

## Cloud Computing in the Future: Unlocking Potential and Overcoming Hurdles

Dr. GANDHAVALLA RAO SAMBASIVARAO<sup>1</sup>, Mr. MANOHAR KUMAR MADUGULA<sup>2</sup>, Mr. SUJITH KUMAR ALUVALA<sup>3</sup>

Department of Information technology  
Nawab Shah Alam Khan College of Engineering and Technology (NSAKCET)

### To Cite this Article

Dr. GANDHAVALLA RAO SAMBASIVARAO, Mr. MANOHAR KUMAR MADUGULA, Mr. SUJITH KUMAR ALUVALA, "Cloud Computing in the Future: Unlocking Potential and Overcoming Hurdles *Journal of Science and Technology*, Vol. 07, Issue 07, July 2022, pp16-26

### Article Info

Received: 07-04-2022

Revised: 09-06-2022

Accepted: 20-06-2022

Published: 06-07-2022

---

### Abstract

The goal of this paper is to help you learn more about cloud computing and to suggest useful study directions in this rapidly expanding field. We will also talk about the future benefits of cloud computing and the problems that might come up before they are solved. In this case, the words "big data," "performance," "cloud computing," and "architecture" are all used. There are a lot of different design setups for cloud computing, such as the amount of computers, memory, and nodes. Cloud computing has already changed how we keep, process, and access data, and it will likely have even bigger effects on the future of technology in the years to come. Cloud computing lets businesses quickly and easily change how many IT tools they use, without having to buy expensive new gear. In turn, this can help businesses adapt faster to shifting market situations and customer wants. Moving IT tools to the cloud can help businesses save money on IT building costs and run more efficiently. Not only that, but cloud computing lets businesses pay only for the resources they use, instead of having to buy expensive gear and program rights. Cloud service companies put a lot of money into security and legal measures that can help keep businesses safe from online dangers and in line with the law. Cloud computing makes it easier and cheaper for businesses to build and use AI and machine learning apps by giving them a base that can grow as needed. It's possible for a job, an app, or its data to take up to 20 times longer or cost 10 times more than it should. The ease with which cloud goods can be changed has caused a paradigm shift. Before, an app was made to work best with a certain server. In the cloud, on the other hand, the architecture is set up to handle the task. There have been big steps forward in cloud computing since the days of mainframes and dumb computers, but there are still many more to come. In the future, IT leaders and the companies they work for will have to deal with more difficult problems in order to stay successful in a cloud computing world that is always changing. It will also be important to follow all the rules that are already in place as well as any new rules that may come up in the future. It is likely that the next ten years of cloud computing will be just as eventful as the last ten. A lot of internet services will move to the cloud, and big businesses will have a hard time paying for real infrastructure. Businesses use cloud computing a lot to come up with new ideas. Because it is flexible and easy to use, cloud technology makes it possible for businesses to run in new ways. Users don't have to be close to their hardware all the time to use this service because it lets them access files and apps saved in the cloud from anywhere. Because they are stored on a network of shared computers that send data over the internet, cloud computing lets you join from anywhere. Both individuals and businesses have found cloud computers to be useful. To be more detailed, the cloud has changed how we live. Overall, cloud computing is likely to remain an important part of the future of IT. It helps businesses adapt to fast-changing technology by making them more flexible, efficient, and creative. This is likely to lead to more progress in AI and machine learning over the next few years.

**Keywords**

Cloud Computing, Computing Service, Private Clouds, Public Clouds, HybridClouds, Multi-Clouds

