Which Cloud is Right for You?

Public, Private & Hybrid Cloud-Based Services

It is clear that businesses of all kinds are adopting cloud services at an increasingly rapid pace. A 2012 study by KPMG showed that 81% of businesses had already implemented a cloud solution, were planning to implement a cloud solution or were seriously evaluating the cloud. Research by Neovise showed that 54% of 822 US IT leaders and decision makers surveyed use public or private clouds. 74% of participating organizations utilize more than one type of cloud. There is no question that the cloud is a big part of the future of IT for businesses. Improved Internet speeds and connectivity, enhanced technology for high-performance virtualization and the growing number and quality of providers have made the cloud an increasingly viable and attractive option. But what kind of cloud: public, private or hybrid? The answer depends on the business's needs, preferences and resources. First it is important to have a good understanding of what is available.

The Value of the Cloud

Advances in technology, rapidly improving Internet and network connections and the growing number of reliable providers are making the cloud a high-value option for many businesses. Of course there are pros and cons, which will vary based on the type of cloud (public, private, hybrid), the selected provider and the implementation of the service. In general, the following are the benefits and potential shortcomings of moving into the cloud for storage and management of data offsite:

Benefits:

- Cost – often significantly less
- Virtually Unlimited Storage
- Excellent for Efficient, Cost-Effective Back-Up/DR/Business Continuity
- Automatic Software Integration
- Access – anywhere with internet/network Connection on Any Capable Device
- Fast Deployment & Scaling
- Efficient/Streamlined Processes
- Better Management & Monitoring of Activities
- Easy Implementation/Less Personnel Training
- Highly Flexible/Scalable
- Increased Collaboration – employees, Departments, Customers, Partners, Etc.
- Better Security is Possible in Many Cases*
- Improves SMB Competitiveness – can look & Function Like a Large Company
- Environmentally Friendly – save energy, conserve resources, enhance company image.

Potential Issues:

- Security Threats*
- Technical Issues/Downtime
- Dependence on an Outside Provider

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- Limited Control of Provider-Based Service
- Internal Control – Cloud Sprawl is a Danger if Not Well Managed

A note about clouds and security. Security is a relative issue, based on a multivariable equation. A variety of factors determine if a cloud-based service is more or less secure than a premise-based system. When comparing it is essential to know the rating of the cloud service's data center (basic tier 1 all the way up to ultra-secure tier 4). In many cases, the company can specify the level of security and reliability they want – and are willing to pay for. Then a meaningful comparison to the existing or proposed system on premise can be made. There are situations where it can go either way, but cloud data centers typically are more secure and reliable than small and midsize businesses' premise-based systems. A key reason is that data centers are designed, built and maintained specifically for that purpose, often installing and maintaining cutting-edge technology to achieve optimal conditions and security on an ongoing basis. Performing a valid comparison is important when deciding how to proceed.

TYPES OF CLOUDS

For the purpose of our conversation, a "cloud" is an off-premise network on which data resides. In some situations businesses can host their own private cloud on premise using their own equipment; however this article is primarily addressing off-premise, hosted clouds. A cloud can include any combination of services, such as Storage-as-a-Service (STaaS), Infrastructure-as-a-Service (IaaS), Platform-as-a-Service (PaaS) and Software-as-a-Service (SaaS). There are many variations in how they are structured, managed, accessed, provided and priced. One of the most significant distinctions in types of clouds – and the subject of this article – is the difference between public, private and hybrid clouds.

Public Cloud – Public clouds are virtualized, multi-user IT infrastructures that are managed and owned by a service provider – usually accessed over an Internet connection. The users each utilize a portion of the shared hardware that resides in the service provider's data center. The provider usually offers a variety of service options, from servers and operating systems to storage, bandwidth, load balancers and other capabilities. The user pays only for the services they receive. Some cloud service providers have Application Programming Interfaces (APIs) and administrative portals. It is then the responsibility of the companies to provision, install, deploy and manage their own systems.

Private Cloud - The key difference between hosted private and public clouds is that private clouds serve only one business or organization. As mentioned, private clouds can be hosted, residing in a service provider's data center and managed by the

provider's professional staff, or be housed on the business's premise, typically maintained by the IT department. On-premise services can also be outsourced. Both can also have APIs, self-service interfaces and other similarities. Public clouds may have additional services delivered by the cloud provider. This article is focusing on hosted private clouds to highlight the comparative features and benefits related to public and hybrid clouds.

Hybrid Cloud – A hybrid cloud is an IT system that utilizes both public and private clouds to create the optimal combination of networks for varying needs. Typically, the segregation of data in a private cloud is necessary for high-security needs and compliance with special requirements, such as those of PCI, HIPAA, FISMA and others. Public and private clouds can be seamlessly integrated into one system of networks to create a highly efficient, cost-effective, secure IT structure.

CONSIDERATIONS WHEN CHOOSING THE RIGHT CLOUD

To choose the right cloud for business's specific needs, it is necessary to understand the different capabilities and optimal uses of public, private and hybrid clouds.

Public Cloud – Scalability, simplicity of use, versatility and cost are typical advantages of the public cloud over a private cloud. The most significant benefits of public cloud services are that it is a pay-per-use service, without the problems, costs and management burden on IT departments.

Pros

- Simplicity and Efficiency – hosted and managed by the provider.
- Low Cost – pay only for what is used, with no special hardware, staff support, energy and other expenses.
- Reduced Down Time – everything is virtualized, enabling reconfiguration during changes and instant server changeover if one fails.
- No Maintenance – cloud provider handles it all.
- Fast, Easy Technology Implementation - much quicker in the cloud.
- No Long-Term Commitments – service agreements can be monthly or yearly subscriptions that can be easily exited when expired.

