Cloud Computing Assignment cos(109)

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Submission date: 03-Jun-2022 02:03PM (UTC+0800)
Submission ID: 1849583054
File name: cos109courses.docx (62.46K)
Word count: 2382
Character count: 13234

2022

CLOUD COMPUTING ASSIGNMENT

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Introduction

What is cloud computing? whenever we heard the word “cloud computing” it is not only for providing its cloud storage services to the cloud consumer or the third-party organization. Cloud computing deliver virtualization form of service that delivers physical or virtual server, storage, database, networking, software and analytics, through internet to offer faster innovation and economic scale. In this module, I will be representing task 1 i.e., opinion about cloud computing, analyzing how a business execute with cloud services and obstacles for experiencing cloud services and alternatively what are the possible solutions to these obstacles. On continuing, the task 2 includes introduction on any three cloud providers, and explain all detail about one type of service provided by cloud providers to the cloud service consumers, consideration one factor when choosing cloud providers, conclusion, referencing and citation.

Task1

A) Opinion about cloud computing:

The day when the PCs became famous in that period everybody needed PC at their work area. These days, distributed computing has becoming well known according to business person, business work and the clients. The 3 represents for three Service delivery methods are Software as a Service (SaaS), Platform as a service (PaaS) and Infrastructure as a Service (IaaS). All the assistance goes through over these three conveyance models whether making the workplace application or reinforcement stockpiling or Computing assets or games. It becomes even easier to define service of the cloud computing by the user to implement in the required field. Public cloud, private cloud, community cloud, hybrid cloud and other types of cloud comes under the deployment’s models of cloud computing. According to vendors, cloud computing can lease from a third party lets user to avoid the capital expenditure to support the services. As a matter of fact, the distributed computing give an entrance of re-appropriating, off obtaining, and the way back to time sharing can be an alluring answer for overseeing expenses and faculty. Involving a facilitating answer for administrations, for example, email permits associations to zero in their endeavors on cycles and frameworks well defined for their business. For more modest organizations, facilitated arrangements might try and take out the need to have an in-house IT staff. In any case, there isn't anything especially new about the idea of renting PC administrations from an outsider. The model is tried and true - the stage might be unique. (Salam, 2013)

B) Provide an analysis of how specifically any business might use cloud services.

Cloud computing has the huge potential to transform whole part of the cloud-based IT industry, creating even more attractive service available for the cloud consumer. Software developers who have stood up with innovative ideas for internet service further, does not need large capital investment on deploying their own service or expenses on human to operate the resources. The services provided by cloud provider are referred as Software as a Service (SaaS). Some are used as Infrastructure as a Service (IaaS) and Platform as a Service (PaaS) to describe their own products to the cloud consumer but they are widely different from each other. Cloud computing is sometime described as "converting expenses on capital to expenses on operating".

1)Reduced investment for building IT infrastructure and administrative cost for IT personnel: Cloud service technologies eliminate the requirement of company capital investment such as (Database Servers, Equipment and software licenses. The transformation of capital investment into operational expenses invoked exceeds small and developing enterprises to the open business market at its highest peak. Therefore, these enterprises can afford to hire resources and technologies, and initiate the equal position with peer to peer.

2)Possibilities of using modern ICT: ICT stands for information communication technology in which user utilizes as part of their life such as computer, tablet or mobile phone to send email, browse the internet, make a video call to communicate each other. Small business can't afford to purchase the latest version of software and pay licenses, but with the support of cloud technologies they have can be up-to-date applications.

3)Accessibility: Documents are accessible anywhere at any time, from different devices with different operating system and browsers.

4)Documents sharing and collaboration: Cloud office provision via opportunities for sharing documents, joint simultaneous work on them with options for tracking changes. All the opportunities demand on enterprises productivity.

C) Three obstacles for adopting cloud computing and possible solutions to the challenges.

