Analytical Study of Current Trends in Cloud Computing

Pragati Singh

Student of Department of MCA, Late Bhausaheb Hiray Smarnika Samiti Trust, Hiray Group of Institutes

Mentor: Prof. Divakar Jha

Abstract: *This research is based on current market research on cloud computing trends. Cloud computing is a set of Information Technology services that are provided to a customer over a network on a leased basis and with the ability to scale up or down their service requirements. [2] A considerable amount of research has been carried out to explore different areas in Cloud Computing. This paper presents brief summary of market current trends. Additionally, it highlights the significance of cloud computing and statistics numbers of trends.*

Keywords: Cloud Computing

1. Introduction

The "cloud." What was once a trendy, science fiction–sounding buzzword has become an inescapable part of our everyday personal and professional lives. Even though we understand what the cloud does, the way it works and how it is evolving is a far more complex subject. Cloud computing is the delivery of different services through the Internet. These resources include tools and applications like data storage, servers, databases, networking, and software.

Rather than keeping files on a proprietary hard drive or local storage device, cloud-based storage makes it possible to save them to a remote database. As long as an electronic device has access to the web, it has access to the data and the software programs to run it.

Cloud computing is a popular option for people and businesses for a number of reasons including cost savings, increased productivity, speed and efficiency, performance, and security.

2. Literature Review

The Internet has evolved at a breakneck speed in the last ten years. Storage costs are rising, as is the amount of power used by computers and electronics. Our needs cannot be met by the storage space available. The original internet's system and service are incapable of resolving our problems. Technology is promising, according to the review literature and growing fast. By 2030, the study predicted, cloud computing would have progressed beyond its current limits. Researchers have proposed many techniques to address the problems and challenges of cloud computing, such as security and privacy risks, through mobile cloud computing and cloud-computing governance [1].

Current Trends of Cloud Computing 2022

The Cloud Computing industry with continuous growth is arising with a number of Cloud Computing trends. The Cloud Trends that we are going to mention below are the combination of new and old practices that have changed the way the industries operate. Let's have a look at some of them now:

Massive Growth

This is more one of the Cloud Computing Trends 2022 which has just carried over to 2022. With the development of new services in the SaaS, PaaS and IaaS fields, and the evolution of new services such as function as a service (FaaS) and backend as a service (BaaS), the Cloud market is expected to grow aggressively. SaaS alone is expected to grow at 18% CAGR. PaaS has already been performing remarkably with an adoption rate of 32% in 2017 and expected to reach 56% by 2022. The IaaS market, even with its limited features is predicted to go over $17B in 2018. Even when related industry shows a definite slowdown, the future of the cloud computing market is definitely towards growth.

Increase in Storage Capacity

Another aspect of the growth-related cloud computing trends is the increase in storage capacity. In 2017 alone, the global cloud storage capacity stood at around 600 EB (Exabytes). We can certainly expect this to become one of the Cloud Computing Trends 2022, as the capacity is set to double to approximate 1.1 ZB (Zettabyte) by the end of 2018. Regular people are boosting these numbers thanks to their increased sharing of personal information online via services like Google Drive and Dropbox.

Cheaper Storage Solutions

The Cloud Computing Industry is going through a lot of changes. Massive Growth and Cheaper Prices were two of the main Cloud Computing Trends 2017. Usually, when demand increases, the price also increases, but since there is so much competition in the market today it seems that the prices are continuing to fall; thanks to so much investment in storage capacity increase. To put this in context, at present it costs less than 10 cents to maintain 1 TB of cloud storage. This price dive has given companies the ability to offer ridiculously cheap cloud storage solutions, which is, in turn, driving the growth further.

Server-less Cloud Computing

When cloud computing first became popular, the entire ecosystem had to include servers in their processing as they were the places where data was initially stored. But now that most companies store their data online, there is no need for server integration. Which is why Server-Less Technology was developed that allows developers to build and run application services without any infrastructure. These new types of applications will definitely be one of the major Cloud Computing Trends in 2022, thanks to improving efficiency, less effort, and cost.