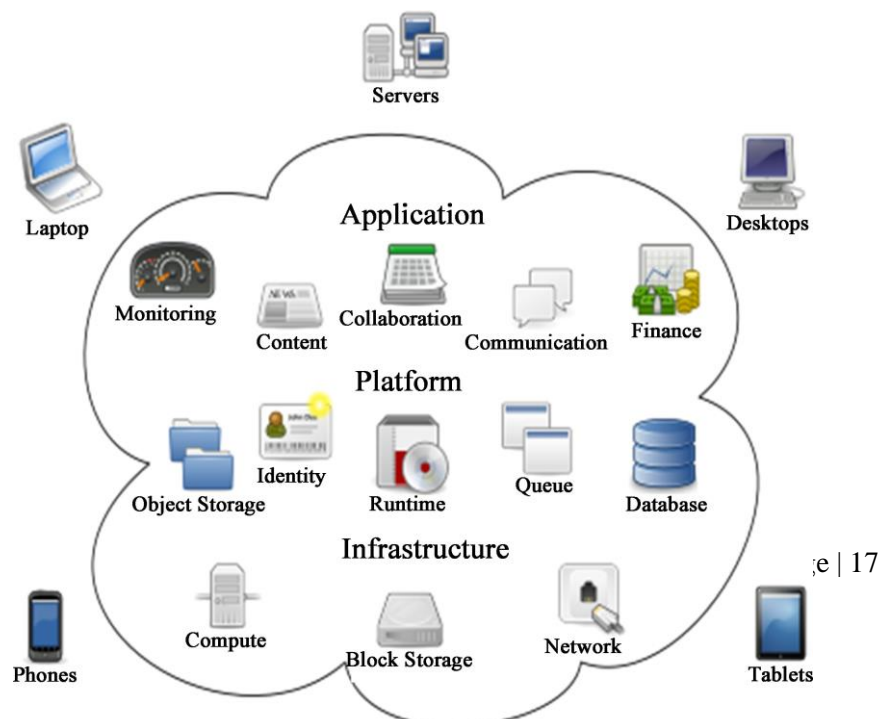
**Introduction**

The idea of cloud computing goes back to the 1960s, when time-sharing was created so that multiple people could use the same computer at the same time. The modern idea of cloud computing, on the other hand, where computer tools are sent over the internet, was first put forward in the late 1990s. Computer scientist Ramnath Chellappa used the word "cloud computing" for the first time in a study that came out in 1997. In it, he talked about how computing services are becoming more common over the internet. The idea of cloud computing didn't really take off as a business idea until the middle of the 2000s, when virtualisation and web services became more popular. The Google Cloud Platform (GCP) and Microsoft Azure were two other early cloud companies. Both of them came out in 2008. Since then, cloud computing has become more common, and businesses of all kinds can use a wide range of cloud services and companies. Cloud computing means that computer system resources, like data storage (cloud storage) and processing power, are available whenever a user needs them. The user does not have to handle these resources directly. In big clouds, functions are often spread out over many places, and each of those places is a data centre. "Pay as you go" is a common strategy for cloud computing. This can help lower funding costs but may also lead to unexpected operational costs. ing costs for users. Sharing resources is a key part of making cloud computing work [ Figure 1 shows a cloud computing metaphor: "The group of networked elements providing services need not be individually addressed or managed by users; instead, the entire provider-managed suite of hardware and software can be thought of as an amorphous cloud." [1] In the cloud, there are four main types:

There are different kinds of clouds, but a private cloud is one that is only used by one business or organisation. Large businesses and other groups that need a lot of protection, control, and flexibility over their IT systems tend to use it. The computers, storage, and networking in a private cloud are turned into virtual machines and made available as a service to people inside the company. A third-party cloud service can host the private cloud on-site in the company's own data centre, or the organisation itself can host it.

Commonly, public clouds are made with IT equipment that does not belong to the end users. They are used for cloud computing. Several of the largest public cloud service providers are Amazon Web Services (AWS), Google Cloud, IBM Cloud, and Microsoft Azure.

Some IT environments are made up of different environments that look like they are linked by LANs, WANs, VPNs, and/or APIs to create a single, unified environment. This is called a hybrid cloud. The features of a hybrid cloud are complicated, and different needs may apply [2].



**Figure 1.** Cloud computing basic structure.

**Multi-clouds:** A multi cloud architecture consists of multiple cloud services from various public or private cloud vendors. Although not all multi clouds are hybrid clouds, all hybrid clouds are multi clouds. When numerous clouds are linked together by integration or orchestration, they become hybrid clouds. There are also three main types of cloud computing services [2]:

Infrastructure-as-a-Service (IaaS).

