# Cloud Building

**Technology Paper**

## Choosing the Right Cloud for Your Organization

There is no such thing as "the cloud." Instead, there are many different types of clouds, and as organizations develop a cloud strategy—the first step toward simplifying IT operations and cutting costs—they must first evaluate a series of functional and business requirements. The choices they make will influence everything from which vendor (or vendors) they choose to whether or how to redefine the role of IT.

Here we consider the advantages of moving to a cloud and explore the relative strengths and weaknesses of several cloud options.

### Here and Now

Storage costs are going down; IT budgets are generally increasing. All good, right? Not quite. The increase in data volume is overwhelming both the drop in per-unit storage costs and the small bumps in IT budgets. The real cost of data storage is skyrocketing simply because there's so much more of it, and IT budgets can't keep pace.

# Cloud Building

At the same time, the value of data is growing—and thus so is the value of reliable backup and recovery. Government regulations, compliance, governance, and user expectations mean that taking chances with data simply isn't an option.
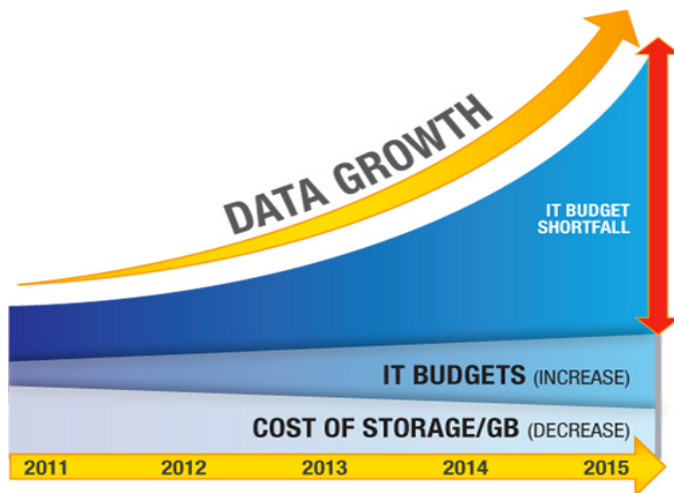


Cloud models of various types are the only way IT can bridge the gap between what it must back up and be able to recover and what it can afford. A 2014 Enterprise Strategy Group (ESG) survey showed that 32 percent of IT pros consider increased use of virtualization a top priority, 29 percent of respondents planned to improve backup and recovery, and 21 percent prioritized disaster recovery. Nearly one-quarter put "using more cloud solutions" at the top of their respective to-do lists. The ESG survey revealed that 70 percent of respondents reported using cloud services in 2014, a 13 percent jump from a year before. But only 20 percent of respondents—an 11 percent decrease from 2013—say they don't currently use cloud services. The cloud is here and now.

The money trail makes for an even stronger path to the cloud. The same ESG survey showed that 72 percent of IT pros (an increase from the previous survey) planned to invest in cloud services in 2014. Only 52 percent (a decrease from the previous survey) were looking to invest in storage infrastructure. Storage is moving to the cloud, and it's moving rapidly.

## The Cloud Revolution

Cloud solutions are approaching ubiquity because they help IT clear some classic hurdles, enabling IT to become a revenue center rather than a cost center. (The cloud today is where virtualization was five years ago, when it revolutionized the data center and became the standard model for managing servers; now 70 percent of x86 platforms are virtualized.) IT needs to increase capabilities, never suffer any downtime, and maintain standards for compliance. But the vast majority of a given organization's IT budget is dedicated simply to keeping everything running. Old-school solutions have locked IT departments into years of working with proprietary architectures—a problem that's particularly pronounced in storage. Trying to keep up with new demands using old technologies and strategies is nearly impossible.

Cloud solutions provide flexibility and reliability that traditional solutions never could. The result is decreased costs, easier management, and more freedom for IT to launch revenue-producing initiatives. The cloud is the enabler that frees IT to finally go from bottom-line subtraction to bottom-line addition.

