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MICROSOFT AZURE CLOUD BASED SERVICES BASED ON SERVICE LEVEL AGREEMENT AND QUALITY OF SERVICES

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Abstract: *To get things started, you may be certain that the service will be available regardless of the time of day or the circumstances. There are a few service providers that brag about how quick they are, how long it takes them to fix problems, and how effectively they can rebound from catastrophes. Additionally, the cloud provider will compensate client if they continue to be unhappy after these tries. A excellent example is Amazon Web Services (AWS), which promises an uptime of 99.9 percent. According to client, they are certain that the computer will continue to function correctly during period service guarantee. It is essential that each user have a minimum of one hour of use time, which is equivalent to one month of usage time. The end contract was followed by beginning of the billing cycle, although there was a gap in time between two events. We gave the client several examples of varying sizes, including tiny, small, and gigantic, as an illustration of the amount of detail that was included in the service assurance. Client service credits are a typical kind of repayment received by service providers that fail to live up to promises they made about their services. In case that there was a breach in service, objective of this section is to provide a compilation of reports and incidents that may throw light on what went wrong and who was to blame for anything. In addition, you could record and keep track of any service violations that may take place.*

Keywords: Cloud Computing, AWS, Microsoft Azure and SLA.

I. INTRODUCTION

Since its 2008 debut as a replacement for Microsoft's Infrastructure as a service and Platform as a service offering, Micro-Soft Azure has undergone modifications and new feature additions. Microsoft offers a variety of services that simplify the development, deployment, and ongoing maintenance of any kind of scalable

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cloud-based software or solution via its vast global network of data centres. In addition to its current network in the United States, the European Union, and Asia, Microsoft intends to expand the number of sub regions serviced by its data enters soon. Data centres may be found in almost every country on Earth. On top of that, each data centre supposedly has hundreds of thousands of servers and has state-of-the-art architecture that can manage enormous amounts of data. Choosing a location to store code is a crucial first step in creating a digital server or app that runs in cloud. When many locations utilise same service simultaneously, users may also be routed to service that is geographically closest to them. If one data centre has an outage or other kind of system failure, this approach also offers a backup plan. To get access to computing power and continue using your current applications, you may set up a virtual machine in cloud. If you already have software that you use for important data calculation, testing visualisation, etc., be sure to bring it along. Micro-Soft Azure offers users digital devices that they may use to build virtual servers using images of their own PCs. It normally just takes a few seconds and clicks mouse to set up a new virtual server after uploading your own photo. From a single image, you may construct a whole network of digital computers, or you can make multiple copies of data on other devices. The only thing you need to do if your digital system is working is pay fee. For a little fee, you can deactivate it until you're ready to activate it again. Many popular operating systems and graphics cards may be used to construct virtual servers. A data disc may be attached to this system, and it is also feasible to include your own digital server into application. Another option would be to look for a suitable image to use as virtual server's basis on VM Depot. Azure Info Evaluation is a graphical application that includes well-known data analysis tools like R and Python by default. A development environment, applications, and a fully functional platform are made available to VM Depot by community members who give images. Being a user-driven platform, VM Depot also encourages you to contribute your own images to archive. Such a thing may occur when a student posts an image that a scientist might use in their own study, or when a scientist posts an image taken with various instruments that other researchers investigating same topic could find useful. Software installation and maintenance may be made easier, leading to easier reuse, if many intelligent people can work together on this. Micro-Soft had access to Azure, a cloud computing service from Microsoft (often spelt Microsoft

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Cloud), when it first started off. It streamlines application and service development, testing, deployment, and management across Microsoft's data centres. Utilise Hadoop as a service, host your website, control your mobile devices, and store all of your database data with Microsoft Azure. Web pages a simple way to start sharing your findings and making connections with other academics is to build a website. In future, you'll be able to enhance your usage by integrating more solutions related to your objectives. There is a system of peer review in place for scientific publications, but many researchers still resort to content or blog management strategies when talking about their research online. If that's the case, moving your existing web app or website to Azure couldn't be easier. Preset programmes, frames, and templates for several platforms are available in the online Programme Gallery. These platforms include Word Press, Drupal, Django, and many more. Starting with nothing is another alternative. Perhaps a few mouse clicks are all that's needed to have your website content-ready to publish. Technologies-Based Instruments.