Platforms-as-a-Service (PaaS).

Software-as-a-Service (SaaS).

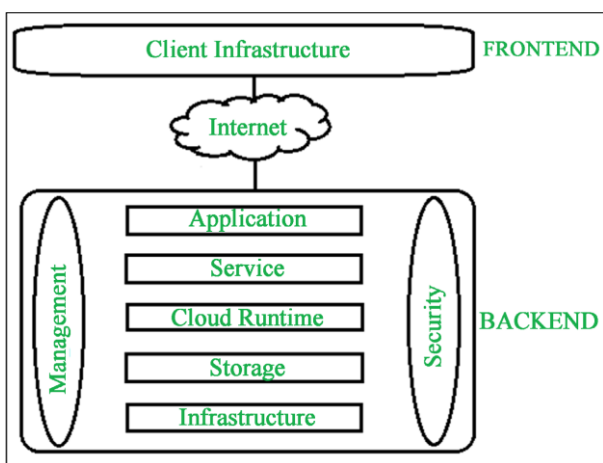
### Literature Review

Recent changes have led to the rise of cloud computing, a new way to store and offer services over the Internet. Business owners like cloud computing because it lets them start small and only grow when demand for their services rises [3]. This means that users don't have to plan for supply. The IT industry has a lot of great opportunities with cloud computing, but the technology is still very new and has a lot of problems that need to be fixed. This paper is an overview of cloud computing. It talks about basic ideas, design principles, cutting-edge implementations, and open research questions [3]. Because you only pay for what you use in the cloud, each setup (cluster size VM type) has both an operating cost and a processing time. So, a job can be optimised for either the cheapest price or the quickest time, which are two different sets of conditions. Picking the right cloud setup for an application is very important for both service quality and business success.

It can cost up to 12 times more to reach the same speed goal if the cloud setup is wrong, for example. When it comes to ongoing processes that do the same work over and over, the saves from good cloud planning are clearly bigger. No matter what, the best cloud setup needs to be picked. For instance, it's hard to find the quickest or cheapest answer because it's hard to get high accuracy, low cost, and the ability to work with many apps at the same time [4].

### Design of Cloud Computing

Being open should be one of the most important limits that every cloud system has to deal with. Scalability, protection, and smart tracking are some other important limitations. At the moment, study on more important boundaries is helping cloud computing systems create new features and methods that could lead to more advanced cloud solutions [5]. Figure 2 shows that the design of the cloud is made up of two parts: Frontend: The customer side of a cloud computer system is called the frontend to describe its design. In other words, it has all the user tools and apps that the client needs to access cloud computing resources and services. For instance, use a computer browser to get to the cloud site.



**Figure 2.** General Architecture of cloud computing.

**Backend:** The cloud used by the service provider is referred to as the back- end. It includes resources, controls resources, and provides security methods. It also contains massive storage, virtual applications, virtual computers, traffic management techniques, deployment models, and so on [5].

#### **Cloud computing architecture components**

**Client Infrastructure:** Client Infrastructure is a component of the front end. It offers a graphical user interface (GUI) for interacting with the cloud.

**Application:** The application can be any software or platform that a client wishes to use.

**Service:** A Cloud Service handles which sort of service you access based on the client's needs.

**Runtime cloud:** The execution and runtime environment for virtual machines is provided by Runtime Cloud.

**Storage:** One of the most significant aspects of cloud computing is storage. It offers a massive quantity of cloud storage space for storing and managing data.

**Infrastructure:** Infrastructure delivers services at the host, application, and network levels. Servers, storage, network devices, virtualization software, and other storage resources are examples of cloud infrastructure.

**Management:** Management is used to manage and coordinate backend components such as application, service, runtime cloud, storage, infrastructure, and other security issues.

**Security:** Security is a built-in back-end component of cloud computing. In the back end, it implements a security mechanism.

