advantage of all the benefits of public cloud:** With cloud, agencies can shed the effort and expense that goes into supporting on-premises hardware. They get the agility needed to shift resources quickly as mission needs change, and can continue to get maximum value from their in-house skill sets.

"You probably have VMware deployed in your on-premise environment. That same software that you know and love can be used to deploy applications in the cloud, without having to make any changes to the application."

Randy Pierce, ThunderCat Technology



Best Practices in Cloud Migration

A number of best practices can help agencies succeed in implementing a virtualized cloud migration.



Start with the Six Rs

There's an established framework for moving applications to a new environment, the six Rs of application migration. To migrate successfully, teams typically must rehost, re-platform, repurchase, retain, retire and refactor.

"The secret to getting started is breaking down this complex task into small, manageable tasks and starting on the first one," said Randy Pierce of ThunderCat Technology. The six Rs empower IT teams to take that first small step.



Define Your Objective

"Too often, government has taken a 'ready, aim, fire' approach to the cloud," Pierce said. Rather than jump right into the mechanics of a migration, first understand the long-range objectives of a move to a new IT ecosystem.

"The motto 'slow and steady' applies here. That is what wins the cloud race," he said. "Cloud migration is a journey, not an event."



Complete One Small Implementation First

Because cloud migration is complex, it makes sense to do a trial run. IT teams can move a single process to the cloud before embarking on a larger effort.

"You want a tiger team collaborating together and providing feedback along the way, and that feedback loop should include the end users," Pierce said. "Ultimately, someone has to use this application, and their input will guide your future migration efforts."



Find the Right Industry Partner

Cloud is still uncharted territory for many IT professionals. "It's like going to visit a location you have never visited before," Pierce said. "You could buy a guidebook or watch a bunch of YouTube videos. But the experience would be much more informative and much less stressful with an experienced tour guide."

That means finding a vendor with experience in helping government agencies migrate. "Because the government is a different space, you really need to work with a partner who knows the nuances in order to be successful," Pierce said.



Case Study: Army Delivers Common, Unified Access to Services

To understand how government agencies can maximize their cloud investment, we can look at the U.S. Army's efforts.

- **Challenge:** The Army has embraced hybrid cloud as a way to make better use of its data and improve how it designs and fields IT solutions to its soldiers. To succeed with hybrid cloud, the service must overcome the challenges that come with migrating applications, while also addressing governance, connectivity and performance issues.
- **Solution:** In support of an effective cloud migration, the Army's Enterprise Cloud Management Office delivers a unified strategy for adopting cloud, as well as fielding solutions and delivering real capabilities. With guidance from ThunderCat Technology, the office has leveraged the power of virtualization to deliver a VMWare-powered managed cloud deployment.
- **Outcome:** With a virtualized cloud deployment, the Army has achieved predictability in its traffic patterns and network usage, while ensuring that migration to the cloud does not introduce new security liabilities.

In cloud, "each environment is different. It's not a one-size-fits-all"

Randy Pierce, ThunderCat Technology

How ThunderCat Technology Helps

A leading AWS Marketplace Skilled Consulting Partner, ThunderCat Technology helps agencies purchase and implement VMware Cloud (VMC) on AWS — a managed cloud offering providing dedicated VMware vSphere-based Software Defined Data Centers, hosted within AWS facilities. VMC on AWS GovCloud has achieved FedRAMP High Impact level JAB Authorization and DoD Impact Level 5 Full Authorization.

