

# Why Organization have Switched from Private Cloud to Public Cloud

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**Abstract** - Cloud computing may be a broad, new technology and young as of now. It is a major step in the development of distributed computing, and one that will reshape the IT industry. As we know various deployment models in cloud computing. This research paper gives an overview of the basic cloud deployment model as well as why organizations tend to move their services and data from the private cloud towards the public cloud.

**Key Words:** Cloud Computing, Deployment Model, Private Cloud, Public Cloud, Hybrid Cloud,

## 1. INTRODUCTION

Cloud computing has gained tons of hype within the current world of I.T. Cloud computing is claimed to be a subsequent big thing within the computer world after the web. In general terms the Cloud computing is mentioned as anything that uses internet and computing is completed at some remote location and therefore the result is displayed on the user screen and therefore the user access the cloud using the familiar browser.

Cloud computing may be a broad, new technology and young as of now. It is a major step in the development of distributed computing, and one that will reshape the IT industry.

The term Cloud Computing is an on-demand service usually used to describe data centers available to many users over the Internet. Companies that provide cloud service enable users to store files and applications on servers and then access all the data through the Internet. It means the user is not required to be in particular, allowing the user to work remotely.

### 1.1 Key Features of Cloud Attributes:

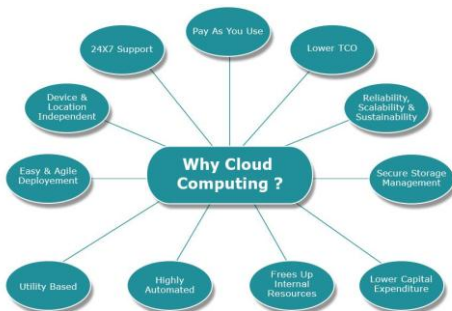


Fig 1: Features of Cloud Computing

## 1.2 Broad Categorization of Cloud Computing

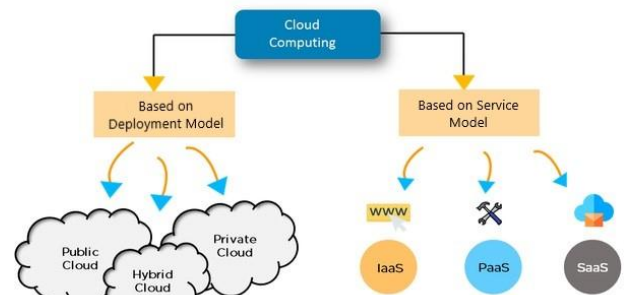


Fig 2: Broad Categorization

## 2. PUBLIC CLOUD

A cloud is named a "public cloud" when the services are rendered over a network that's open for public use. Public cloud services may be free. There could also be little or no difference between public and personal cloud architecture, however, security consideration could also be substantially different for services such as storage, and other safety feature that are made available by a service provider.

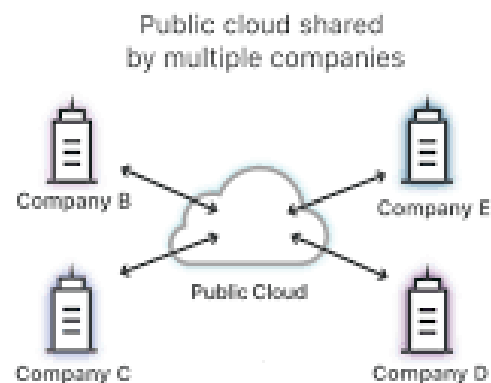


Fig 3: Public Cloud

### 2.1 Benefits of Public Cloud:

- 1. Cost-Effectiveness:** An extremely flexible pricing structure is one of the highest benefits of the general public cloud. Most of the general public cloud providers give businesses the pliability to pay by the hour. It helps businesses, especially small and medium-size, to control their costs by paying for the infrastructure only based on their needs.

2. **Quick and Easy Set-Up:** Businesses can find out their public cloud within a matter of a few hours. It is often easily bought on the web and deployed and configured remotely through the cloud provider website.
3. **Optimization of Staffing Budgets:** Companies get to budget just for the cloud services and since the management of cloud is extremely easy, they will always restructure their IT Teams and use the skillful resources in the appropriate areas.
4. **No Maintenance:** The cloud provider is liable for the upkeep of the hardware, software, and networks within the cloud. Businesses, therefore, don't have to worry about keeping their infrastructure up-to-date.
5. **No Long-Term Contracts:** The cloud providers usually offer pay-as-you-grow models, which make the general engagement extremely easy and hassle-free.
6. **Economies of Scale:** The overall costs are shared across multiple users, the cloud providers typically optimize the hardware needs of its data centers and offer the services at lower costs.
7. **Agility:** Public cloud, businesses experience simplified internal operations, better delivery, and better collaboration, faster rollouts of latest business initiatives, and improved data gathering and analysis ability.
8. **Maximum Uptime and Zero Risk Failure:** Almost all the general public cloud providers guarantee quite 99% uptime and no risk of failure. Since the general cloud system interconnects several servers, just in case of failure of any particular server, the opposite server takes over the workload automatically.

