

# ***Problem areas of Public Cloud in Business Applications***

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**Abstract**— The era of cloud computing is growing potentially and will remain same over the next few years. It has shown some major advantages in the history of computers and fundamentals. If cloud computing has to achieve benchmark there is a need of clear understanding of various aspects both from consumers and service providers point of view. In a cloud computing model when it comes to public cloud it is not desirable for many business applications to run on public cloud because of some problem areas and main aspect among them is security of data. Now all IT service providers are moving towards cloud business for that reason security is a big milestone yet to achieve. In enterprise level when application architecture becomes complex and application services start running on remote server, Users have limited control over the functions, it usually lacks in execution compares to Local execution.

**Index Terms**— Cloud Computing, Public Cloud, Utility, Limitations, Business Applications, security of data, interoperability

## **I. INTRODUCTION**

Cloud computing helps us to keep data on a remote server (the cloud), instead of stored in a computer. You can access your data from any mobile devices or a desktop computer wherever you have an Internet connection. Cloud computing is the latest major era in computing. It is a pattern of computing where computing resources are available when needed, and you pay for their use in much the same way as for household utilities. Just as electricity is supplied to your home and you pay for as much or as little as you use, cloud computing resources are available whenever needed and charges are based on how much you use them. In today's updating business environment it's critical that small scale business get what they need right when they need it. Whether they're on their computers, or any mobile devices, it's more important than ever for businesspeople to have information right at their fingertips, wherever they are. This is exactly the convenience that cloud computing provides. No doubt, cloud computing is an unstoppable technology that will continue to give new experiments and bring new innovations and advantages to business environment. It removes business infrastructure and capital expenses as a barrier to entry and allows startups to grow business rapidly. On the other hand, enterprises face limitations in using the cloud for high-performance and mission-critical applications such as ERP. Regrettably, the cloud's limits are often uncertain by all means. It's time to stop looking at the cloud as a strange. This article seeks to clear up some misunderstanding and help people make better choices.

Businesses use cloud computing to access information at any place where they have internet connectivity. Unlike storing information on your computer or a server in your office, cloud computing stores data on the Internet. It works based on principle of client server technology where client can access data using internet connection at any remote place. Cloud computing also syncs data for all devices connected to the cloud, keeping them updated with real-time information it is the major advantage of it.

A public cloud services are built on an external platform run by a third party cloud-service provider. With this off-site cloud service, user will get the shared access with own infrastructure and services. The cloud service providers offers everything from system resources to its security and maintenance of your cloud system. Since it is managed by third party service provider specializing in cloud services for a large range of commuters, a public cloud system is great for organizations because it is cost effective and can be extend according the consumers requirements

Cloud computing can be used by everyone from individuals to private and public organizations, including educational systems and governments, semi-government organization. In business infrastructure, cloud systems are used by organizations of all scales of business environment, from small businesses to multinational corporations. According to a study by Neovise, an IT research firm that focuses on cloud technology, 54 percent of organizations use cloud computing. Of these organizations, 74 percent use some combination of different types of clouds, with 40--50 percent of them using multiple services of the same type of cloud.

## **II. ADVANTAGES OF PUBLIC CLOUD**

Cloud computing offers many useful benefits to business environment. The cloud model moves IT infrastructure from an upfront capital expense to an operational one.

**Reduce Technology and infrastructure:** it gives you easy access to your data since it is stored on remote server you require less infrastructure to start up the business and maintain it using less infrastructure.

**Globalize your work:** You can access data from any place in the world with any mobile device provided by an internet connectivity.

**Minimizing licensing:** Since work becomes centralized you require less licensing of expensive software.

**Smoothing Process:** It makes work smoother with less time and infrastructure.

**Improves Accessibility:** You can get access from anywhere at any time makes work more easily.

**Flexibility:** You can change the infrastructure according to the financial condition you have and you can change the direction if your business environment permits.

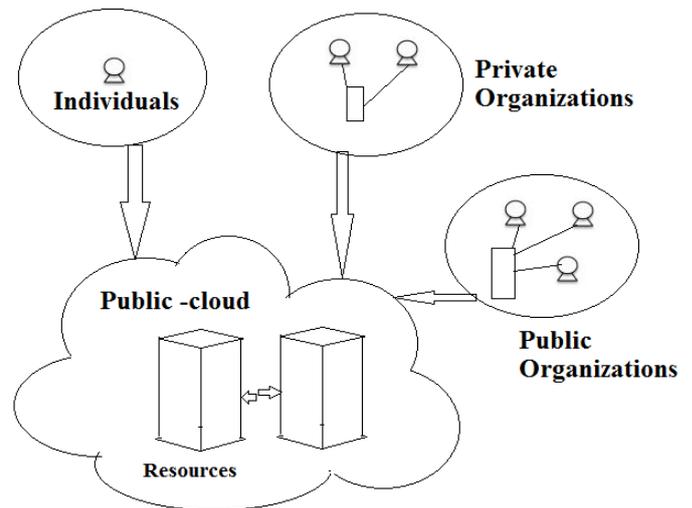
### III. WHY TO CHOOSE A PUBLIC CLOUD?

