

A VANTAGE DATA CENTER INFOPAPER

Hybrid is the New Normal



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In recent years, “cloud” has permeated and seemingly dominated conversation across a multitude of industries. It has also become an amorphous, catch-all categorization for anything that falls into the virtual space — a trend that is both confusing and misleading. The rise of cloud was accompanied by the major misconception that somehow, physical infrastructure (data centers) went away. Not only is that untrue, the importance of physical infrastructure has increased as the sheer amount of data being collected and processed daily continues to rise exponentially.

We’ve begun to see a debunking of this misconception, as organizations realize that where infrastructure resides is still critically important, and should not be ignored in deploying a cloud strategy. In this paper, we’ll discuss the tools and options available in today’s rapidly evolving marketplace and tackle the tricky topic of balancing those options to find the best solution for any business.

*Although there are multiple categorizations of cloud services, each with its own set of capabilities and potential problem areas, there are three primary buckets: **public, private and hybrid.***



The 3 cloud models

A **public cloud** infrastructure is owned and operated by a third party and is packaged to the consumer as a paid service through virtualized machines.

Public cloud is a multi-tenant environment, in which multiple companies have their information housed in off-site locations with no direct access to the physical environment. It's ideal for general applications, development and testing, and extreme elasticity in compute demands — situations in which thousands or even tens of thousands of virtual machines might be required on a fluctuating basis. In this case, the data center is out of sight and out of mind, existing off-site, owned and operated by the third party. At a certain point, however, this model can become prohibitively expensive and inflexible in terms of access and control.

Private cloud can be managed by a third-party vendor, but systems may also be hosted on-site.

Private cloud environments operate on owned, dedicated systems that have been virtualized, which allows the customer more direct access to their data, and increased flexibility in the performance of their virtual machines. For highly secure environments, private cloud is superior to public. The customer is in full control of its applications and data, and the environment is fully customizable. With a private model deployed, companies either own their own data center facilities or employ managed services. Owned systems, however, equate to significant cost and related infrastructure that must be managed.

Hybrid cloud represents a meld of private and public, specifically for companies that have varying requirements across their infrastructure.

It provides the benefits of public cloud—like scalability and ease-of-use—with the personalization and control of private cloud. This allows businesses to have both dedicated and single-purpose machines. Hybrid opens up all options for the data center environment: owned, managed services or collocation. Both public and private cloud models have their benefits and drawbacks. A hybrid cloud solution enables organizations to take advantage of the best aspects of each.





Choosing a solution

It's critical for businesses to have a 360-degree understanding of their needs and challenges before going all-in on a cloud-based solution.

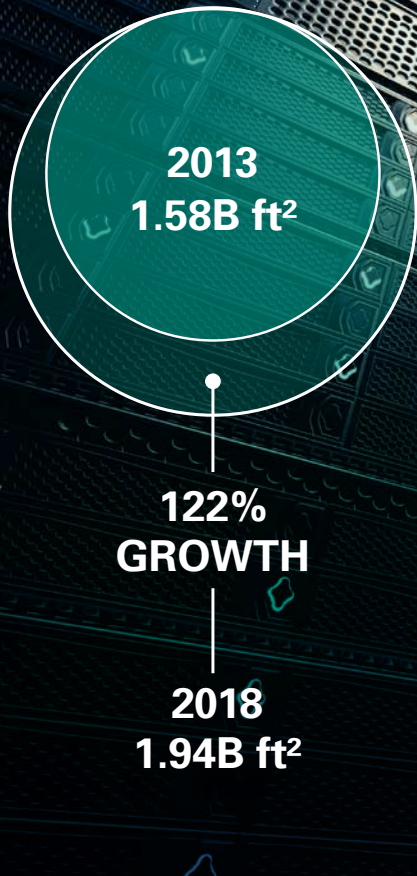
Effectively choosing the right cloud configuration means not only having insights into current needs, but also a strong view on future growth and determining how to implement a data center infrastructure that can support expanding scope and scale. Often times, companies make a wholesale switch from traditional storage to cloud services only to find they're forced to backpedal due to unexpected cost increases or changes in needs. The key lies in developing a methodology to determine where the balance exists for a given organization's data requirements.

It's a decision that can't be avoided. The cloud is a core tenet of all things IT today and will continue to be so moving forward. Companies tend to gravitate to cloud services for cost and flexibility, but soon come to realize that these benefits aren't endless. The public cloud is accompanied by significant limitations in control and potentially prohibitive cost as it scales. Customized tools offer greater flexibility and control, but can make it much more difficult to realize any savings. There's risk inherent in whatever decision is made. Many organizations are choosing hybrid solutions to minimize that risk.





