



# A REVIEW ON PRESENT AND FUTURE USES OF CLOUD COMPUTING FOR BUSINESS

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*Abstract: Cloud computing is a modern technology nowadays to handling business related tasks. Cloud computing allows you to access your data and programs outside of your own computing environment rather than storing your data and software on your personal computer. Most companies are using the cloud to develop their ability to share files to employees and customers. Cloud computing provides a way for your business to manage your computing resources online and to access their information virtually any place, any time. Nowadays different cloud solutions offer business of all sizes a flexible IT environment to meet their needs and requirements. Cloud systems are known for high performance and they enable instant collaboration between many different parties. The information flows rapidly throughout the system, product can be launched faster and the productivity levels get improved. As the need for flexibility and speed continue to increase, the strategic importance of cloud computing in business organizations is sure to become more prominent. Even as many organizations shift their workloads into private environments, they are still using multi-cloud and hybrid cloud deployments to access the expansive power of cloud computing to deliver services to their customers. In this paper discuss the concept of present and future uses of cloud computing for business. The results obtain this paper are useful for companies to take decision to develop business in advance for further implantation.*

**Index Terms - Cloud Computing, Storage, Security, Business, Services**

## I. INTRODUCTION

Cloud computing services deeply rely on high-end networks of server computers and software applications. Cloud computing include network storage, software and virtual information technology. Cloud computing systems are designed to provide support to large numbers of surges and customers in demand. Many cloud services companies allow users to store data that is inclusive of media files, documents emails, contacts and calendar information. Types of Cloud Computing: 1) Public Cloud: In this model, the infrastructure is accessible to the public and it is owned by a vendor, who offers the services of the cloud to the users. The cloud vendor shares the cloud resources with the end users. The resource pool is huge and the services are shared by lots of users. The cloud resources that are owned and operated by a third-party cloud service provider are termed as public clouds. It delivers computing resources such as servers, software, and storage over the internet. Public cloud computing, offered by companies like Amazon Web Services, Microsoft Azure, and my employer, Google Cloud, is still viewed by many as a cheaper and more efficient way for companies to store and process data. The cost may be lower, but like traditional computers, it is still a cost. 2) Private Cloud: In this model, the user or organization owns the cloud and only the user or employees of the company have access to the cloud, thereby making data and transactions secure. There is more control over resources when compared to the public cloud model. A private cloud may physically be located on the company's on-site datacenter or hosted by a third-party service provider. 3) Community Cloud: In this model, the infrastructure is owned jointly by different organizations. The organizations may have a similar set of requirements, policies, and customer base. So, they can combine the offerings and make the customer base even bigger. Duplication of same or similar applications and resources are avoided. 4) Hybrid Cloud: It is the combination public, private and community cloud types. Which is bounded together by technology that allows data applications to be shared between them. Hybrid cloud provides flexibility and more deployment options to the business. The hybrid deployment is difficult compared to the other three due to the execution and management tasks involved. The remaining portions of this chapter are organized as follows: Section 2 briefly discuss about literature review. Section 3 briefly discuss about How Cloud Computing is changing the Business world. Section 4 briefly discuss about Cloud Computing Implementation. Section 5 briefly discuss about Cloud Computing is The Future. Section 6 conclude the chapter.

## II. LITERATURE REVIEW

**Service Models:** There are different service models in Cloud computing. 1) Infrastructure as a Service (IaaS): In this model provides users can access the infrastructure required to run their applications, storage, operating systems from a cloud service vendor. Buying and set up these infrastructures can be a costly process for the organizations. So the IaaS model is a reliable and cost effective method for the users to run their businesses. 2) Platform as a Service (PaaS): In this model provides an on-demand environment for developing, testing, delivering, and managing software applications. Changing the platform, upgrading to a newer version, or maintaining uniformity in the platform used by all employees of a company is possible at a less expenditure with PaaS. The developer is responsible for the application, and the PaaS vendor provides the ability to deploy and run it. Using PaaS, the flexibility gets reduce, but the management of the environment is taken care of by the cloud vendors. 3) Software as a Service (SaaS): In this model provides centrally hosted and managed software services to the end-users. It delivers software over

the internet, on-demand, and typically on a subscription basis. User can run the applications in the cloud and the cloud administrator manages the portions.

