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Public or Private: Which Cloud Computing Model Suits Your Business?

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Abstract

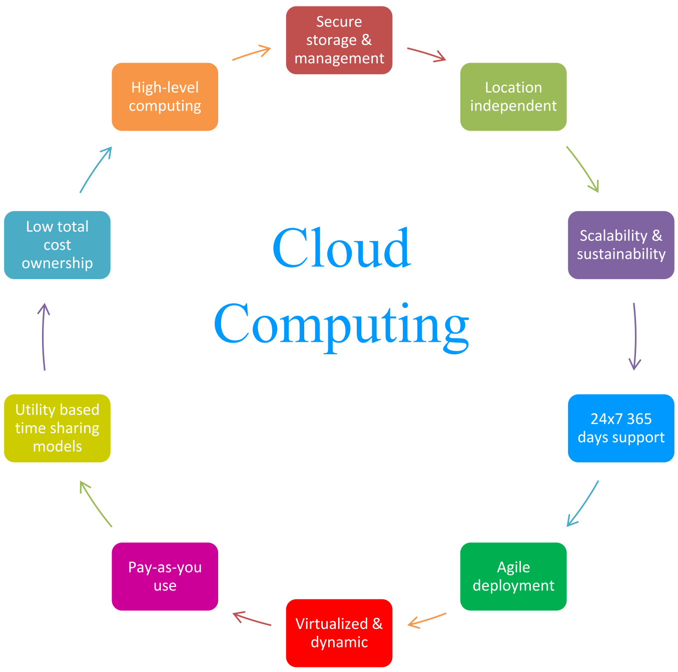
Cloud technology is the need of the hour. If you're a small, mid-sized or a large organization, planning for a cloud, then this article is just for you. This article will guide you and help you in decision making, which cloud model would suit your business needs. Before making a decision on a cloud, the questions that go through the minds of CEOs and other decision makers are: Whether to implement public or private cloud? What's the difference between public and private cloud? Which model would be more suitable? This communication answers all these questions and provides a framework, methodology and strategy for selecting the best cloud solution for your business.

Keywords: Public Cloud, Private Cloud, Cloud Computing, Cloud Storage, Public vs. Private Cloud, Cloud Strategy

1. Introduction

These days more and more enterprises are adopting the cloud model for their businesses, whether they are small, mid-sized or large organizations, as cloud computing provides low cost business solutions to organizations. Also, the cloud technology has been accepted and became popular among businesses these days. Cloud renders the benefits, such as secure storage & management, location independency, 24x7 365 days support, virtualization, pay-as-you use, utility based time sharing, low total cost ownership and high-level computing. Also, cloud computing helps to turn substantial investments into operational expenses, reduce man management costs, operational costs and maintenance costs (Figure 1).

Figure 1: Features of Cloud Computing



*Source: based on data analysis

Cloud computing has promised tremendous advantages to organizations in terms of cost effectiveness, operational excellence and innovation. Cloud provides centralized data control, better logging/accountability facilities, better visibility to process, more streamlined audit & compliance, better flexibility to attack & smooth incident response, faster deployment of applications & services, and standardized images for asset deployment. With so many versatile features these days every organization whether it's small, mid sized or large, wants to implement cloud solutions for their businesses. These enterprises are up with these questions:

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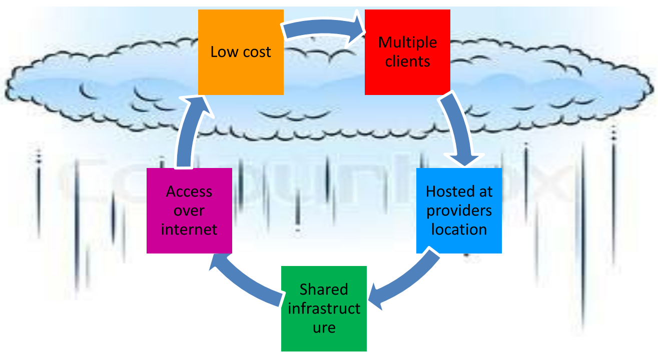
- Whether to select public or private cloud for their business?
- What's the difference between public and private cloud?
- Which one would be more suitable?

The following sections answer all these questions and provide a framework, methodology and strategy for selecting the best cloud solution for your business.

2. Public Cloud

Public cloud can be best defined as a service, which provides applications and data storage to its clients using internet as a medium. In a public cloud environment multiple clients are supported simultaneously. Public cloud services are hosted at provider's location and infrastructure is shared among all its users, depending on pay-per-use and in some cases free to some limit (Figure 2).