Start ups have been the main driver of this Cloud Trend, as it lets them indulge in early cloud adoption, for better security and easier development. Even older organizations have started replacing their existing application to take advantage of this opportunity.

Cloud-Based Container Systems

It is common for Cloud Computing Trends to replace existing hardware-based systems, but it is not often that we see them taking out software-based systems as well. We are talking about virtual machines, which are being rapidly replaced by Cloud-Based Container Systems. These containers contain the entire package: an application, plus all its dependencies, libraries and other binaries, and configuration files needed to run it.

This package can be deployed quickly on different systems, irrespective of their personal complexities. This is great for software and app developers who now don't have to worry about the load of the entire software package that is required for the virtual machines to run as well as the time it will take for it to boot up. This makes the containers smaller and faster than virtual machines.

Some examples of commercial container systems are, CoreOS's Tectonic, Red Hat's Open Shift Container Platform and Rancher Labs' Rancher.

Facts & Statistics of Cloud Computing 2022[8]

(Statistics Reference by www.cloudwards.net/cloud-computing-statistics/)

1) Current Storage on Cloud
   By 2025, there will be over 100 zettabytes of data stored in the cloud.13 To put this in perspective, a zettabyte is a billion terabytes (or a trillion gigabytes).
   In the same year, the total global data storage will exceed 200 zettabytes of data, meaning that around half of it will be stored in the cloud. By comparison, only 25 percent of all the computing data was stored this way in 2015.
2) Largest Cloud Company
   Based on market share, the largest cloud computing company in the world is Amazon Web Services. A subsidiary of Amazon, AWS currently holds 31 percent of the market, followed by Microsoft Azure at 20 percent and Google Cloud at seven percent.
3) Most Used storage service of cloud (Google drive diagram)

With an overwhelming 94.44 percent, Google Drive is by far the most used cloud storage service in the world. In next place is Dropbox, the best cloud storage for collaboration, with a still impressive 66.2 percent, followed by OneDrive (39.35 percent) and iCloud (38.89 percent). MEGA (5.09 percent), Box (4.17 percent) and pCloud (1.39 percent), which have all made our list of best cloud storage services, are also widely used.

4) Cloud computing market worth
   In 2020, the total worth of the market was $371.4 billion. With a compound annual growth rate (CAGR) of 17.5 percent, it's projected that the market will amount to $832.1 billion by 2025.2
5) Largest cloud computing market share
   In 2020, the total worth of the market was $371.4 billion. With a compound annual growth rate (CAGR) of 17.5 percent, it's projected that the market will amount to $832.1 billion by 2025
6) Public Cloud Services Spending
   In 2020, the combined end-user spending on cloud services total $270 billion. In 2022, this is expected to increase by 23.1 percent to a staggering $332.3 billion. By 2022, projections indicate that this figure will rise to $397.5 billion
7) Spending on AI
   In 2022, $58.3 billion will be spent on AI, and this will increase to $309.6 billion by 2026. Machine learning forms the basis of many cloud technologies today, and a lot of organizations and systems use it to automate various processes. This is just one type of artificial intelligence, and it is no wonder that companies are looking into ways to invest in and expand this field.
8) Remote Desktop Software Market
   In 2019, the remote desktop software market was worth $1.53 billion and it is estimated that it will reach $4.69 billion by 2027 at a CAGR of 15.1 percent. This type of software includes remote desktop tools such as TeamViewer and Chrome Remote Desktop, which allow you to connect to a remote computer and work on it via a remote internet connection