Cons

- Lack of Control – because providers manage the data systems, some businesses feel that they do not have as much control as they would like. This, however, depends on specific needs and implementation.

- Speed & QoS – can be an issue. Both public and private clouds can be accessed across the Internet or through a dedicated connection. Both speed and Quality of Service are dependent on the type of connect regardless of which type of cloud is chosen.
- Data Location – companies do not know the actual location of their data in some situations.
- Renting vs. Capital Investment – while significant cost is saved by avoiding an upfront equipment purchase vs. on-premise data housing and management, some businesses view renting as less desirable than possessing physical assets and getting tax advantages. Financial analysis shows this to be untrue in many cases.
- Perceived Weaker Security – as discussed above, this is a situational issue, totally dependent on what options are selected as compared to existing or proposed systems. The exception is compliance requirements for special applications. A careful analysis of the situation is necessary to make a good decision. Get expert help if it is not in house.

Private Cloud – Additional customer control and less security concerns – real or perceived – make the private cloud better for many businesses and special needs. By segregating data and applications from other users, a private cloud offers peace of mind while maintaining the benefits of flexibility, scalability and increased productivity that are so attractive in the public cloud.

Pros.

- More Control – no one else has access to the data, and the business is in charge of monitoring and maintaining the data.
- More Security – the dedicated hardware, data storage and network of a private cloud can provide high-level security that many perceive as superior to the public cloud. This can be essential for compliance issues.
- High Performance – the speed and QoS for both private and public clouds depend on the type and bandwidth of the connection .
- Compliance – as already mentioned, compliance with internal, industry and other requirements, such as Sarbanes Oxley, PCI, DSS and HIPAA, can strongly suggest the use of a private cloud.
- Always Know Data Location – hosted server physical proximity.
- Customization – private clouds often make it possible to specify customization in hardware, network performance, storage and other functionality.

Cons – most of the potential shortcomings of private clouds are associated with on-premise systems, maintained by businesses in their own facilities. This requires the purchase, configuration and maintenance of the system or virtualized infrastructure. There is a considerable capital investment required to create such an in-house system. For many small to mid-size companies, hosted private clouds are far more practical and beneficial.

- Higher Cost - private cloud services are typically more costly than public clouds unless the scale reaches a certain level. Then economies of scale kick in. Determining how to address this issue requires expert assistance.
- On-site Maintenance – if the private cloud is hosted at the company's site, there are a variety of costs, from power and cooling to general maintenance. There is also the risk of data loss due to physical damage, vandalism and other issues that do not exist in data centers.
- Capacity – There can be a capacity ceiling for the equipment installed in an in-house private cloud. Private clouds located in the provider's data center have virtually unlimited capacity.

Hybrid Cloud – to put it simply, a hybrid cloud offers the optimal combination of both public and private clouds, leveraging the advantages and minimizing the shortcomings of both. The key is effective planning, design and implementation.

Disaster Recovery & Business Continuity

Offsite cloud services now offer excellent opportunities for businesses to create highly reliable, ultra-secure disaster recovery, backup and business continuity systems that are both efficient and economical. Disaster Recovery as a Service (DRaaS) is a valuable and fast-growing approach that provides companies with peace of mind, knowing that their data – both backup and production – is safely stored in a world-class data center with the most cutting edge technology working for them. It also makes data recovery, if needed, much faster, easier and more efficient, minimizing downtime. This is a service well worth exploration.

Moving Into the Cloud

Diving into the cloud all at once can feel as intimidating and daunting as jumping out of a sky diving plane for many executives who have not yet ventured into this relatively new medium. For many, the best option is to phase into the cloud with selected services to get acclimated and provide a workable transition for the organization. Hosted email servers or simple data storage are good ways to start. Read more in:

Hosted Email Servers – A Great 1st Step Into the Cloud.

Then, additional services can be phased in utilizing a well-conceived strategic plan. For businesses that would like to take a bigger leap, it is highly recommended that professional, expert assistance be retained. It will be well worth the investment.

Cloud Quality

As is true with virtually all IT services, there are widely varying levels of quality, reliability and security available from different providers. Naturally, bargain basement priced services tend to offer the least and have the greatest risk of service interruption, security lapses and data loss.

When choosing a provider and a service package, it is highly advisable to perform an in-depth evaluation of the business's requirements and preferences to determine whether an enterprise-level cloud is necessary or if a lower cost option will suffice. Cutting corners here can result in expensive and potentially devastating damage to a company's data, security and total business operation.

Choosing a Cloud Provider

The key steps in selecting a cloud provider are:

- Perform an assessment of IT needs, requirements & preferences
- Assess connectivity needs – bandwidth, throughput down and up
- Determine the levels of services and security that are needed
- Identify providers who can meet the business's requirements
- Confer with the leading options to obtain their recommendations
- Request & review proposals
- Review their implementation plans, schedules and support
- Assess the cost-benefits of each
- Select the desired provider with clear expectations and plans

If a business does not have internal staff experienced in managing transitions to the cloud, expert outside assistance is highly recommended.

Summary

As technology and options continue to improve and expand, the cloud will become an increasingly vital IT resource for businesses. It will continue to offer higher levels of secusrity, reliability, efficiency and economy for most companies and organizations. As adoption increases, the cloud will evolve from being a business advantage to being a competitive necessity. Explore the cloud, where the sky is the limit.

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