Three obstacles for adopting cloud computing and possible solutions to these challenges:

The obstacles for adopting cloud computing:

Obstacles 1: Security and Compliance Concerns

When it comes to cloud, it's no surprise that security and compliance concerns are considered to be the number one barrier to adoption. The data collection statistics introduce that the public cloud environments are even more secure than its physical locations, with a mass majority of attacks inside the respective organization. So many cloud providers already introduce compliance programs for requirements policies, including HIPPA, PCI DSS, FEDRAMP, SOX and many others.

Obstacles 2: Support for Legacy System

The cloud is not a "by hand game", but in fact it requires a very strategic and thoughtful approach for implementation. So, what is the possibilities that can redesign your data center to accommodate technologies to serve overall businesses? The best way is the ability to quickly pivot and take new data center which is retard by lack of skilled administrations to facilitate. Cultivating critical skill sets like IT management and administrating, application migration, distributed architectures, automation and programming and others to find success in the field.

Obstacles 3: Budget Limitations

If cost vary is significant concern for your organization, should conduct through reviews of not only high pricing in cloud providers SLAs but also monitoring and management tools to track workload into its ease distribution. Without proper research and understanding between client and provider's services, features and associated charges then your organization might be paying a very large bill at the end of the first month. After being well

trained in a team and distribute the workloads then it will help you understand potential limitations, opportunities for improvement to the end-user experience or cost saving etc.,

Obstacles 4: Reliability

The enterprises are now so pathetic that they must be reliable and available to support of 24/7 operations. Each aspect of reliability must be carefully considered when engaging with a CSP, negotiated as a part of SLA and tested in failover drills. (Avram, 2014)

Advantages:

- Cloud computing can slow down IT barriers to innovation, as can be witnessed from the many promising startup by applying form the ubiquitous online applications such as Facebook and YouTube to more focused on TripIt or Mint.
- It makes even more efficient and reliable for enterprises to scale their service -which are increasingly on accurate information-according to client's demand.
- It gradually lowers the cost of entry for the small enterprises trying to obtain a beneficial from compute-intensive business analytics in a small amount of time for provisioning resources available even to the third world countries that have been so far left behind in the IT revolution (M.G.Avram, 2014).

Task 2

A) An introduction to any three cloud providers:

There are abundant cloud providers that provide cloud service to their cloud consumers either in respective or available for general public. One of the top three successful cloud providers are: Amazon Web Service (AWS), Microsoft Azure and Google Cloud.

1.AWS (Amazon Web Services):

The name of the company is AWS Inc Limited's. Amazon Web Service contain Infrastructures as a Service (IaaS) and Platform as a Service (PaaS). The AWS was launched in 2006 and its location regions has almost in 25 regions which makes available around 78 countries. It provides each propinquity to end customers instances, an AWS customer can use virtual machines and catalyst the replication of data in different zone to achieve highly ease and efficient infrastructure that can resist the individual server's failure or whole data center.

2.Microsoft Azure:

One of the most popular cloud providers in the today developing world is Microsoft Azure. Microsoft Azure was launched at the year of 2010 and available sources for almost around 140 countries to access through it. It has 90 compliance certificates and generate $35 billion dollars per annum. It offers its compute, storage, developer tools security, blockchain, functions and IoT etc. to provision service to the cloud consumer. Microsoft Azure offers a vast collection of service such as platform as a service (PaaS), Infrastructure as a Service (IaaS) and database storage service capacity.

3.Google Cloud:

The google cloud is most similar to AWS and Azure, Google cloud also provide cloud services in computing storage, security, database, virtualization and many more. Google Cloud Service are almost available in 20 regions with utmost 200 plus countries. It was introduced in May 2010.if cloud consumer consumes its service from cloud provider, then its consumer has to pay service fee monthly or annually to providers to gain access. Google Cloud computing services run on Infrastructure as a service (IaaS) such as Google Search, Drive, YouTube and Gmail which is a free of cost for general users, if it isn't sufficient then you can access its cloud service storage by purchasing more services. (Chand, 2021)

B) Discuss in detail any one Type of Service provided by the cloud provider.