Projected total worldwide data center space



The role of the data center

The tremendous growth of cloud services and subsequent impact on the market has created growing demand for physical data centers. A cloud solution doesn't in any way eliminate data centers, but simply alters where they exist and ways in which they're accessed. According to research from IDC, a sharpening decline in the use of internal server rooms and server closets will only contribute to the growth of external data centers, with the number of service provider data centers increasing at the fastest clip.

IDC projects total worldwide data center space will continue to increase, growing from 1.58 billion square feet in 2013 to 1.94 billion square feet in 2018.

No longer just places where organizations house their IT assets, data centers increasingly serve as the primary point of engagement and information exchange with employees, partners, and customers in today's interconnected world. The data center is also the foundation for new business models, where leveraging large volumes of data and highly elastic compute resources are critical to delivering better insight, a superior product and improved user experience. This requires that data centers reliably deliver large and highly variable amounts of transaction, content serving, and analytic capacity on time, with no delays and no excuses. In this environment, building and running data centers—and managing IT assets at the edge—is a full time job.

Problems can arise when an organization has zero access to the physical servers in which its data is being hosted or stored. It often makes sense to keep local resources, such as an owned or collocated data center, in order to maintain a certain level of control. Having a local data center for certain applications while using cloud for others creates the hybrid strategy that we're seeing more and more of today.

Cloud is not a data center killer. While cloud has become a major component of every organization's data strategy, it's not **the** data strategy. It can't and won't be the singular or stand-alone answer as long as organizations value maintaining control of their data.



Balancing security and flexibility

Data security is a critical issue regardless of where the data is actually stored. It's about how an infrastructure is implemented, not where it sits. It's not the physical hardware that needs protecting; it's the data itself. To do so requires considerable control over data generated by large numbers of employees, often acting autonomously. The key is maintaining an acceptable level of data security without unduly restricting the employees who need to use it.

Maintaining an optimal balance in your cloud strategy is more difficult than ever in today's environment, for a number of reasons:

- Employees depend on cloud services to share and collaborate in the workplace, potentially sharing sensitive information on public services;
- Desktop-level flexibility is a modern necessity, with constant reliance on downloading plug-ins and applications;
- Wireless networks and BYOD policies drastically increase the number of endpoints, each one a potential vulnerability.

While tremendous improvements have been made to cloud security, it is still a work in progress. Today, private data centers are still more secure and dependable than cloud-based environments. Private data centers also provide access to and control over design and performance. The public cloud is only as reliable as public internet—which is to say, not reliable at all. Think about how frustrating it is to lose connectivity at home. Now imagine those same connectivity issues arising in the process of executing mission-critical business functions. By going hybrid, companies are able to pick and choose which applications make sense to run from the cloud, versus those that require the security of a traditional data center. The most sensitive information should be kept in the most secure environment.



THE VANTAGE ADVANTAGE

Getting started

When establishing the right cloud strategy for any business, it's important to think about the corresponding data center strategy. While owned systems might not be the best or most practical choice for some organizations, there are still options, like managed services or collocation, which allow for flexibility, control and insight into the performance and set-up of the data center without associated and often times prohibitive upfront costs.

Businesses are becoming increasingly sophisticated about their needs, and we're in a new environment where one size does not fit all, whether it be a local, physical data center or cloud services. Bigger is not always better. It's all about access and flexibility. More organizations are choosing a hybrid model because fundamentally, a hybrid model is about being agile, responsive and service-focused.

In order to best qualify and meet unique, evolving needs, organizations need a reliable partner. In today's complex marketplace, Vantage is positioned to be that partner. More than any other provider, Vantage will work in tandem with organizations to take full stock of their needs and develop customized solutions that take into account more than just up-front costs. Data centers can set organizations up with any number of hybrid solutions that establish and maintain business continuity.

It's the cloud service provider's job to make it easy and painless to spin-up services. But it's up to the customer to understand their organization's needs. Cloud is right for some applications but not for others. Customization is key, and deep up-front analysis is integral to properly determining the best individual solution for any given situation. Through due diligence, the appropriate hybrid model can then be deployed with proper care.

The value of Vantage is that we can manage any organization's hybrid cloud, freeing them from the worry of running the building on top without sacrificing assets or access.

To realize the full potential of a hybrid strategy, serious consideration must be given to collocation. Collocation represents a customizable middle ground: control over the equipment and access to the data, without having to manage the facilities around it. Vantage allows customers to rely on our expertise, ensuring safety and security.



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