With the cloud revolution in full force, the early doubters are in fast retreat. Maturing solutions and successful test cases have largely alleviated concerns about security and reliable data access and control. For IT, it's full speed ahead to the cloud.

But—what's the best way to get there?

IT needs to lay out the organization's business requirements, budget, and goals for the cloud and match them with the various elements of each cloud model, thereby creating a cloud infrastructure that's right for the individual company. They key is to know up front which choices need to be made and what the options are.

# Cloud Building

## Weighing the Options

Clouds come in three basic forms: onsite (private), offsite (public), and hybrid.

The private cloud exists within an organization's walls. It's set up to provide services to the organization's users and is managed by the IT department.

The public, or offsite, model involves outsourcing one or more functions to a third-party cloud vendor. This model generally involves paying a periodic fee for managing various cloud functions.

The hybrid model combines the two: the organization outsources some functions and runs others in-house.

That's simple enough. But it doesn't capture all the permutations involved in selecting a cloud model. Organizations first need to decide what, exactly, they want their cloud infrastructures to do. Different cloud models are capable of handling multiple technologies and can deliver various benefits, depending on what an individual organization needs. Which combination will best serve your organization? See Figure 1.

The first step is to identify the IT workloads that could benefit most from a cloud model. What are IT's most pressing concerns? Is it data protection? File sharing? Data tiering? Or maybe CRM support? Determine which pain points need relief, prioritize them, and go from there.

Another critical step is to ensure security. Organizations need to determine how they want to handle security and whether the cloud provider meets this expectation. Public cloud vendors can provide security that meets and exceeds compliance requirements. But if IT is more comfortable keeping the organization's data onsite or with controlling how the data is dispersed geographically, it should pursue a private or hybrid model. It's also important, particularly when choosing a public cloud vendor, to ensure that the vendor provides a satisfactory level of encryption.

There are other considerations, such as implementation. In a private or hybrid model, who will build the infrastructure—IT or a vendor? Is it better to go with solutions from the same vendor or cobble together best-of-breed options? How should organizations balance open source and proprietary technologies? These questions are as important in setting up a cloud as they are in any other IT endeavor.
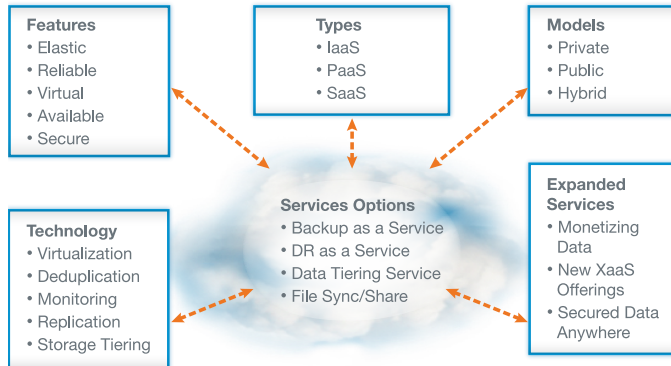


Figure 1: Various cloud models and benefits of the cloud. Organizations need to choose the elements they need for their cloud infrastructures. For instance, a company might seek a software-as-a-service model for file syncing and sharing to improve file availability and collaboration. Another organization might want to use a more complex platform-as-a-service approach to set up disaster recovery and reduce costs while increasing reliability. Some organizations might want to entrust just about everything to some form of the cloud; others will only want to use the cloud for specific functions.