**Internet:** The Internet is a channel that connects the front end and the back end [6].

**Cloud computing on data confidentiality and security:** The companies that offer cloud computing must protect the privacy and safety of their customers' data, and they usually do this in a number of ways. Most cloud service companies secure data while it's in motion and while it's at rest to keep it safe. A encryption method is used to encode the data, and only someone with the right decoding key can read it. Access rules are usually put in place by cloud service providers to make sure that only authorised users can see their customers' info. Multifactor identification, role-based access limits, and other security methods may be used for this. Physical security measures, like digital identity, security cams, and alarms, are often used by cloud companies to keep people from getting into their data centres without permission. Cloud service companies protect their networks in many ways, such as with firewalls, attack detection and prevention systems, and vulnerability testing. There are many rules and standards that cloud service companies have to follow. These include the General Data Protection Regulation (GDPR) and the Health Insurance Portability and Accountability Act (HIPAA). Following these rules can help make sure that data is handled and kept safely. It's important to remember that even though cloud service companies are responsible for keeping their customers' data safe and private, customers can also help keep their own data safe. This could mean putting in place their own access controls, encryption, and other safety measures, as well as keeping an eye on their cloud settings for any possible threats on a regular basis. [6].

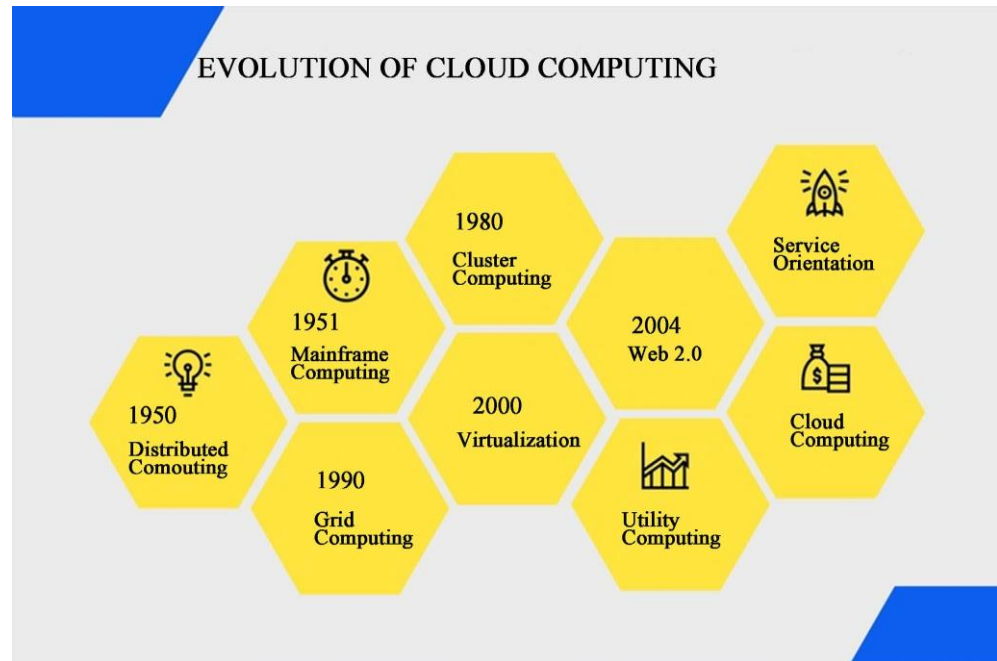
#### **A Look at the Future Benefits**

To be successful in today's tech-based world, you need more than just speed. You also need to be able to come up with new products, figure out how well they might sell, and then put the winners on the market while getting rid of the losers. The cloud also makes processing easier, which helps to spur new ideas. It works with technologies like low-code and no-code apps to let more people make more digital services. Cloud computing lets companies quickly grow and change, which speeds up growth, makes the company more flexible, streamlines operations, and lowers costs. This will not only help companies get through the current economic downturn, but it may also lead to better long-term growth [7].