II. Azure Development Life cycle

I shall start with the first step of development.

1. Construct

If your gadget can connect to the internet, you can use it to build an app. Cartoon Studio should be the main framework for programmers creating programmes for Windows 2Azure. As a result, the Windows Azure app was built using the Visual Studio IDE.

2. upon finalising

Device testing, integration evaluation, and unit testing of code are all part of Visual Studio's analytical toolbox, which enables programmers to do this in real time, regardless of their location. Azure advancement applications consist of two kinds of emulators: development material and improvement storage. The topics of smoking, restructuring, and individual acceptance have all been the subject of several assessments.

3. Step Three: Launching

Companies can't provide Azure products unless they create an Azure account. One option is to sign up for Azure using a debit card and a legitimate form of identification. We have finalised your enrolment. After that, you'll need to submit all of the setup files and cloud packages using the Azure administrator site. A complete deployment

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consists of the generating and staging stages. Once the application is uploaded, it is tested in the staging environment using certain criteria. After this software version has shown to be dependable, it will be upgraded to the following one and made available to consumers via a user-friendly URL.

Mmathematical equation and algorithm:

Assume Projected Technique S

Functions done by method S:

S = undefined

Exactly Where by,

I set of directions supplied by consumer

O = asked output data from consumer

Øs = collection of limitations in which,

Øs = undefined

Good Results = Sought after result created if compilation of limits

Are followed closely

FAILURE = Sought after result never shaped since of

Invalidation of collection of limitations or technique collapse

F S = undefined

At which f 1, F2, F 3 ... F-6 will be the purposes done by

Proposed system.

Developing Application to be deployed

Works to Style Blog (FD)

Operate to initialize: initialization ()

F 1 =undefined

Exactly Where by,

X 1 = undefined

Y1 = undefined

Ø1 = undefined

Operate to style Learn Page: design Master Page ()

F 2 = undefined

Exactly Where by,

X 2 = undefined

Y2 = undefined

Ø2 = undefined

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Function in Order to Add control: add Controller ()

F 3 =undefined

Exactly Where by,

X-3 = undefined

Y-3 = undefined

Ø3 = undefined

Operate to create Website: create Web ()

F-4 =undefined

Exactly Where by,

X-4 = undefined

Y4 = undefined

Ø4 = undefined

FD = {F 1, F2, F3, F4}

Application deployment on Cloud

Work for database Installation: deploy DB ()

FDB =undefined

Exactly Where by,

XDB = undefined

YDB= undefined

ØDB= undefined

Work for Web Page Deployment: deploy Web ()

FWB = undefined

Exactly Where by,

XWB = undefined

YWB = undefined

ØWB = {assess web_url and also web_profile}

B) Algorithm used

In the proposed system there are two algorithm used

a) Hosting application on Cloud

b) Ranking various cloud service provider

Algorithm for Internet Hosting application to cloud

Measure I. Application growth

Pro Vision (Reside I-d & Credit-card)

Develop App (Visible studio)

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Unit-testing locally (Compared to test applications)

Measure II. Program Deployment

Assemble (Develop Verification Check)

Publish

Deployment (Staging & Generation)

Staging- Technique Screening (Smoke evaluation, Integration &UAT)

Generation Launch (Hosted on cloud made accessible to

People)

III. Algorithm for standing assorted cloud Supplier.

Agent algorithm

Start

1. The Broker is well-informed about its own costs and all aspects of assistance offered by registered cloud providers.

2. Determine the average response time of human CSPs.

It takes the time to assess whether aid is currently accessible in connection to a consumer's request, where r is the number of requests and oe Ti/Advance Ti is the normal response time. A maximum response time is guaranteed by cloud providers to their consumers.

There is a time limit that exceeds the collapsed number for that duration. Where n is the number of occurrences and r is the maximum reaction time, the compressed response time is equal to (a/r)*1,000.