4. **Vendor lock-in:** When it got to migrate from one cloud platform to a different, a corporation might face some serious challenges due to the differences between vendor platforms. Hosting and running the applications of the present cloud platform on another platform causing support issues, configuration complexities, and extra expenses.
5. **Limited control:** Services running on remote servers are completely owned and managed by service providers, which tend to make it hard for businesses to possess the extent of control that they would want over their back-end infrastructure.

### 3. PRIVATE CLOUD

In the term 'private cloud' the word 'private' doesn't relate to the safety of the virtual machines, nor does it relate to the info or applications that run on them. It can improve business, but every step within the project raises security issues that have got to be addressed to stop serious vulnerabilities. This suggests that when your company invests privately cloud, you're obtaining access to your own host hardware, hypervisor, RAM, storage, and networking - none of which is shared with the other user.

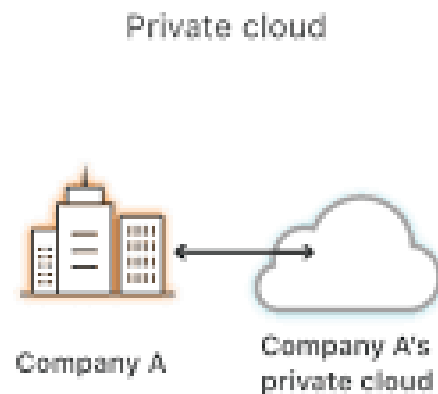


Fig 4: Private Cloud

#### 2.2 Disadvantage of Public Cloud:

1. **Vulnerability to attacks:** Storing data within the cloud may pose serious challenges of data theft since within the cloud every data of a corporation is online. Security breaches are some things that even the simplest organizations have suffered from and it's a possible risk within the cloud also.
2. **Network connectivity dependency:** Cloud Computing is entirely dependent on the Internet. This direct tie-up with the web means a corporation must have reliable and consistent Internet service also as a quick connection and bandwidth to reap the benefits of Cloud Computing.
3. **Downtime:** Downtime is taken into account together of the most important potential downsides of using Cloud Computing. The cloud providers may sometimes face technical outages which will happen thanks to various reasons, like loss of power, low Internet connectivity, data centers going out of service for maintenance, etc. This can cause a short-lived downtime within the cloud service.

#### 3.1 Benefits of Private Cloud:

1. **Enhanced security and privacy:** additionally to the superbly robust security that's possible on individual virtual machines, a personal cloud are often isolated from about the corporate who owns it. This restricted access, which may integrate with a firm's firewall and other remote access policies, offers a further layer of security.
2. **Improved reliability:** in comparison to either dedicated hardware or public cloud alternatives, private cloud offers a greater degree of reliability because of a fault resilient and redundant architecture that may not share in any way.
3. **Improved Execution:** There's no contention with other companies for capacity (only together with your own workloads) and much less chance that a

malicious attack against another firm will affect your ability to function.

4. **Increased flexibility:** Unlike a physical machine, a virtual machine is often scaled up and down seamlessly. And once you own all the virtual machines, you'll reallocate resources dynamically, wherever they're needed most.
5. **Total control:** Although there's a good amount of universal best practice that you simply should little question follow, you're liberal to build and configure your private cloud in any way you wish. For instance, you've got the liberty to use any operating systems and applications you please and to allocate resources in any way you see fit.

### 3.2 Disadvantage of Private Cloud:

1. **Cost:** With exclusivity comes increased cost. If you propose to create your own private cloud, you face an outsized capital outlay. Fortunately, you'll rent your private cloud from a hosting service provider, for a monthly fee, and still enjoy all the benefits.
2. **Under-utilization:** With a personal cloud, the value of capacity underutilization may be a cost to you, not your provider. Therefore managing and maximizing utilization become your concern.
3. **Platform scaling:** Since you're unlikely to require to retain significant, un-utilized capacity, supported the point, large upward changes in your requirements are likely to need scaling of the physical infrastructure. This is often fine but may take longer than simply scaling a virtual machine within existing capacity.

