

Solution Showcase

Virtustream: Simplifying Cloud Storage for Enterprise Customers

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Abstract: While public cloud services have fundamentally disrupted IT, hybrid infrastructure is the new normal within today's modern enterprise. Managing storage resources in a hybrid environment with multiple cloud service providers, some of which may feature involved pricing or inadequate customer support for enterprises, however, adds an increased level of complexity. As more organizations embrace hybrid infrastructure, Virtustream understands that enterprises with established on-premises enterprise infrastructure investments need a public cloud service that simplifies the move to cloud storage with the resiliency, pricing predictability, and reliable customer support that enterprises demand.

Overview

As more companies transform in response to the digitally dominated business landscape, it becomes apparent that data and the infrastructure that protects that data are paramount to business success. Faced with an ever-increasing demand for data access and storage, IT decision makers are increasingly looking to public cloud services as a means to manage their cost and complexity concerns. For example, in ESG's *2017 IT Spending Intentions Survey*, leveraging public cloud resources was the third most-cited measure for controlling IT costs.¹

As adoption increases, IT organizations are reaping the benefits of the cloud. Distributing the demands of multiple organizations across a single hyper-scale cloud infrastructure increases utilization levels, resulting in reduced infrastructure costs. In addition, since the infrastructure is already available, the speed and simplicity of cloud deployment can dramatically reduce the time to provision new storage infrastructure.

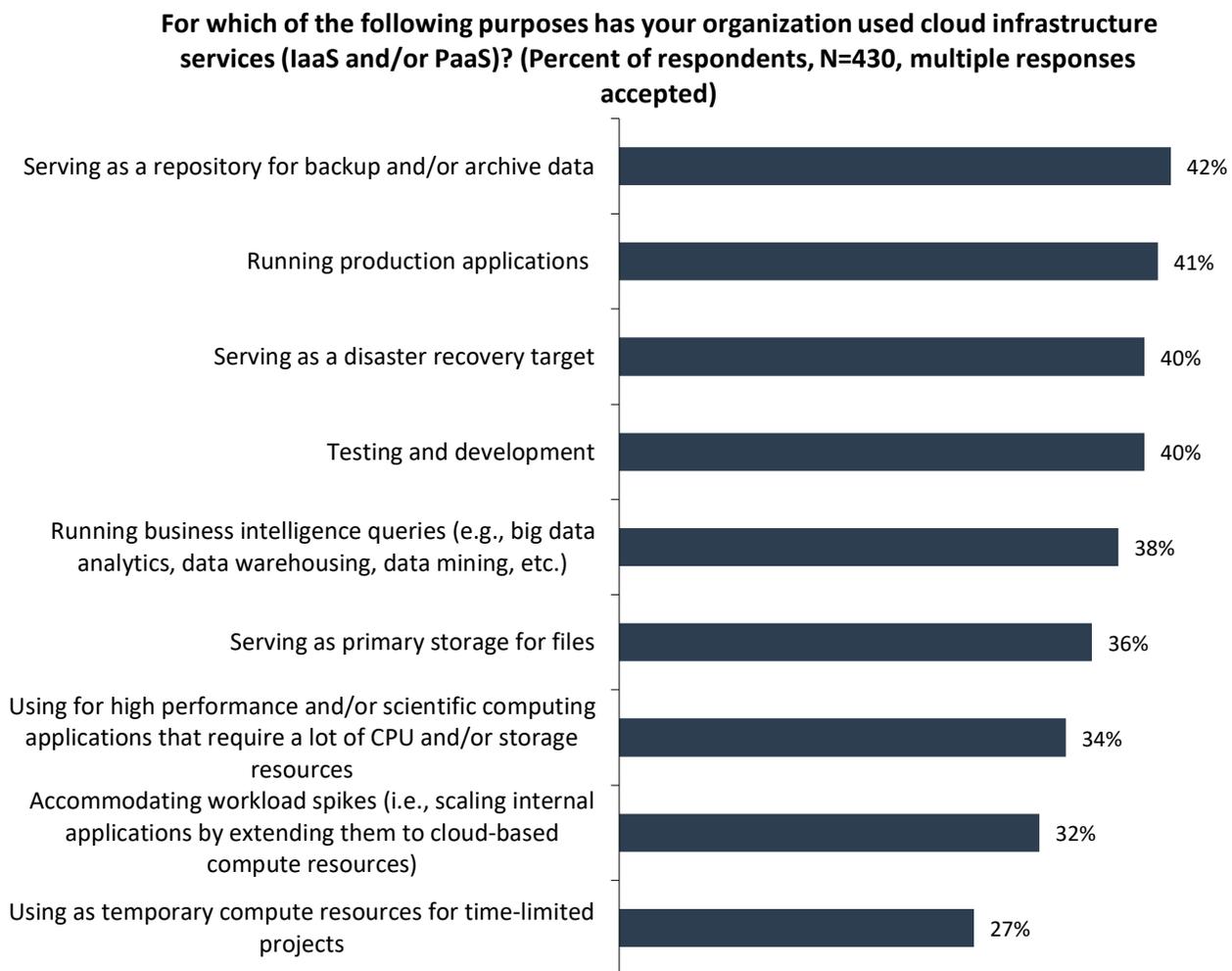
Despite these many benefits, however, the perception that a general-purpose public cloud service is the panacea for all IT woes is quickly eroding. IT organizations are learning that as some workloads are well suited for the cloud, others are best suited to stay on-premises. As a result, hybrid or multi-cloud infrastructures have become the new normal. For larger enterprises with complex IT ecosystems, managing the transition to a hybrid infrastructure model adds complexity and can introduce questions on availability, resiliency, support, and security when data leaves the data center. Virtustream, a Dell Technologies business, is addressing the cloud requirements for these more established enterprises with its enterprise-class Virtustream Storage Cloud designed to deliver the resiliency and availability expected for mission-critical data, along with a level of service and common support that enterprises expect as data spans on- and off-premises infrastructure.