Small scale businesses, large scale organizations, government organizations are using public cloud services such as ERP systems, e-mail and data storage services because transparency and control are low. Organizations may limit use of the public cloud to critical applications and non-sensitive information. Public cloud services are also used for servers, storage, and mirror server, as well as application development. Considering the advantages of cloud computing, the public cloud allows organizations to access applications quickly, offload the cost of supporting infrastructure, and free limited human resources for more useful activities. It also allows IT sectors to rapidly deploy applications and scale application environments quickly during peak demand. The result is greater business agility and efficiency. Similarly, consumers use public cloud services to simplify software use, store, share, and protect content, and enable access from any web-connected device because of synchronization.

### IV. WORKING OF PUBLIC CLOUD?

Public cloud infrastructure service providers and various types of third party infrastructure and platform providers, use cloud computing. Built on a foundation of virtual storage place, computer resources are owned and maintained by the service provider, pooled and shared across customers, and accessed via the Internet or dedicated network connection. A variation is the community cloud, a multi-company, members-only version of the public cloud centered on a common interest.

Resources are made available to customers on demand through a self-service online catalogue of pre-defined configurations. Every individual resources usage is tracked and billed based on a service arrangement.



### V. PROBLEM AREAS OF PUBLIC CLOUD

Those individuals who follow latest trends in web hosting, public cloud computing is a term that they come across often these days. There are lots of benefits of cloud computing irrespective of the size of the organization. The advantages include affordable hosting, accessibility of data from anywhere at any time, offsite backup, no need of internal computer resources, scalability and so on. But there are some problem areas as well since it is still an evolving technology. Some disadvantages of cloud computing are stated below: If there is a problem at service provider, all virtual machines are affected. There might or might not be a backup of the data if an enterprise relies only on the cloud for its data management needs. It depends of service provider and their policies and service level agreements.

**Network connectivity:** When we are talking about public cloud services it is to be assumed that client has reliable network connectivity. If there are problems in network connectivity, accessing the cloud also becomes a problem. Performance of software system at server side and performance of software at client side is totally different and only reason is network connectivity.

**Data security:** In a public cloud, the client does not have the total control over security of his/ her own data. The client data can be easily accessible to hacking or phishing attacks. Since the servers on cloud are interconnected it is easy for malware to spread. Information can be easily spread over the network and can be easily trapped from anywhere using different tools.

**Additional costs:** Cloud computer services carries some direct and some indirect cost it varies from organization to organization. For e.g. for data transfer indirect cost is defined. Initial offerings are priced higher, till economies of scale work out for the service provider.

**Supporting hardware devices:** Computer devices like printers or scanners might not work with cloud. Many of them require software to be installed locally. Networked peripherals have lesser problems. But it can be solved using

**Integration:** Integration of the existing application with cloud becomes little bit complex and in some cases it is not suitable.

**Generic:** Public cloud offers are very generic and multi-tenancy application services which may not be supported for every organization. In such a scenario implementing an in-house cloud is more complex. Cloud service providers are continuously evolving solutions to overcome the above mentioned hurdles. Some enterprises are seeing clear benefits in shifting to the cloud and are adopting it unconditionally while some enterprises are moving non-critical applications to test the waters. Some others want to wait and watch how the technology evolves before deciding.

**Absence of Service-Level Agreements:** Lacking Service Level Agreements can become an issue as per as public cloud is concerned if the service provider fails to meet the standards, if a company moves to the different provider then what happens to the customer data? Such a question should be covered in Service Level Agreement. Cloud providers offer precious few protections to enterprises that trust all their IT to the cloud.

**Instable Performance:** Cloud computing is now treated as a solution in every kind of applications & services. Performance may be different from cloud to cloud.

## VI. CONCLUSION

The main aim of this research paper is to evaluate the basics of cloud computing in Public cloud and its problem areas. Cloud computing is a fastest growing technology. Cloud computing fundamentals are easy to adapt and scale but it has some technical limitations. Cloud computing is changing the way IT departments buy IT. Businesses have a range of paths to the cloud, including infrastructure, platforms and applications that are available from cloud providers as online services. Main issue of cloud computing is network connection and its

security. When we are using particular application which is stored on cloud, it may happen that we lost our network connection to the cloud because of some reason. It may affect the functionality of the application. Major issue is data inconsistency. To avoid such cases we should develop our applications in such a way that these issues won't affect our application and data. Logs should be maintained so that we can keep track of all the transactions made by the users. In case of any transaction getting failed, application should be able to revert back to the position where transaction was started.

## VII. ACKNOWLEDGMENT

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Ninad Sawarkar is currently studying in Mumbai University at IMCOST, Thane since 2012, currently pursuing MCA with excellent academics. He is having interest in Studying New Technologies.