With an equal and opposite quantity of requests.

3. Interoperability based on the customer the computation of CSP is the result of multiplying the number of platforms needed by the client with the number of programmes provided by the cloud provider.

Fourth, the provider's assessment of the importance of each feature is divided by the total number of attributes submitted, resulting in the person suitability parameter (CSP).

5. Find out what the customer wants.

6. Assess the overall effectiveness, suitability, compatibility, and affordability of CSP's services that are centred on the web.

7. Get clients to see the listing

8. Regularly ask all registered CSPs for their expert service advice on overall efficiency, appropriateness, interoperability, and accountability.

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9. The ideas that were obtained were used to update the database.
10. Repeat steps two through nine.
End.

IV. **Comparative Analysis of AWS, AZURE and GCP**

The advent of cloud computing, PaaS, and IaaS has simplified the management of AI and DL. The visual, textual, and voice help modules of the system have also matured into their own parts of the system. Detailed evaluations of the three companies' AI and machine learning products. Compared to Azure and GCP, AWS is better because to its maturity and feature set. Microsoft Azure was continuously grown over time owing to functional components that emphasized user-friendliness. Google Cloud Platform (GCP) has several features that are designed to cater to programmers. Every firm has its own distinct strategy and approach to the market.

Artificial intelligence (AI) and machine learning (ML) are important to the internal and external ecosystem operations of these three digital behemoths. This is due to the fact that their products and services cater to a diverse range of needs. There are a lot of variances, however, as every firm has its own specific strategy. The flywheel ecosystem reaps internal and external benefits from Amazon's backing of the huge e-commerce app and the dissemination of AI and ML skills to various SMEs. But you have to leverage the flywheel effect if you want a huge edge over your opponents. Through its channels that target big businesses, Microsoft may be able to exploit its enormous experience in offering cloud services. With its better operating systems, databases, Office, servers, and more, Microsoft easily outshines AWS and has a big number of top-tier enterprise-class customers. The number of small businesses that AWS serves is growing. Microsoft is unrivalled in the market for medium to large-sized businesses. These are your only two options for making a killing at the moment. It is not necessary for All IN to advocate for cloud computing since other latecomers have already reaped the benefits. Google is now more focused on its own services, artificial intelligence research and development, and the creation of tools for its developer community, rather than cloud computing as its main external business. Google Cloud was founded and developed out of genuine worries about the overall integrity of Google's product matrix, not a genuine desire to create cash for the corporation. There will be no immediate indication that Google's cloud aspirations will

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provide the company with a significant competitive advantage until there is a fresh technology breakthrough that creates technological obstacles. Meanwhile, efforts have paid off for Google Cloud, which is rapidly expanding its market share and solidifying its position as the third largest cloud provider.

Regardless of the obvious aggregation influence at the top, the largest cloud providers are still Amazon Web Services (AWS), Microsoft Azure (MSFT), and Google Cloud Platform (GCP). Their individual stakes are all increasing. Exhibit 2.9 shows that there will likely be a huge boom in the worldwide market for AI platforms in the next several years. There will be several advantages in the near future as a result of this growth, which is obviously a megatrend. Therefore, all three platforms need to adopt a suitable competitive strategy if they want to maintain fast growth. Possible competing approaches should be considered in light of the current strengths and limitations of the three businesses, the regions expected to see rapid development in the future, and the changing business models of cloud platforms used by digital organizations.

As large IT companies rapidly expand into enormous AI platform corporations, there is a concentration of power in the market and industry. This is because they were ahead of the curve when it came to technology, funding, and market penetration. The AI platforms of major organizations have procured state-of-the-art technology and offered user-friendly product forms, substantially facilitating the commercialization of AI.