¹ Source: ESG Research Report, [2017 IT Spending Intentions Survey](#), March 2017. All ESG research references and charts in this solution showcase have been taken from this research report unless otherwise noted.

The Rise of Cloud Storage

As data growth rates increase year over year combined with increasing archive needs, longer retention periods, and more frequent and larger backup volumes, traditional storage architectures become strained under increasing business pressures. Cloud storage offers efficient and massively scalable infrastructure resources to help offload the stresses of managing archive storage and the long-term retention of backup volumes, while simultaneously delivering global accessibility, and geo-based data protection for international businesses. Public cloud services, however, can refer to a variety of offering types. To understand the role of cloud storage as part of a larger infrastructure-as-a-service (IaaS) offering, IT decision makers currently leveraging IaaS or platform-as-a-service (PaaS) were asked what uses cases were driving their leverage of these more infrastructure-level cloud services. Respondents identified a wide variety of workloads, but serving as a repository for backup or archive data was the most-cited response (42%).

Figure 1. Cloud Infrastructure Use Cases



Source: Enterprise Strategy Group, 2017

As organizations extend their on-premises data centers to the cloud, such as when leveraging IaaS for backup or archive, it can be easy to assume that the level of resiliency offered by the resulting hybrid solution matches what existed previously. Depending on the provider, however, this may not be the case. To reduce infrastructure costs, cloud providers may store fewer copies, offer lower protection levels, or leverage fewer sites. For enterprise-level organizations, a reduction in the

level of resiliency can reduce the effectiveness of the resulting hybrid infrastructure, creating a demand for enterprise-level cloud storage.

The Public Cloud Decision Process

Data is a valuable resource, and offloading its protection to a cloud provider can ease its management and free up resources locally, but the responsibility of ensuring that data is properly protected still resides with the business. It is important to understand that all public cloud offerings are not created equally. While many feature hyper-scale architectures to reduce the effective cost of infrastructure, services differ in protection, security, pricing, and serviceability. As enterprises extend the scope of data storage to off-premises resources, unforeseen costs or complexities can arise if the resiliency offered by a general-purpose cloud service is less than expected. When evaluating a public cloud storage service, organizations should ask some important questions about deployment:

- **What is the availability?** What level of protection is offered? Is the data protected against site failures? Is data still accessible?
- **What is the level of data protection and durability?** What is the risk of losing data? What and how many protection schemes are in place?
- **How clear is the pricing?** Public cloud services have changed the pricing paradigm for data storage, opening the opportunity for hidden or unexpected pricing as workload and access demands change.
- **What is the level of security?** Data security is paramount, and was identified as the number one reason why storage decision makers selected on-premises software-defined storage (SDS) over public cloud.²
- **How does the solution manage hybrid infrastructure?** Does the public cloud service integrate with the management of on-premises infrastructure, or is it a separate silo?
- **What is the support for a hybrid solution?** If something goes wrong, whom do you call? If the issue involves on- and off-premises infrastructure, can the issue get resolved quickly?

The answers will differ based on cloud service provider and depend greatly on each provider's core strategy. Cloud providers without on-premises offerings tend to neglect the data center, and focus solely on ingesting data to the cloud. Virtustream, however, is one of the cloud service providers offering an alternative. Leveraging its experience with Dell EMC's extensive data center portfolio, Virtustream has co-engineered its cloud storage service to closely match the expectations of enterprise-level data center administrators. Virtustream understands that enterprises need a hybrid and not a cloud-only architecture, delivering cloud storage as an extension of enterprise-level on-premises infrastructure.