**Benefits of Cloud Computing:** Some of the important benefits of Cloud Computing which indicates the development of a business. With technology proving to be very effective, business organizations can feel happy about having such options in maintaining their data. 1) **Reduced Costs:** For many organizations, the primary benefit of cloud computing is its ability to significantly reduce capital expenses. Moving to cloud computing may reduce the cost of managing and maintaining your IT systems. Rather than purchasing expensive systems and equipment for your business, you can reduce your costs by using the resources of your cloud computing service provider. 2) **Scalability:** The ability to grow rapidly is incredibly important for most start-ups and smaller companies. As their IT demands change, they need to have an infrastructure in place that allows them to quickly expand capacity to meet their new demands. Traditionally, when an organization needed to add capacity, it was forced to purchase new equipment. This not only meant making a significant capital investment, but also carried additional costs in the form of time. With cloud computing, that same company can expand its capacity instantly, allowing it to launch new applications quickly and manage ever-increasing customer needs. 3) **Business continuity:** Protecting your data and systems is an essential part of business continuity planning. If your data stored in the cloud ensures it is backed up and protected in a secure and safe location. Also able to access your data again quickly allows you to conduct business as usual, minimizing any downtime and loss of productivity. 4) **Collaboration:** Cloud computing makes collaboration a simple process. Team members can view and share information easily and securely across a cloud-based platform. 5) **Automatic Updates:** Cloud based application automatically refresh and update. Depending on your cloud computing service provider, your system will regularly be updated with the latest technology. This saves time and money spend on outside IT department. 6) **Quality:** Some factors affect the success of a business due to poor quality and inconsistent reporting. All the documents are stored in a single place and format which is a major boost for cloud computing. Avoiding human error, maintaining consistency in data and having a clear record of all the information could make the mechanism of your business smooth.

### III. HOW CLOUD COMPUTING IS CHANGING THE BUSINESS WORLD

With cloud information travels rapidly in both directions, across computing systems that, with attributes like virtualization, scaling up or down to handle bigger workloads, or automated security patching across thousands of machines, are far more flexible. This will likely mean a more flexible work structure as well, in the interest of products and services that ideally can be adjusted to anticipate customer needs.

**Operational improvements:** Most of the businesses are moved on the internet and offering their services outside of their regions and countries because people like online shopping. Nowadays, the remaining traditional business is also trying to make their online presence to target more audience all over the world. These big business brands need a huge storage space that is necessary to fulfill their business needs. Nowadays, different collaboration and file-sharing platforms are offering alerts, meeting notifications, code histories and the ability to code in a collaborative environment that makes it easier for completion of the project within a record time period. Managed cloud services are highly scalable solutions and ensure that data storage requirements are always met. So, every business can easily scale up or down based on business requirements and save costs. Big companies and organizations are getting real benefits from cloud computing because they are able to apply a modular approach to business functions. Cloud computing is facilitating production teams to enjoy real-time collaboration and communication over secure virtual networks.

**Cost savings:** Centralized data that is available to selected departments allows everyone to operate from the same current information. Access to cloud servers allows all companies to reduce any investment in hardware that will only become obsolete every few years. The costly support for in-house equipment and upgrades is passed on to third-parties and their own data centers. Client companies can use their funds to re-invest in other ways. Access to remote services allows data to be readily shared across the organization, so that workloads and responsibilities can be distributed more productively. The easy deployment and integration of cloud computing creates an environment that allows businesses to be more agile and innovative, but with lower financial risk. Incorporating cloud services at an early stage benefits entrepreneurs by lowering the need for IT costs and freeing up more operating capital. The growth of cloud computing is helping to stimulate entrepreneurship.

**Security:** Cloud providers are rapidly enhancing their services to help companies meet their security demands. Data security has become more important than ever, especially at a time when data breaches are happening left and right. When one compares on-site servers and online servers, cloud servers will always emerge as the clear winners. Cloud service providers configure their services to meet a company's needs, which is further enhanced with top security software and other tools to keep its data safe. All data is stored in a centralized location, which is protected with ironclad security tools, guaranteeing that there is the maximum amount of security protection for your online data.

**Flexibility:** The ability to have employees working from any location ensures that more work is getting done and more problems are being addressed. With mobile technology, remote employees enjoy the freedom to work on their own terms while still having the capability of real-time communications and updates. The internet has provided the world with a communications and informational channel that they can reach anytime and from anywhere via smartphones and tablets. This has led to an increasing business trend of using more remote employees, whether that's locals working from home or specialists on the other side of the world. An increasingly mobile workforce is one of the main influences in business adoption of cloud computing. More employees are able to work from home or bring their own mobile devices to work. Familiarity with their own devices gives them a greater sense of comfort and confidence. The accessibility of cloud computing resources makes it easy for your remote employees to experience the same benefits they would have when working in the office.

### IV. IMPLEMENTATION CLOUD SYSTEM IN BUSINESS

From startups to large international businesses, many companies have already adopted cloud computing technologies to launch their applications, store their data, and automate processes. Yet, implementing a new type of technology requires training personnel and establishing an effective troubleshooting system. A successful cloud computing implementation requires several important steps: a company should choose the cloud type, select the platform and service provider, determine the service level agreements, and solve all open questions before migrating data to the cloud. Sound decisions should take into account following three points:

**Costs:** Migration and overhead costs may vary widely depending on the target Cloud platform. This could skew the estimated cost savings. A cost analysis helps decide whether to go ahead with moving a particular application to the cloud or not, from a return on investment perspective. Estimated costs should include all capital expenditure, operational expenditure, and the overhead costs involved in migration.