As shown in Figure 3, In the early 2000s, Amazon created Amazon Web Services (AWS). In 2006, Amazon released Elastic Compute Cloud (EC2), which lets people and businesses rent virtual computers to run their own programs and apps. The same year, Google Docs came out, letting people save, change, and send papers in the cloud. In 2007, IBM, Google, and a lot of other institutions worked together to make a computer farm for research projects. It was also the year Netflix started its video streaming service [7]. This service used the cloud to send movies and other videos to the computers and homes of thousands (and eventually millions) of users around the world.

In the last ten years, both consumers and businesses have jumped on board with cloud computing like crazy. A lot of work has been put in by Microsoft, Oracle, and Adobe to get people who use their on-premises software to switch to their cloud versions, which are usually available on a





**Figure 3.** Evaluation of future benefits of cloud computing.

subscription pay-as-you-go basis. At the same time, cloud-native companies appear with Software as a Service (SaaS) products that are (and have always been) only available in the cloud, such as Zendesk, Workday, and ServiceNow. Software like a Service (SaaS) but also Platform as a Service (PaaS), Infrastructure as a Service (IaaS), Backup as a Service (BaaS), and Disaster Recovery as a Service (DRaaS) have evolved. Everything as a Service (or XaaS, as it is marketed by companies like Google and Microsoft that provide such comprehensive re-sources) is now available [7]. 451 According to research, “A small majority of enterprise workloads will run on off-premises IT systems by 2019, and more than one-third of all workloads will run in public cloud settings.” Furthermore, according to IDC research, “Cloud computing will account for about half of all IT spending in 2018, rising to 60% of all IT infrastructure and 60% - 70% of all software, services, and technology spending by 2020. As a result, CIOs and CTOs must view cloud computing as a key component of their organization’s success, and investigate which of their services, processes, and products would benefit from being moved to the cloud” [7].

The future of cloud computing is already here in the shape of Edge Computing, in this era of innovation and technological implementation. To address the issue of the exponential increase in the number of devices and data volume, edge computing has introduced the capability of evaluating data closer to the source before it is centralized in the cloud. Apart from significantly reducing data processing time, edge computing will soon assist in turning data into insights through the application of AI and machine learning [7].

Though edge computing has helped the cloud in terms of data safety and latency bandwidth rise, cloud computing continues to provide numerous benefits. Aside from greater freedom and scientific skills, cloud computing perks include the following [8]:

Reduces overhead costs by avoiding capital investments in purchasing, installing, administering, and maintaining hardware/software infrastructure.

Simple scale-up increasing or decreasing storage space, computing power, and bandwidth is as simple as pressing a button. It is easier to keep an eye on, control, and apply security fixes to the whole system at once. It is also easier to set up backups and do things like disaster recovery.

Simple technology integration using common and upcoming platforms as the basis, it is possible to modify and use

flexible software [8].

Cloud computing lets companies grow quickly, scale up, and change, which speeds up creativity, makes the company more flexible, streamlines operations, and lowers costs. This will not only help businesses in surviving the current crisis, but it may also add to improved long-term growth. Here are some guesses about how cloud computing will change things in the future [8]:

**Advanced storage capability:** Data generation is at an all-time high and is only increasing and keeping such a large volume of data safe is difficult. Most firms still store company and customer data in physical data centers were cloud server suppliers. As more enterprises adopt cloud technology, they will be able to offer more cloud-based data centers at reduced pricing. Prices will be competitive because there are so many cloud service providers on the market today, which will benefit enterprises. This breakthrough will enable smooth data storage without the need for a lot of physical space [8].

**Advanced internet performance:** Cloud computing has the potential to improve the quality and experience of using the internet (internet of things). Data can be saved in the cloud using cloud computing and IoT for later reference, in-depth analysis, and increased performance. Customers and organizations want applications and services to load promptly and with high quality. As a result, the network's download and upload rates will be faster [8].

