








Multiple Clouds or Multi-Cloud?

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“Multiple clouds or multi-cloud?” That is the question. Government organizations are increasingly facing the reality of multiple clouds, and understanding the difference between multiple clouds and multi-cloud is an important step in charting any organization’s path in the cloud. Answering that question can help government leaders optimize their cloud estate by:

-  Maximizing positive mission results through innovation
-  Minimizing the complexity of managing multiple clouds
-  Mitigating vulnerabilities by limiting the blast radius of a single cloud provider outage
-  Reducing data traffic by locating apps near the data they need
-  Providing sustainable operations and cost models

Multi-cloud vs. Multiple clouds

Both multi-cloud and multiple cloud environments exist when a client has workloads hosted on two or more cloud providers. However, differences in how management, security, and other services are provided for those workloads makes multiple clouds and multi-cloud suited for different situations.

Multiple clouds refers to two or more separate clouds that are operated independently while multi-cloud is two or more separate clouds operating in concert by supporting a common abstraction layer.

Multiple clouds are typically characterized by cloud service provider (CSP) specific skills, management tools, software and processes that are governed by common policies and controls. And while this approach provides benefits such as increased flexibility/ negotiation leverage and ‘industry accepted’ approach, it can also lead to negative ROI due to the complexities of managing multiple independent clouds.

Multi-cloud on the other hand takes an application-centric view of multiple cloud estates by adding an abstraction layer that spans multiple clouds and provides common processes, development, management tools, and security services upon which an agency can build their modernized applications. The data center where

applications/services run becomes less important because applications are deployed to a standard cloud-native platform distributed across cloud providers. This allows agencies to place apps where it’s most convenient and cost effective while also enabling the next evolution of a ‘best of breed’ approach that leverage both common and differentiated solutions as described in [Multi-cloud: A powerful tool or a fall back to stove-piped systems?](#)

Combining multiple clouds with strategy

In theory, it is possible to have multiple clouds without a multi-cloud strategy, but it is not possible to have multi-cloud strategy without efficient multiple cloud operations. In practice, however, multiple cloud environments that aren’t connected through a federated cloud-native platform can lead to an overwhelming management burden as leaders struggle to manage different environments evolving in different directions. Multiple cloud environments also increase the skills gap many government organizations are facing.

As a result, [government leaders are increasingly looking to a multi-cloud strategy](#) to provide full stack capabilities and increased resiliency and reliability by distributing workloads across clouds using standard processes and management tools. Multi-cloud enabled by an abstraction layer, such as Red Hat OpenShift, VMWare Tanzu or Google Anthos, allows workload distribution in an organized and controlled manner and acts as a force multiplier that allows for scarce resources such as DevSecOps, application security, and application operations teams to build to a single target instead of navigating multiple siloed environments.

This leads us back to the original question: “Multiple clouds or multi-cloud?” The answer for many is both. Whether by active choice or by cloud sprawl, many government organizations are already finding themselves managing multiple clouds. Managing multiple clouds separately is feasible but human capital and resource constraints will generally limit the level to which innovation can rise. A true multi-cloud strategy, on the other hand, sets agencies on a sustainable path to achieve the benefits of multiple clouds (flexibility, cost efficiency, best of breed) and innovation through a modern application development layer.



Recommendations for getting started

Going forward, we recommend taking an application-centric view of the IT landscape to help improve management and innovation of the multiple clouds that many organizations are working with.

Below are some questions that can help gauge where you are on the multiple clouds/multi-cloud journey:

- “How can I protect against a single cloud provider outage?”
- “How can I integrate unique and differentiated cloud provider offerings without limiting myself to a single cloud provider?”
- “I’ve deployed to multiple clouds over time, how can I get my arms around the complexity of cloud proliferation?”
- “How can I leverage multiple clouds for a single application development platform?”

Interested in speaking with one of our cloud specialists to learn more? Reach out to our Government & Public Services team at Deloitte to connect:



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