**Migration Strategy:** Defining a migration strategy involves understanding the various migration options available, establishing business priorities, and evolving a strategy that offers a fine balance between costs and business priorities. On a basic level, enterprises have the two following options of a cloud infrastructure, private or public. The choice is driven by priorities such as business model and go to market strategy, and constrained by factors such as technical feasibility, security, and migration costs.

**Data Migration:** A provider must explain how data migration will be implemented. This is the single most important task of a cloud computing provider, because this will influence not only the future efficiency of an application but also the data security. A detailed plan with a corresponding time frame should be expected from the provider. This should be done to ensure proper migration without having to deal with future insecurities. Creating and implementing a cloud strategy takes time, energy and effort. It is important to choose the right cloud strategy that would help the enterprise open up new market opportunities, grow the business and increase customer loyalty. The Cloud is a globally growing platform. And one of the fundamental reasons responsible for its growth is its affordability. Cloud resources, offered by a computing service provider, significantly cut costs of purchasing expensive business systems and equipment.

## V. CLOUD COMPUTING IS THE FUTURE

Businesses nowadays are looking for advanced ways to grow and accomplish their business goals. With the help of cloud computing, this business will keep on growing in the future. Cloud computing is powerful and expansive and will continue to grow in the future and provide many benefits. Every business is under pressure to respond more quickly to changing business conditions. With cloud computing, resources are available in minutes, which means companies can respond to new market developments much more rapidly. Cloud also supports automation that helps drive innovation. It combines with tools like low-code and no-code applications to enable a broader range of people to develop a broader range of new digital services. With the help cloud computing, we can store data in the cloud, for further analyze & provide enhanced performance. The users expect high-quality fast-loading services and application. The network provided will be faster and the ability to receive and deliver that data will be quick. Cloud computing is extremely cost-effective and companies can use it for their growth. The future of cloud computing is bright and will provide benefits to both the host and the customer. One should keep in mind that the owner of the company should be familiar with the latest development taking place in Cloud technology.

## VI. CONCLUSION

Cloud computing are important part of business because they have the potential for flexibility, speed and efficiency of all business processes and activities. They are essential for building a strategy for business growth that changes the overall activity of companies. The steps presented Should san organization to choose on the type of cloud that would be the most useful to a particular situation. Also, the organization will know the security and privacy issues in the cloud environment and will know how to guard against these issues. The cloud technology becoming easier for companies to create products and services within the cloud or marketing campaigns as cloud-based software prototypes. The cloud is also a common repository for the collection and analysis of new data, and the place where an increasing number of artificial intelligence operations, like image and speech recognition are conducted. Could technology provide richer recommendations and decisions with the scope of business improvements. Cloud computing can ensure the companies with better business management.

## REFERENCES

- [1] R. Vadivel, Sudalai Muthu T, An Effective HPSO-MGA Optimization Algorithm for Demand Based Resource Allocation in Cloud Environment, IEEE, 2020.
- [2] Zheng Yan, Lifang Zhang, Wenxiu Ding, Qinghua Zheng, Heterogeneous Data Storage Management With Deduplication in Cloud Computing, IEEE, 2019.
- [3] Manisha Thakur, Dr. Neeru Bhardwaj, A Review Paper on Cloud Computing & Security Issue, International Journal of Computer Science and Mobile Computing, Vol.8 Issue.5, May- 2019.
- [4] Prernali P. Deshmukh, S.Y. Amdani, Virtual Memory Optimization Techniques in Cloud Computing, IEEE, 2018.
- [5] Mrinal Kanti Sarkar, Sanjay Kumar, A Framework to Ensure Data Storage Security in Cloud Computing, IEEE, 2016.
- [6] S. Silas Sargunam, Cloud Computing-System Implementation for Business Applications, January 2016, Circuits and Systems 07(06):891-896, DOI: 10.4236/cs.2016.76076.
- [7] Derrick Rountree, Ileana Castrillo, The Basics of Cloud Computing, Understanding the Fundamentals of Cloud Computing in Theory and Practice Science Direct, 2014.
- [8] Zaigham Mahmood Richard Hill editors: Cloud computing for enterprise architectures, Springer London Dordrecht Heidelberg New York, 2011.
- [9] Master Thesis: Financial Aspects of Cloud Computing Business Models. Information Systems Science by Jaakko Jaatmaa, 2010.
- [10] Quentin Hardy, How Cloud Computing is Changing Management, Harvard Business Review, February 2018.