



## MAKING THE CASE FOR HYBRID CLOUD

*“Since 2009, the federal government has been shifting its data storage needs to cloud-based services and away from agency-owned data centers. This shift is intended to reduce the total investment by the federal government in information technology (IT) (data centers), as well as realize other stated advantages of cloud adoption: efficiency, accessibility, collaboration, rapidity of innovation, reliability, and security.”<sup>1</sup>*

CONGRESSIONAL RESEARCH SERVICE REPORT



*For federal agencies that have adopted a hybrid cloud solution, expectations of cloud have been met or exceeded, especially with regard to security.*

The benefits of the cloud are already clear to federal agencies that have tested the waters. In fact, a 2014 report from the U.S. Government Accountability Office found that of the seven agencies surveyed, each have implemented additional cloud services and increased the overall percentage of their IT budgets allocated to cloud services since 2012.

Yet, despite major security strides and easier paths to cloud authorization through the Federal Risk and Authorization Management Program (FedRAMP), many agencies remain reluctant to adopt cloud solutions for fear that they will introduce new risks and added layers of complexity.

For those risk adverse agencies, a hybrid cloud model could be just the answer they are looking for to deliver on the Cloud First mandate.

### *Benefits of a Hybrid Model*

Traditionally, agencies have relied on on-premise infrastructure to support their mission-critical needs. In a heavily regulated environment, where meeting privacy and security requirements such as FedRAMP, FISMA and DIACAP is paramount to mission success, agencies must ensure that their data is housed in a secure and compliant facility.

So why does hybrid cloud work for federal agencies? The most typical hybrid cloud deployment model ties together private cloud resources (either on-premise or in a hosted facility) with a

public or community cloud. This architecture allows agencies to keep mission critical applications and data in a secure, compliant, private environment while leveraging either a public or community cloud for burstable and less sensitive workloads. It also affords the following key benefits:

### **COST SAVINGS**

Cost-savings is one of the biggest drivers behind federal adoption of cloud. Cloud computing uses IT resources far more efficiently, allowing agencies to pay for services as they need them. Consolidating IT systems and infrastructure also reduces long-term costs and helps to limit investment in capital-intensive IT resources.

A hybrid cloud model allows agencies to pay as they go on a consumption basis, rather than a set monthly limit that doesn't take into account temporal fluctuations in data usage. This allows agencies to burst into the cloud as needed, in cases of an unexpected increase in website traffic or during expected seasonal/ one-off events.

Moving to a hybrid cloud also frees agencies from relying on the high investment costs of a CapEx business model and instead enables them to shift their IT infrastructure towards a more preferable OpEx model.

Finally, a hybrid cloud model offers cost savings in terms of time. Agencies can write, deploy, and manage applications in the cloud in the same way they do today, without making any changes or additional investments. With management tools consistent across on-premise and cloud environments, agencies can accelerate application deployments, update processes, leverage prebuilt components, and reuse application models across on-premise environments and the cloud, saving time and money.

### **SEAMLESS EXTENSION**

The second largest factor driving cloud adoption has been the necessity of replacing outdated systems and modernizing existing ones. In a hybrid cloud model, agencies can seamlessly extend existing data center infrastructure into a community cloud, such as VMware vCloud® Government Service provided by Carpathia™ (A QTS Company), without the need for significant re-architecture of applications. Many other cloud offerings are engineered with the primary focus of next generation compute demands, but vCloud Government Service enables federal agencies to create and use systems of the past, present, and future.

Hybrid cloud also offers added flexibility for agencies. According to FedRAMP, "Cloud solutions allow for faster processing and more elasticity in computing in an on-demand, more efficient platform." A hybrid cloud allows agencies to move workloads between on premise and the cloud with ease, all while leveraging their existing investments in the software defined data center. Agencies can increase and decrease their cloud capabilities and storage quickly and easily to accommodate bursts in traffic and site usage; and

### **QUESTIONS TO ASK WHEN DEVELOPING THE RIGHT CLOUD STRATEGY**

The hybrid cloud promises reduced costs, but incompatible clouds can actually increase costs due to the additional training and management that is required. To build the right cloud strategy for your agency, you'll need to fully explore the following questions with key stakeholders involved in the decision:

1. What is the goal of moving to the cloud?
2. Do we clearly understand our current IT landscape/environment/architecture?
3. What is considered cloud success?
4. Which applications are we planning to move to the cloud?
5. What existing guidance is available to help adhere to government mandates?
6. How can I determine the best cloud service delivery model?
7. Will my current IT governance model handle cloud migrations and operations?

hybrid clouds offer advanced capabilities because agencies can customize existing state-of-the-art technology from the commercial industry to suit their needs.

### IMPROVED SECURITY

As mentioned above, security in the cloud remains a top concern for agencies. Unfortunately, this perception is based on public opinion rather than actual analysis of security capabilities. According to Gartner, there have been very few security breaches in the public cloud, with most breaches continuing to involve on-premise data center environments. [Gartner, The Top 10 Cloud Myths, October 2014]

Many hybrid cloud solutions are actually extremely secure, especially when delivered by an experienced cloud service provider (CSP). This is largely due to the influence of FedRAMP, which provides a government-wide standardized approach to security assessment, authorization, and continuous monitoring for cloud products and services. Many CSPs now offer federally compliant solutions, which incorporate advanced security protocols. One of these solutions, vCloud Government Service, achieved a FedRAMP Provisional Authorization to Operate (P-ATO) in January 2015 and is now generally available to U.S. government and defense organizations.

### TIPS FOR IMPLEMENTATION

Cloud computing in the federal space isn't a one-size-fits-all proposition. Agencies manage some of the most sensitive data in the world, so while they strive to meet the Cloud First mandate, they must adhere to stringent security and compliance standards. The key ingredient is finding a CSP that can build custom infrastructure solutions that ensure compliance, maximize efficiency and reduce costs.

Making the transition from a traditional IT model to a hybrid cloud can be a complex undertaking and requires careful planning. Once deployed though, the benefits are numerous and offer long-term cost savings as well as enhanced security.

<sup>1</sup>"Overview and Issues for Implementation of the Federal Cloud Computing Initiative: Implications for Federal Information Technology Reform Management", January 2015 <http://www.fas.org/sgp/crs/misc/R42887.pdf>

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