**Modular software prioritization:** As individual programs get more sophisticated and massive and cloud computing technology will eventually necessitate advanced system thinking. Currently, most system software requires substantial customization, which means that even commercial cloud computing solutions require extensive customization in terms of usefulness and security. This new program must be easier to use and more versatile where future applications will store somewhere other than the cloud, software development can be approached from a variety of angles. This may comprise a variety of modules as well as cloud service servers and a good way to save money on software and storage. It means that in the long run, these software solutions will be much faster and more agile, saving time and money [8].

**Advanced cloud services:** Cloud computing offers a wide range of services. The most popular are platform-as-a-service (PaaS), software-as-a-service (SaaS), and infrastructure-as-a-service (IaaS). These services are crucial to achieving company goals. Many studies and assessments have shown that cloud computing will become a dominant technology soon, with SaaS solutions accounting for more than 60% of the workload [9].

**Better Security:** Data stored on cloud servers is currently secure, but not completely so. Smaller cloud service providers may be unable to provide or comprehend all the precautions required for adequate data security. Future cloud services will use better cybersecurity safeguards and enforce better safety practices to prevent cyberattacks. As a result, companies will be able to concentrate on more important tasks rather than worrying about data security or alternative data storage methods [9].

**Cloud technology and safer collaboration:** Collaboration is essential in many firms, and cloud computing can enable team members anywhere in the world with fast, simple, and dependable collaboration. Any member of the team can review, change, or receive feedback on the files in the cloud at any moment [9].

**Future of cloud computing:** The future of cloud computing is bright, as more and more businesses are adopting cloud-based solutions to meet their IT needs. Companies are likely to adopt multi-cloud strategies to avoid vendor lock-in and leverage the strengths of different cloud providers. With the rise of the Internet of Things (IoT) and 5G networks, there will be an increased need for computing power at the edge of the network. Cloud providers are likely to offer edge computing services to meet this demand. Companies will continue to adopt hybrid cloud models that combine public and private cloud environments to balance cost, security, and performance. Serverless computing, which allows developers to run code without managing servers, is gaining popularity. Cloud providers are likely to offer more serverless computing options in the future. Cloud providers are investing heavily in artificial intelligence (AI) and machine learning (ML) to offer AI-powered services that can help businesses automate processes, gain insights, and make better decisions. Overall, the future of cloud computing is likely to be characterized by increased flexibility, scalability, and accessibility, with cloud providers offering a wide range of services to meet the evolving needs of businesses [9].

#### Upcoming Challenges

Despite all the development and potential of cloud computing services, businesses face a variety of cloud computing challenges. We have compiled a list of cloud computing challenges that must be addressed to fully utilize the cloud's capabilities. The possible challenges are following [10]:

**Security:** The primary worry in investing in cloud services is cloud computing security. It is because your data is stored and processed by a third-party provider without your knowledge. Every day or so, you receive information about a certain organization's broken authentication, compromised credentials, account



hacking, data breaches, and so on which makes the user even more skeptical. Fortunately, cloud companies have begun to make efforts to increase security capabilities. You can also be cautious by checking to see if the provider has a secure user identity management system and access control procedures in place. Also, make certain that it follows database security and privacy protocols [10].

**Password security:** As more individuals use one cloud account, it becomes more vulnerable. Anyone who knows one user's password or hacks into the cloud will have access to that user's sensitive data. In this case, the firm should employ multiple levels of authentication and guarantee that credentials are kept secure. Passwords should also be changed on a regular basis, especially when an individual resigns and leaves the firm. Access to usernames and passwords should be granted with caution [10].

**Cost management:** Cloud computing allows users to access application software via a fast internet connection while saving you money on expensive computer gear, software, management, and upkeep. This lowers the cost. However, customizing the organization's demands on the third-party platform is difficult and costly. Another expense is the cost of transferring data to a public cloud, which is extremely pricey for a small firm or project [10].

**Internet connectivity:** A high-speed internet connection is required for cloud services. So, businesses who are relatively tiny and are experiencing connectivity troubles should ideally first invest in a decent internet connection to avoid downtime. Because internet outages might result in significant economic losses [10].