# Cloud Building

## Seagate's Offerings

Seagate® offers a comprehensive range of cloud options, including the EVault® product line, a long-standing leader in cloud-based data protection services. Seagate provides various cloud models such as public/private/hybrid options with internal or external implementation and management. Choosing and developing the right cloud is a complex undertaking, but Seagate offers services to simplify the process and keep it within or below budget. See Figure 2.
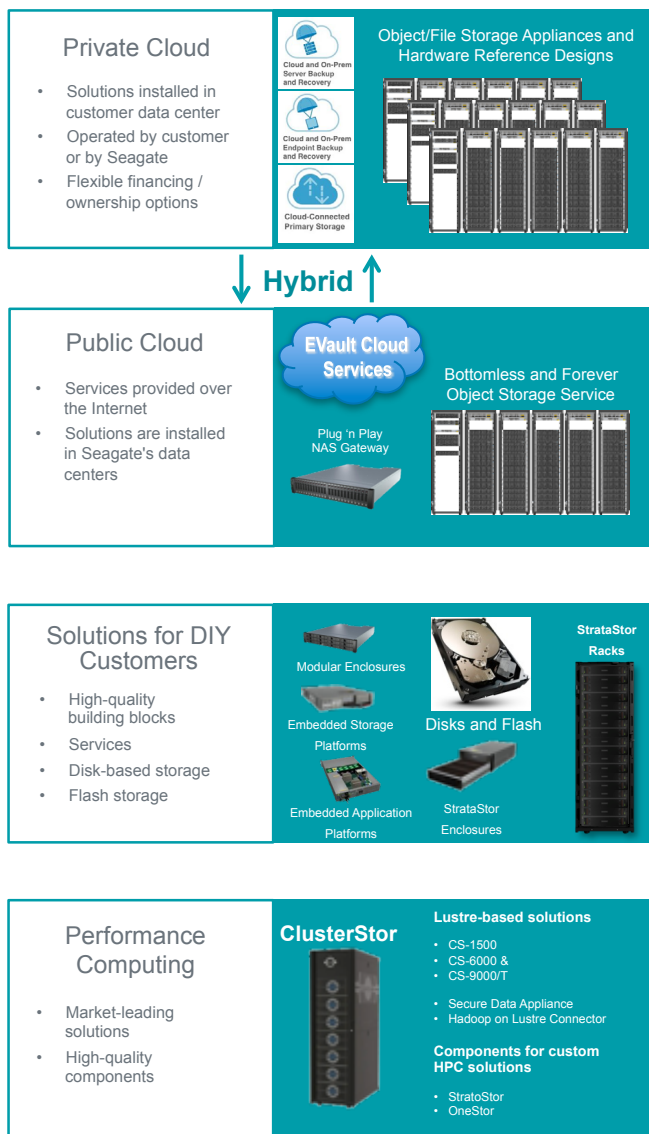
## The Final Analysis

The cloud exists not as a singular, monolithic entity but as a platform unique to each organization. The cloud's benefits are too great to ignore, and its perceived drawbacks are receding into the past; as a result, cloud adoption rates are high and rising. Implementing and managing a cloud model—public, private, or hybrid—can be simple or complex depending on the series of choices the organization makes based on its business requirements.

## Take the Next Step

To learn more about EVault cloud services from Seagate, call us at 1.877.901.DATA (3282), email us at concierge@evault.com, or visit us at www.evault.com.

## www.seagate.com

### Private Cloud

- Solutions installed in customer data center
- Operated by customer or by Seagate
- Flexible financing / ownership options

Cloud and On-Prem Server Backup and Recovery

Cloud and On-Prem Endpoint Backup and Recovery

Cloud-Connected Primary Storage

Object/File Storage Appliances and Hardware Reference Designs

↓ **Hybrid** ↑

### Public Cloud

- Services provided over the Internet
- Solutions are installed in Seagate's data centers

EVault Cloud Services

Bottomless and Forever Object Storage Service

Plug 'n Play NAS Gateway

### Solutions for DIY Customers

- High-quality building blocks
- Services
- Disk-based storage
- Flash storage

Modular Enclosures

Embedded Storage Platforms

Embedded Application Platforms

Disks and Flash

StrataStor Enclosures

StrataStor Racks

### Performance Computing

- Market-leading solutions
- High-quality components

**ClusterStor**

**Lustre-based solutions**
- CS-1500
- CS-6000 &
- CS-9000/T

- Secure Data Appliance
- Hadoop on Lustre Connector

**Components for custom HPC solutions**
- StratoStor
- OneStor

Figure 2: Seagate cloud offerings provide a wide range of options.