Enterprise-class Virtustream Storage Cloud

For established enterprises, the adoption of public cloud services does not happen in a vacuum. Enterprises already have existing investments in data center infrastructure and personnel. While leveraging the cloud for discrete operations such as test and development can be done with little impact to core business operations and workloads, migrating data from sensitive or business-critical workloads introduces new complexities. Virtustream Storage Cloud was designed specifically for this second set of data; enterprises can harness the benefits of the cloud while also delivering the availability and durability necessary for mission-critical workloads. Also, as a Dell Technologies business, Virtustream Storage Cloud provides a management experience that closely resembles that of traditional on-premises deployments. The management

² Source: ESG Research Report, [Software-defined Storage \(SDS\) Market Trends](#), February 2017.

and support is integrated with on-premises Dell EMC infrastructure, delivering simple one-click management and single-source support. The result improves upon what can be accomplished with cloud-only solutions. Some of the enterprise-class elements of the Virtustream Storage Cloud include:

- **High availability:** Virtustream Storage Cloud provides global access to data while extending the high availability expected from on-premises enterprise-level data centers with its uninterrupted read access capability. Encountering a site failure with a cloud service provider is certainly not unheard of, and businesses are starting to understand the importance of multi-site data availability. With uninterrupted read access, data remains available even in the event of an unplanned outage. Virtustream delivers multi-site availability with data centers at least 500 miles apart, all at cloud-level economics.
- **Extreme data durability:** For the cloud to act as an effective data repository, it must ensure that the data is going to be preserved. Virtustream delivers an extraordinary level (13 9s) of data durability. At that level, the chances of data being lost are infinitesimally small. The architecture leverages erasure coded technology to ensure that Virtustream is able to deliver this extreme level of durability while maintaining the efficiency necessary to reduce the effective cost of data storage.
- **Predictable pricing and included services:** In ESG research, leveraging cloud services was one of the top three most-cited initiatives designed to reduce the cost of IT infrastructure. Although the perception that cloud services can serve a cost reducing function has validity, cloud service pricing models often depend on aspects of data storage and access that are not considered in on-premises storage. For established enterprises, the paradigm shift in pricing can result in budgetary surprises after a workload has transitioned to the cloud. The result can create a serious dilemma: Incur the higher costs, or pay to migrate the data back on-premises. To prevent this scenario, Virtustream offers a predictable pricing model designed to eliminate surprises, while also including key services in the price, such as monitoring and common customer support with Dell EMC solutions.
- **Security and compliance:** Data security is top of mind across the industry. Increasing cybersecurity, for example, was the most commonly identified initiative expected to drive technology spending in 2017. The demand for security does not diminish just because the data lives offsite. Rather, it is the opposite. In order to ensure high levels of data security, Virtustream Storage Cloud is independently audited as part of an ongoing third-party certification and self-assessment program, and is certified against applicable HIPAA, PCI, ISO, SOC 2, and Cloud Security Alliance (CSA)-STAR criteria.
- **Integrated hybrid storage management:** Intended to ease IT infrastructure management, the management of public cloud services is often wholly separate from on-premises resources. That may be fine for discrete operations, but not for hybrid workloads. The result creates multiple disparate silos of infrastructure with little interaction, limiting any savings from simplicity. Virtustream is engineered to extend on-premises Dell EMC infrastructure into the cloud by delivering both integrated manageability and enhanced data efficiency. Virtustream Storage Cloud offers services specifically designed to handle the small object sizes produced from Dell EMC Data Domain deduplication, for example. As a result, Virtustream Storage Cloud doesn't lose the savings generated by on-premises storage.
- **Common support:** Similar to manageability, troubleshooting issues in a hybrid cloud world adds a new level of difficulty. Virtustream offers a single support model with Dell EMC's on-premises storage portfolio included in the price, a single number to call for on-premises storage and the cloud.

Virtustream allows IT organizations to leverage the best of both worlds, the data center and the cloud, while having the flexibility to deploy and access resources in the manner best suited for the business. This flexibility is achieved with a single partner to work with for pricing and support, significantly easing the management of a hybrid environment.

The Bigger Truth

In its core design, Virtustream Storage Cloud has set its focus directly on serving enterprise-class and archive data—that is, data that requires long term retention or can be stored in cloud as tier three or four. In addition to its technical capabilities, Virtustream is leveraging its Dell EMC relationship to deliver more than a public cloud service, but enterprise-class hybrid infrastructure capability. Enterprises are coming to the cloud, not with a clean slate, but with substantial investment in on-premises IT. These enterprises need a cloud that is more than one or two isolated services, each with its own management console, support contact, and pricing structure. They need a service that augments their existing investments to become a true hybrid ecosystem—in other words, something more than a public cloud service tacked onto an on-premises data center. While the list of capabilities is impressive, it is Virtustream’s management and support integration with the Dell EMC portfolio that may offer the most significant impact to the bottom line, delivering the potential to greatly simplify the architecture, deployment, and support of the resulting hybrid environment. Additionally, the cloud service provider landscape continues to evolve with greater differentiation while businesses are becoming multi-cloud. In ESG’s research, 75% of IT organizations leveraging a cloud infrastructure service are leveraging more than one provider. Businesses may be learning to leverage different clouds to meet different capabilities—one cloud for test and development and another for analytics, for example. Along these lines, Virtustream may have found its area of expertise: managing enterprise-class and business-critical data for hybrid IT.

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