### 4. REASONS WHY PUBLIC CLOUD ARE BETTER THAN PRIVATE CLOUD

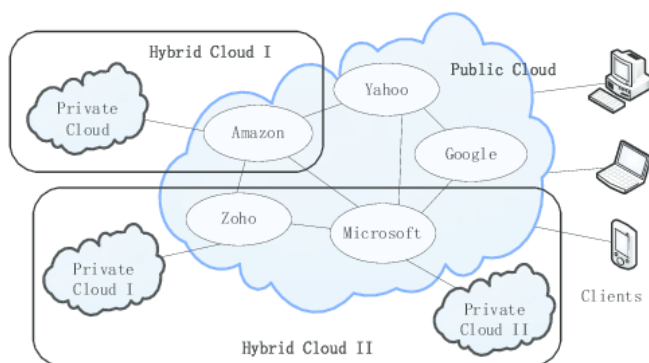
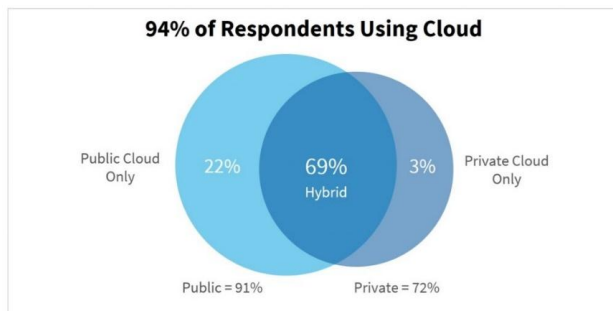


Fig 5: Cloud OverView

1. Private clouds usually use older technology than public clouds: you'll have spent many thousands of dollars on new hardware and software, but try getting your organization to comply with that each year.

2. Public clouds shift capital expenses to operational expenses: its pay as you go, versus building a whole datacenter, regardless of how virtualized it's going to be.
3. Public clouds have better utilization rates: With a personal cloud, your organization still has got to build and maintain all types of servers to satisfy spikes in demand across various divisions or functions. Public cloud offers an equivalent spare demand on a pay-as-you-need-it basis.
4. Public clouds keep infrastructure costs low for brand spanking new projects: With private clouds, you continue to got to scare up sometimes scarce on-site resources for unplanned projects which will crop up.
5. Public clouds provide more elasticity: "You'll never consume all the capacity of a public cloud, but your private cloud is another matter entirely."
6. Public clouds get the company out of the "datacenter business": establishing private cloud probably gets you in deeper into the DC business than with traditional on-premises servers.
7. Public clouds have more economies to scale: No private cloud can compete with the likes of Google and Amazon on price. and therefore the public providers are constantly buying boatloads of the newest security technology.
8. Public clouds are hardened through continuous hacking trails: Thousands of hackers are pounding Google and Amazon for years now. the general public cloud providers are ready for love or money at now.
9. Public clouds attract the simplest security people available: They hunt down the highest security experts, can pay them top dollar, and treat them because of the most vital a part of their businesses, which they're. Do traditional enterprises treat security teams this way?
10. Private cloud staff skills are least known: Your organization may have tons of talented and knowledgeable people, but is data security the most line of your business?

## 94% of Respondents Are Using Cloud



**Fig 6:** Respondent Using Cloud

[https://www.researchgate.net/publication/281003098\\_Advances\\_in\\_Clouds\\_-\\_Research\\_in\\_Future\\_Cloud\\_Computing](https://www.researchgate.net/publication/281003098_Advances_in_Clouds_-_Research_in_Future_Cloud_Computing)

Seeing the above advantage of public cloud over the private cloud and therefore the statistics now we all know on why organizations tend to maneuver their services and data from the private cloud towards public cloud.

## 5. CONCLUSIONS

According to a piece of writing in Forbes published last year, 20% of cloud users had moved one or more of their workloads from the general public cloud to a personal cloud. They even have a reputation for this migration – cloud repatriation. Although security is one among the most drivers, greater control, cost, availability, and IT centralization are all a neighborhood of the repatriation of applications into the private cloud.

Migration from private cloud to public cloud is option to be adaptable and for gaining more customer base and towards the business and earn profit, Howsoever security is just to be taken into consideration.

Hybrid cloud may be an option for composition of a public cloud and a personal environment, like a personal cloud or on-premises resources that remain distinct entities but are bound together, offering the advantages of multiple deployment models. A hybrid cloud also can mean the power to attach collocation, managed, and/or dedicated services with cloud resources. It allows one to increase either the capacity or the potential of a cloud service, by aggregation, integration, or customization with another cloud service.

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