Figure 2: View of Public Cloud



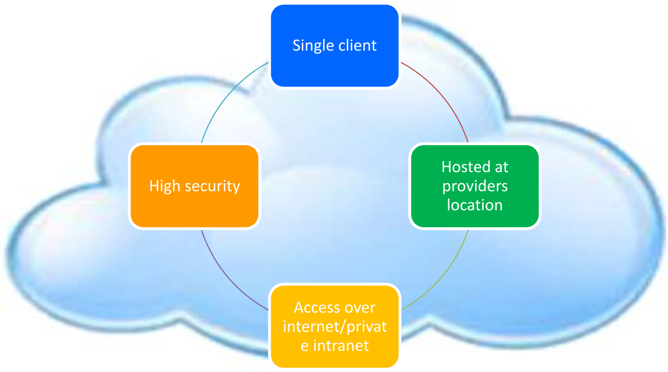
*Source: based on data analysis

Public cloud increases the choice of technologies for start-ups and small & medium businesses (SMB), as they have limited investments and resources. In public cloud model, users are unsure about where their data would be located and stored. Public cloud is inexpensive & scalable for start-ups and SMBs as set-up, hardware, software, application and bandwidth costs are covered by the provider. Also, resources are not wasted as you pay-per-use.

3. Private Cloud

Private cloud is located inside an enterprise's premise and is managed by the employees of that organization. Private cloud provides a secure and virtualized environment, which means only single organization can operate and use resources; thus providing greater security and privacy. Private cloud can be accessed over a private network (Figure 3).

Figure 3: A View of Private Cloud



*Source: based on data analysis

Large organizations prefer private cloud as it promises personalized security and involves huge upfront capital costs in setting up the cloud infrastructure of their own. In private cloud, resources are drawn from a private pool of machines that may be hosted internally in most cases and externally in some cases. Services are accessed across secure encrypted dedicated networks or leased lines in a private cloud environment.

4. Public vs Private Cloud

Public cloud is located at a third party service provider's site; private cloud is hosted at an organization's own site, thus providing full control and better security. Public cloud serves multiple clients simultaneously; private cloud serves only one customer. In public cloud infrastructure and services are shared; in private cloud infrastructure and services are dedicated to a single client. Public cloud can be accessed using internet; private cloud can be used over a private network. There is no guarantee of security in a public cloud. Private cloud is secure as it resides inside an organization's boundary and is fully dedicated and managed by the organization's employees. Public cloud is cheaper than private cloud, but there are major challenges in adopting public cloud as infrastructure and services are shared and not managed internally (Table 1).

Table 1: Comparison between Public and Private Cloud

Public	Private
Hosted at a service provider's site	Hosted at an oraganization's site
Serves multiple customers	Serves single customer
Shared infrastructure	Does not utilize shared infrastructure
Supports connectivity over Internet	Connectivity over private network
Information is not secure	Provides high level secuirty
Cheaper than private cloud	Cost's Higher

In comparison, private cloud offers better security and privacy, full control and improves the allocation of resources. That's the reason why large organizations are heavily investing into building their own private cloud infrastructure inside their organizational boundaries to harvest the crop of cloud technology to their advantage.

5. Strategy for Selecting Right Cloud for your Enterprise

As discussed above, there is not much difference between public and private cloud in terms of functioning. The two important factors which must be considered before planning a cloud for your organization are:

- Data sensitivity
- Budget

If your organization is dealing with sensitive data, then you can't trust the public cloud framework. As data resides at some unknown location and you can't be sure about the security and privacy of your data. Budget is the second most important factor in deciding the cloud strategy for an organization, whether to adapt public or a private cloud.

If you're a start-up or a SMB and don't have sensitive data to deal with, then public cloud is a good option for you. You can avail the facilities of cloud technology, as technology-wise there is no difference in public or private cloud. If you're a large business organization dealing with sensitive data, then private cloud would be an obvious choice for you. Public cloud services are not governed by any standard as of today. Therefore, you can set your own protocol resulting in better management. Private cloud provides better flexibility, security, openness, extensibility and control than public cloud. Private cloud is secure as data resides in your arena and provides you with a dedicated pool of resources. If you're an organization with over $2 billion then go with private cloud, build your own data centre, as in long run it would be very beneficial for your enterprise, and your organization can enjoy the benefits of cloud computing without any pitfalls. In the end, I would say that don't wait and watch, avail the latest benefits of cloud technology for your organization, choose your cloud, for better profitability and management.