Most used Cloud storage Diagram by www.cloudwards.net/cloud-computing-statistics
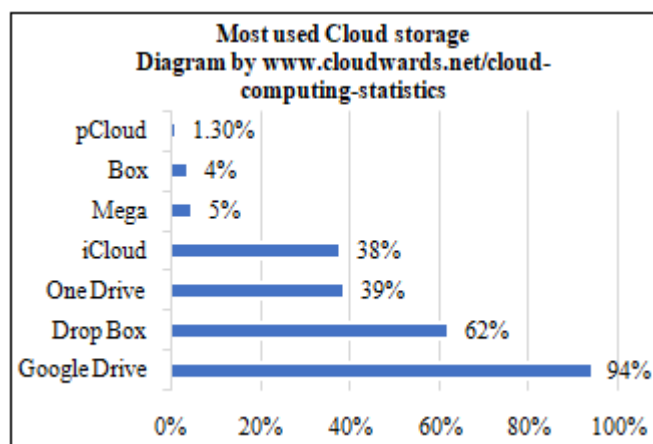
9) Human Error Accounts for the Majority of Cloud Data Breaches
   In 88 percent of cases, human error is to blame for cloud breaches, not cloud providers. With 34 percent, men are twice as likely to fall for phishing scams compared to women (17 percent).11
10) Main Cloud security concern

Mis-configuration of the cloud infrastructure (68 percent); unauthorized access (58 percent); insecure API (52 percent); accounts, services or traffic hijacking (50 percent) and external data sharing (43 percent).
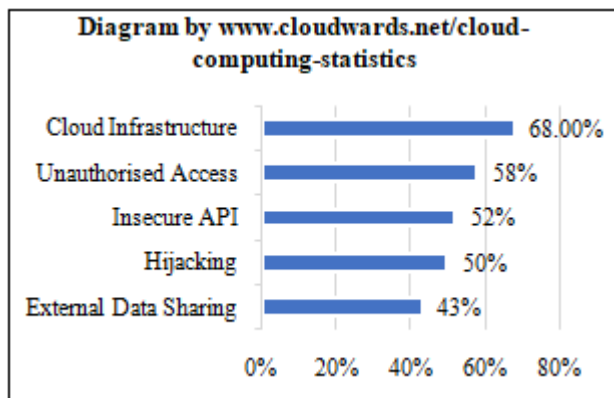
3. Conclusion

In conclusion, cloud computing trends are positioned to meet present and future business needs. Because technology is so important to businesses, cloud computing enables them to store and access data at any time. People will utilize more and more 'Web-Based' applications instead of the current 'Desktop-Based' ones, implying that cloud computing can make the business world more easy and efficient, and it even has the ability to bring about revolutionary changes in human society. The utilisation of cloud computing and cloud-storage services has a number of advantages. The most important consideration is data security. Over time, more firms will store their data in the cloud and contract with service providers to execute cloud-based data analytics. Even more noteworthy is the fact that, in the future, businesses will have no choice but to keep their data in the cloud. Data security and the ability to exchange and access data will be key factors in business competition. Organizations are likely to become more intertwined in the future. Businesses require a dependable cloud computing environment that satisfies their requirements. Global enterprises, in the best-case scenario, will develop a plan to increase their use of cloud computing.

References

[1] Nasser Taleb, Elfadil A. Mohamed "Cloud Computing Trends: A Literature Review" January 2022

[2] Aliasghar Azma, Nima Kianfar, K. N. Toosi, Hossein Chitsazi "Research and Development on Cloud Computing" March 2021

[3] "Virtualization in Cloud Computing: Developments and Trends" Isaac Odun-Ayo, Olasupo Ajayi, Chinonso Okereke 2017 Covenant University Repository.

[4] "Software-Defined Cloud Computing: A Systematic Review on Latest Trends and Developments" Aaqif Afzaal Abbasi1, Almas Abbasi, Shahaboddin Shamshirband , Anthony Theodore Chronopoulos, Valerio Persico , And Antonio Pescapè 2019

[5] "Current trends in cloud computing" Siraj Munir, Syed Imran Jami · 2020 Indian Journal of Science and Technology

[6] "Next Generation Cloud Computing: New Trends and Research Directions" 2017 Blesson Varghese. Future Generation Computer Systems

[7] "Impact of Cloud Computing: Beyond a Technology Trend" George Feuerlicht, Shyam Govardhan 2010

[8] www.cloudwards.net/cloud-computing-statistics