To make a bigger impact in today's digital world, IT organizations are forming ecosystems. In Singularity Net's Exhibit 4.2 [21], among many other examples, are operating systems, social media platforms, advertising networks, app marketplaces, cloud computing, and a myriad of others. The most successful companies will approach the wealthiest tech oligarchs in search of assistance, since cloud computing is the foundation of this ecosystem. A growing number of sectors are adopting cloud computing, which is fueling the rapid growth of the smart economy. It will be difficult for businesses that lack AI expertise to compete. Working together with a leading cloud provider might prove to be a prudent choice. Since they have more resources at their disposal, established corporations are hesitant to take on upstarts. Going by the old adage, "more data = more accurate models = better products = more users = more data," the more seasoned company would naturally have the upper hand. As a result, internet giants' AI and ML services are an absolute

need for startups and growing businesses. In light of this, the aforementioned three businesses will need to do all it takes to preserve their current levels of market dominance and significance.

Oligopolies in the cloud platform industry are difficult for small and medium-sized businesses to break into since the top companies control such a large portion of the market. Nevertheless, this method has the potential to improve customer service. Amazon often uses low prices as a marketing tactic. This goal is being propelled forward by the flywheel effect, which is being driven by the company's unwavering commitment to sustainable development. Given the platform ecosystem outlined above, S2b2c's success as a cloud-based AI business model could be on the horizon. Businesses of all sizes will work together on the platform to make it better for users and enhance their experience. The "c" in this notion stands for clients, "b" for small and medium-sized enterprises, and "S" for the platform that offers the service. "C" receives service via "S's provisioning platform" from a plethora of smaller "b's" instead of a single "big B". Not only does this work with ML and AI systems, but it also foretell the future of internet commerce. If S2b2c is to be useful, it must provide more value than what little b or big B might do on their own by supplying c. To begin, whenever S supplies c, little b is required to come into touch with it: S will not be satisfied with cloud applications. Without improving the upstream supply chain with value-added services, b cannot improve its service to c. If S wants to be an active participant and provide real-time feedback on the minimum impact of b, they need to know and understand the minimal value that b adds to c. Tiny B's dish cannot be processed offline. Second, in order to properly assist c, S and small b will need to work together online and make use of software.

An application of ML and AI is going to be discussed in this essay. Just pretend for a second that I'm considering developing a chatbot specific to one of the three varieties. I outsourced the management of AI and ML to an external business rather than relying on in-house resources. We developed a dialect-specific chat system on an AI and ML platform with our own corpus, voice, and natural language processing modules to satisfy our customers' requests. The AI and ML platform did not have the customer's dialect corpus, thus this was done. S stands for the AI and ML platform, b for the business, and c for the customer. Being unique in the cloud platform industry could be difficult due to the high level of competition. By making use of the capabilities of generic modules, this S2b2c architecture creates new use cases,

opens up new sectors, and benefits marketplace partners. When requests are honored, everyone wins: C-consumers, intermediate firms, and the platform. Incorporating use cases, lessons, incentives for exceptional use cases, etc. into the platform may help promote and speed up the growth of this paradigm. By deepening their connections to the top AI and ML platform ecosystem, upcoming SMEs may be able to offer customers a wider range of customized goods and services.

Amazon has acquired small and medium-sized businesses at a greater rate and has a bigger user base than the other two corporations. On the other hand, S2b2c seems to function more like a SaaS model. S and b are limited to iterating with each other while using software as a service. Now more than ever before, Google and Microsoft are competing on a global scale because to their expanded SaaS offerings.

CONCLUSION

After a quick introduction to AI and ML, the article explained cloud-based AI and ML services. Next, platform architectures were described. AWS, Azure, and GCP dominate the cloud industry. Competition in the three submarkets is predicted to increase, while the market will rise rapidly. AWS, Azure, and GCP's websites and API interface documentation gave us a sneak glimpse at their AI and ML systems' potential. These systems supported internal and external apps. AWS is popular with SMBs due to its ecosystem and early cloud computing leadership. The flywheel effect and closed-loop benefits are instantly obvious. Microsoft's competitive ToB matrix solutions and expertise with large enterprises have won over several of these firms. Google has a tiny cloud market share. The more complex "White Hat" AI and ML technologies are also predicted to expand. Many platforms provide AI and ML services, including SaaS, IaaS, and PaaS. These systems support private, public, hybrid, and multi-cloud deployments. To stand out from competition, focus on your strengths and ignore your faults.

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