**Lack of expertise:** Management has gotten harder due to the increasing workload on cloud technologies and the constant improvement of cloud solutions. A trained workforce capable of dealing with cloud computing tools and services has been in high demand. As a result, businesses must train their IT workers to mitigate this risk [10].

**Compliance:** Maintaining compliance is another key danger of cloud computing. To preserve compliance, we define compliance as a set of rules governing what data can be transmitted and what must be retained in-house. Organizations must adhere to and respect the compliance guidelines established by various government agencies [10].

**Control of governance:** Another ethical concern in cloud computing is maintaining proper asset management and maintenance control. A dedicated team should be established to verify that the assets used to deliver cloud services are used in accordance with agreed-upon policies and procedures. The assets should be properly maintained and leveraged to help your organization achieve its goals [10].

**Creating a private cloud:** It is desirable to implement an internal cloud. This is since all data is kept secure in-house. The challenge here is that the IT staff must build and repair everything from scratch. In addition, the team must verify that the cloud runs smoothly. They must automate as many manual operations as possible. Tasks should be completed in the correct order. So far, it appears to be tough to set up a private cloud on your own. However, many organizations want to do so in the future [10].

**Performance:** When clients migrate their business apps to the cloud or a third-party vendor, the business performance becomes dependent on the supplier. Another significant issue in cloud computing is finding the correct cloud service provider. Prior to investing, we should hunt for providers with cutting-edge technologies. The performance of the BIs and other cloud-based systems is also tied to the systems of the supplier. Be cautious when selecting a service and ensure that they have mechanisms in place to deal with difficulties that develop in real time [10].

**Interoperability and portability:** Another issue with cloud computing is that programs must be easily moved across cloud providers without being locked in an extended length of time. Because of the complexity required, migrating from one cloud provider to another is limited in flexibility. Changing cloud developments introduce a few new issues, such as monitoring data flow and building a secure network from the ground up. Another issue is that consumers cannot access it from everywhere; however, this can be resolved by the cloud providers so that customers can securely access the cloud from everywhere [11].

**High availability and reliability:** High availability (HA) and reliability are two of the most urgent challenges in cloud computing. The possibility that a system will be up and operating at any given moment in time is referred to as reliability, whereas availability refers to how likely it is that the system will be up and running at any given point in time. Because most organizations rely on third-party services, cloud solutions must be stable and robust. Cloud services continue to lack 24-hour availability, resulting in frequent disruptions. It is vital to monitor the service being offered using internal or third-party solutions. Plans for monitoring SLAs, utilization, robustness, performance, and business reliance on these services are crucial [11].

**Hybrid cloud complexity:** A hybrid cloud environment is typically a jumbled mass of different cloud application development and cloud service providers, as well as private and public clouds, all functioning at the same time for any firm. These complicated cloud ecosystems lack a uniform user interface, consistent data, and analytical benefits for enterprises. In a hybrid cloud context, cloud computing concerns like scalability, integration, and disaster recovery are amplified [11].

## Conclusions

Recent changes have led to the rise of cloud computing, a new way to store and offer services over the Internet. Many good things happen for business owners because of it, but it is still young and has many problems that need to be fixed. Getting the right cloud setup for an app is important for both the quality of the service and the business's ability to compete. If you set up your cloud wrong,

cost as much as 12 times more to reach the same goal. When the same tasks are run over and over again, for example, the benefits from effective cloud planning are much higher. But picking the best cloud setup is hard because it's hard to get high accuracy, low costs, and the ability to work with many apps at the same time. "Cloud computing" refers to the use of the internet to share computer tools. There are many perks, such as cost saves, flexibility, good efficiency, economies of scale, and more. For many companies, moving to the cloud is a big part of updating their data and IT. The design of cloud computing is made up of different parts that work together to give customers services over the internet. These parts are the Client Infrastructure, which gives users a graphical way to interact with the cloud, the Application, which can be any software or platform they want to use, the Service, which decides what kind of service the user accesses based on their needs, the Runtime Cloud, which gives virtual machines a place to run, and Storage, which gives users a huge amount of cloud storage space to store and organise their data [12].

