



# Hybrid Cloud Storage: Making Your Move to the Cloud

**Quantum**<sup>®</sup>

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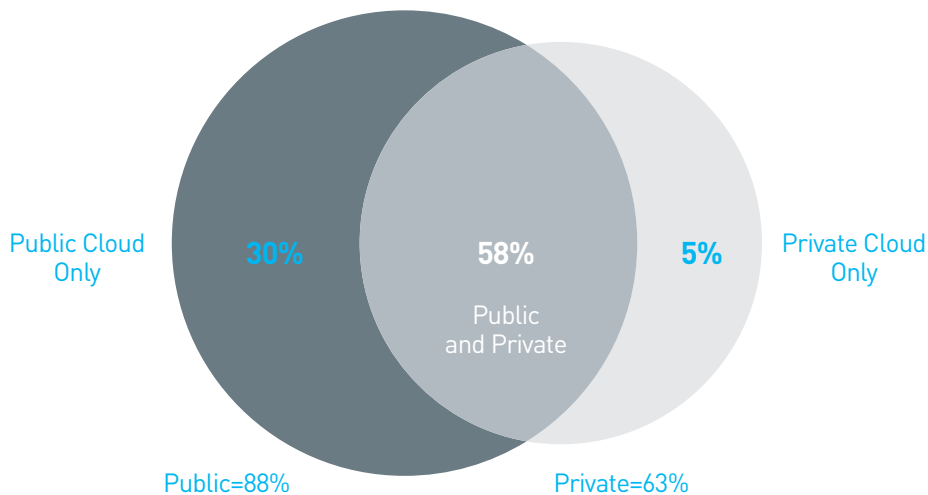
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## THE CLOUD CRAZE

Over the last few years, cloud computing and infrastructure—the delivery of business services to users over a network—has taken the IT world by storm. There’s hardly an enterprise IT department that hasn’t already adopted (or isn’t currently considering) a move to cloud-based delivery models, and for good reason: the cloud offers a solution to IT management, resource, and cost challenges facing organizations today. According to the *RightScale 2015 State of the Cloud Report*:

- 93 percent of organizations surveyed are running applications or experimenting with Infrastructure-as-a-Service
- 82 percent of enterprises have a Hybrid Cloud strategy, up from 74 percent in 2014
- 88 percent of organizations are using Public Cloud while 63 percent are using Private Cloud
- 68 percent of enterprises run less than a fifth of their application portfolio in the cloud
- 55 percent of enterprises report that a significant portion of their existing application portfolio is not in cloud, but is built with cloud-friendly architectures

**Figure 1: 93% of Respondents are Using Cloud**



But now that the hype has died down, it’s become easier to evaluate how the promise of the cloud is playing out, both positively and negatively, through its various implementations. In this eBook we are going to focus on cloud storage.

## CLARIFYING CLOUD STORAGE

Today, a clear-eyed assessment of applying cloud technology to meet your organization's storage needs reveals that there are both pros and cons. Depending on the type of cloud model you adopt, there are a number of immediate and long-term benefits that you could enjoy, such as:

- Reduced capital and operational expenses
- Quick and nimble response to changing business conditions
- Reduced burden on IT management and resources
- Anywhere-access to services
- Easy scalability as your business grows

These are all significant benefits. So why would anyone not want to jump on this bandwagon? Here are some of the potential downsides:

- Concerns with data security
- Concerns with lack of control
- Slower and more expensive data retrieval
- Vendor lock-in based on your hosting provider's choices
- Inability to predict operational costs
- Accessing RESTful cloud storage requires changes to applications and adoption of new processes

Clearly, the best path to cloud storage deployment for your organization should be one that maximizes the pros and minimize the cons. In order to find that path, you must first become familiar with the three basic types of cloud as they exist today: Public, Private, and Hybrid.

## CLOUD OPTIONS

**Public Cloud** storage is a scenario in which an organization offloads its IT storage requirements to a company that provides a turnkey solution. The provider maintains the storage and network infrastructure required, taking on the responsibilities of upgrades and maintenance, and providing availability SLAs as well as assurances of data protection.

Public Cloud represents a pay-as-you-go, shared infrastructure where you can bring storage online on-demand in response to various business needs. It's highly scalable, and can easily address demand- or workload-based fluctuations. Generally, no up-front infrastructure investment is required, and costs to the customer are kept low by leveraging pooled resources at the provider. Because data is hosted on shared storage, security and compliance concerns prevent some organizations from considering this option.