In the past few years, cloud computing has become much more popular. Big companies like Microsoft and Oracle are encouraging their users to switch to their cloud versions, and there are more cloud-native providers offering services like Software as a Service (SaaS), Platform as a Service (PaaS), and Infrastructure as a Service (IaaS). Edge computing also makes it possible to analyse data closer to where it's collected before it's sent to the cloud. This can greatly cut down on the time it takes to process data and help turn data into insights by using AI and machine learning [12].

Investing in cloud services comes with a number of risks and challenges, such as worries about security, managing costs, getting online, not having enough experience, following the rules, being in charge of governance, making a private cloud, performance, portability and interoperability, high availability and reliability, and the complexity of hybrid cloud environments. Before deciding to invest in cloud services, companies should carefully think about these risks and challenges. They should also make sure they have the right systems and processes in place to deal with these issues. When deciding whether to invest in cloud services [12], businesses should also think about the benefits of these services, such as the ability to save money, grow, and be flexible.

This is the process of sending computer resources over the internet, like storage, processing power, databases, networking, analytics, AI, and software programs. It is called "the cloud." By renting their computer needs, businesses can get the resources they need whenever they need them, without having to buy and keep a real IT system on-site. This gives you flexible tools, faster creation, and economies of scale. For many companies, moving to the cloud is an important part of changing their data and IT [12].

## References

Wikipedia (2022) "Cloud Computing" on the web. Foundation for Wikimedia. Wikimedia Commons has a page about cloud computing.

What Kinds of Cloud Computing Does Red Hat Offer in 2022? The business world uses the open source technologies we make.

Visit [redhat.com/en/cloud-computing/public-cloud-vs-private-cloud](https://redhat.com/en/cloud-computing/public-cloud-vs-private-cloud) for more information. -and-hybrid-cloud Literature Review on Cloud Computing (Internet) (2022) It can be found at [https://mars.gmu.edu/bitstream/handle/1920/11608/hassan\\_cloud.pdf?sequence=1](https://mars.gmu.edu/bitstream/handle/1920/11608/hassan_cloud.pdf?sequence=1).

Building Blocks of Cloud Computing (2022) [Internet]. Go to <https://www.geeksforgeeks.org/architecture-of-cloud-computing/amp/> to learn more.

Cloud Computing Architecture - Java Point [Internet]. JavatPoint: <https://www.javatpoint.com/cloud-computing-architecture> //

In 2021, CXO Content wrote about how cloud computing has changed and what the future holds for it.

(2018) How Cloud Computing Has Changed Over Time: Where Will It Go Next? The Internet. There are news stories, articles, interviews, and tests on The Cloud Report.

The Report on the Evolution of Cloud Computing: Where Is It Going Next?

Roshna, R.F. (2022) How Cloud Computing Has Erased the Future of Tech on the Internet [Internet]. VentureBeat. You can read about how cloud computing has changed the future of the internet at <https://venturebeat.com/datadecisionmakers>.

The EMRSystems Blog (2022) wrote about the pros of using cloud-based technology in healthcare. Blog for EMRSystems | EMRSystems The Full List of EMR and EHR Software.

EmrSystems.net has a blog post about the benefits of cloud-based technology in healthcare.

Jigsaw/UNext (2022) Changing ourselves to change the future! The Internet. [blog.jigsawacademy.com/cloud-computing/challenges-of-cloud-computing](http://blog.jigsawacademy.com/cloud-computing/challenges-of-cloud-computing) [link]

Tutorials Point (2022) Challenges of Cloud Computing [Internet]. This link will take you to a page with cloud computing challenges.

Tutorials Point (2022) A Look at Cloud Computing [Internet]. It can be found at [https://www.tutorialspoint.com/cloud\\_computing/cloud\\_computing\\_overview.htm](https://www.tutorialspoint.com/cloud_computing/cloud_computing_overview.htm) The term "cloud computing" refers to manipulation, installed%20% local y%20%20on%20the20PC