**Private Cloud** storage provides the same benefits as Public Cloud storage but is built on dedicated storage resources for a single customer to meet its specific needs, and therefore can provide a higher level of performance, security, and control for those customers that require it. This can often lead to higher costs (both OPEX and CAPEX) than with a Public Cloud approach, as Private Cloud solutions leverage in-house, or on-premise, infrastructure. Even though initial CAPEX investments may be higher with Private Cloud solutions, as the investment horizon lengthens to span two, three, five years or longer, an investment in Private Cloud may end up being the most cost-effective solution over the investment planning horizon.

A Private Cloud is ideal for companies whose business, security and/or regulatory requirements mandate having their own dedicated resources; large organizations working with multiple applications that involve mission-critical data or require greater levels of customization; and organizations whose businesses rely on high performance levels and availability for their application platform.

**Hybrid Cloud** storage, as the name implies, combines features of both Public and Private Cloud implementations, connected at various points to allow business users and applications to access storage via either of the two infrastructures as determined by IT or corporate policy.

For many companies, a Hybrid Cloud deployment represents the best of both worlds: the lower cost and scalability benefits of Public Cloud for data that can live there, along with the added performance, security, and control of Private Cloud for those applications that require it. With an effective Hybrid Cloud storage solution, you can choose the best match for your workload requirements at any time, and rebalance them as your needs change.

**Chart 1: Comparison of Cloud Benefits**

Comparison of Cloud Benefits	Public Cloud	Private Cloud
Expense matches need (Flexibility)	✓	✓
Anywhere access to data	✓	✓
Scalability	✓	✓
Low entry cost	✓	✗
Data access performance	✗	✓
Reduced OPEX	✓	✗
Reduced CAPEX	✓	✗
Reduced strain on internal IT resources	✓	✗
Predictable expense	✗	✓
Increased security	✗	✓
Increased compliance	✗	✓
Control over technology vendors and migration	✗	✓
Control over data retrieval performance and costs	✗	✓

*Public and Private Cloud models offer many of the same benefits, but differ in some aspects of security, compliance, expense, and control. In some ways, a Hybrid Cloud strategy represents the best of all worlds; but it's also possible that a no-cloud implementation may be best for your organization.*

## CLARIFYING FIT

Which of these cloud storage options is the best fit for you? It depends on what you hope to accomplish. At a bare minimum, you should be looking to gain the benefits that are common to both Public and Private Cloud: flexibility, anywhere-access to data, rapid scalability, and the peace of mind that comes from knowing that your data is housed off-site in a secure, redundant environment.

Beyond that, your choice of which way to go will be mandated by the depth of your resources (principally in capital and manpower) and your need to maintain regulatory compliance.

The first step in evaluating how you should make the best use of the cloud is to understand your own business requirements and how they relate to the delivery of IT services, both within your organization and to your customers. At the end of the day, your focus should be on the business data you are considering moving to the cloud—what the requirements are for it, how it is to be used, who will be using it, how it will be accessed, and where they access the data from.

## FIGURING IT ALL OUT

Finally, when, how, and which data you move to the cloud will be determined by your own financial planning horizon: How many resources can you commit now, versus later on, to migrating some or all of your business functions to the cloud? As you can see from our Decision Tree on page 7, the answer may be that, in the short run, a Public Cloud storage implementation is better suited to your financial situation. If your planning horizon is further out, and your business relies on fast and secure transfer of data, then a Private Cloud may be the wiser investment.

You may also find, as more and more companies are, that your company's needs dictate a cloud strategy that includes a mixed use of Public and Private deployments—the Hybrid approach. Conversely, you may decide that now is simply not the right time to move data to the cloud—knowing that the option to do so remains available as conditions change.

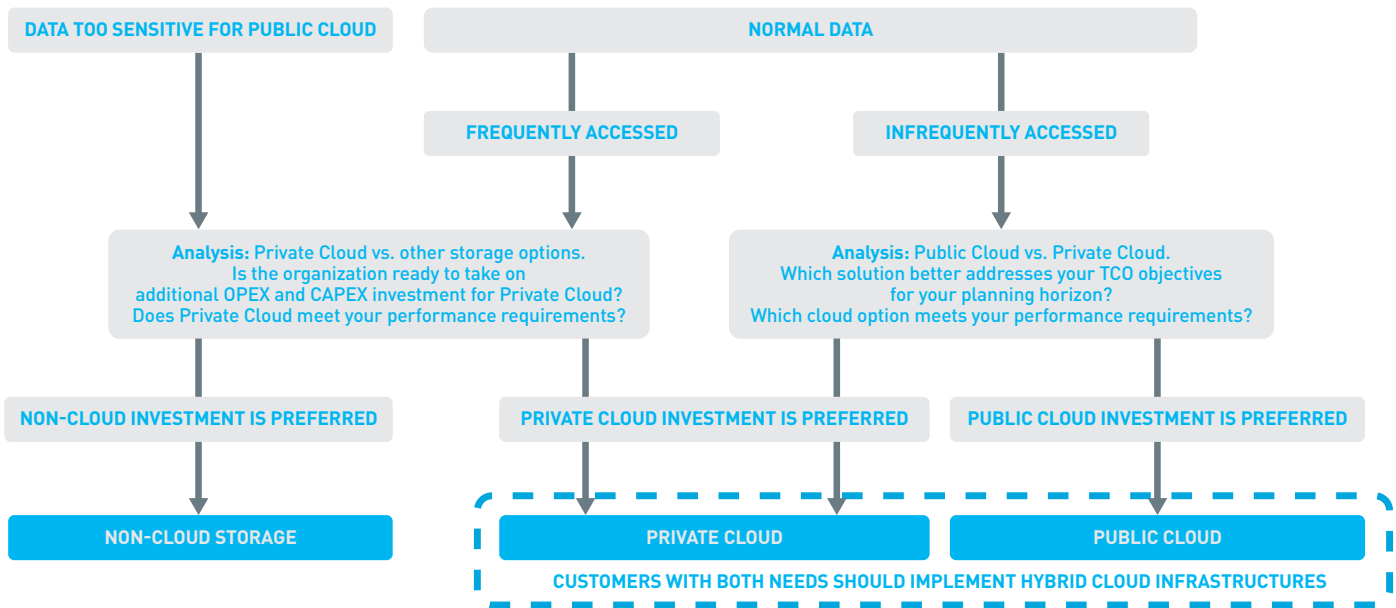
The bottom line is that there's no single, one-size-fits-all answer to the question of "How should I move my business assets into the cloud?" And that's the beauty of it—as the world of IT continues to evolve, solutions will be ever-more affordable and customizable to the exact needs of all organizations, large and small.

## QUANTUM AND HYBRID CLOUD STORAGE

Quantum understands that there is no "one-size-fits-all" solution, and it is therefore key to invest in solutions that deliver flexibility as needs grow and evolve (after all, that is what cloud is all about). The Quantum Artico™ storage platform, which is based on Quantum's StorNext® technology, offers a smart way to implement Private and Hybrid Cloud solutions. With an easy-to-integrate NAS front end, Artico features high-performance disk storage for active data—while providing a powerful but user-friendly policy engine that automates data migration from active disk storage to Public Cloud, Private Cloud, or even tape library repositories for long-term, low-cost retention. The key benefit of a solution like Artico is that, no matter where the user data resides (cloud targets or tape), applications and users continue to access their files via NAS share just as if that data is resident on the active disk storage of Artico. So workflows do not need to change, IT does not need to manage data migration, and users get the benefits of cloud flexibility, low-cost storage repositories, and high-performance access to active files.

Read more about Artico [here \(https://iq.quantum.com/exLink.asp?324795900C41X151104424430\)](https://iq.quantum.com/exLink.asp?324795900C41X151104424430).

# DECISION TREE ON MOVING TO PUBLIC, PRIVATE, OR HYBRID CLOUD



The optimum choice of cloud implementation for your organization should be driven by considerations of your financial situation, tolerance for potential performance issues, and compliance requirements.

To learn more, visit [quantum.com/hybridcloud](https://quantum.com/hybridcloud).



## ABOUT QUANTUM

Quantum is a leading expert in scale-out tiered storage, archive and data protection, providing solutions for capturing, sharing and preserving digital assets over the entire data lifecycle. From small businesses to major enterprises, more than 100,000 customers have trusted Quantum to address their most demanding data workflow challenges. Quantum's end-to-end, tiered storage foundation enables customers to maximize the value of their data by making it accessible whenever and wherever needed, retaining it indefinitely and reducing total cost and complexity. See how at [www.quantum.com/customerstories](http://www.quantum.com/customerstories).

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