As mentioned above, all three cloud providers such as AWS, Microsoft Azure and google cloud service, but in this topic the explanation of google cloud including terms of service, SLA and support offering will be described as follows:

1)Computing

- App Engine: It enables to build a host application on the similar system as the power Google applications offer fast development, administration, backups and scalability.
- Compute Engine: It offers flexible and scalable virtual computing machine to utilize CPUs, GPUs, or Cloud TPUs and provide analytic problems on Google computing and storage.

2)Storage

- Cloud storage: Its service is for storing and accessing the data Google's infrastructure. This service merge the scalability and performance with its advanced security.

- Persistent Disk: It is durable and provide Persistent Disk such as SSD and HDD that are attached to Google Cloud Platform to instances running in Compute Engine.
- Cloud File store: Cloud File store is a Google-oversaw versatile and exceptionally accessible shared document arrangement. The major reason for using cloud file storage is for sharing and tasks since it provides consistent capacity. Reasonable for big business applications need extremely durable, dependable shared stockpiling that can be gotten too over NFS or that utilization a POSIX-consistent record framework.

3)Databases

- Cloud Bigtable: It is efficient, fast, full control managed, highly no require SQL database. It's built to capture and store data ranging from 1TB to hundreds of petabytes.
- Fire store: No requirement of SQL document database for mobile and online apps to store, syncs, and queries data. Client libraries offer real-time synchronization and offline support while its security elements and associations with Firebase and Google Cloud Platform let designers assemble serverless applications rapidly.
- Cloud SQL: It is a web-based assistance that allows you to make, arrangement, and use social data sets in the cloud. A completely overseen administration stays up with the latest, oversees them, and manages them so you can zero in on your applications and administrations.

4)Networking

- Cloud CDN: To store HTTP(S) load adjusted material near your guests, Cloud CDN utilizes Google's around the world scattered edge points of presence.

- Cloud DNS: It is a superior exhibition, powerful, around the world, completely oversaw DNS arrangement that permits you to distribute and

oversee DNS records for your applications and administrations through a RESTful API (Carbon neutral, 2022).

C) Discuss the consideration factors when choosing the cloud provider.

There are some factors when choosing the cloud provider are as follows:

1)Service Quality and Its reliability

The main reason for pursuing Cloud provider for business is due to its reliability and Service quality. Service availability can trace records from a previous days, months and years as well as data information from its database center at any time. Business continuity and disaster recovery (BCDR) options i.e. (backup and recovery) can help to determine whether the cloud solution will meet severe reliability or not. Business may also need to check MOS (Mean Opinion Scores) before they decide their final selection.

2) Features and speed of innovation

So many businesses or enterprise are shifting their business solutions to cloud access more quickly and economically for communication and collaboration. Service providers provide features, speed of innovations, software development process ensure to those solutions will provide a competitive advantage for the long duration.

3)Analytics and Reporting

Business can track the business record and analyze important performance such as communications and collaboration tools usage by feature, date and time, and others requirements. In some scenarios, some cloud tools can replace compound data and expensive contact solutions, making reliable for small enterprises to serves better clients and manage employees even more effectively. (Frost & Sullivan, n.d.)

Report Conclusion

In the near future, the thought of storing data in physical storage may be one of the worst decisions that to be implemented. Cloud computing has changed the fundamental how it is implemented and how innovations are discovered. Individuals, scientist, teachers, executive, employees, students' solopreneur, entrepreneur won't need any hard drive servers or banks to store their data instead they can pay a fee for the cloud drivers when they need to store and access it. Cloud computing provides the benefits for the most of the users and Business, must to determine and examine the long-term partnership surplus, to adjust themselves with cloud service provider to meet their long-term objectives aim. For example, cloud computing provides business to more focused on their companies by reducing its required management of sensitive data and spend less on upgrading its software and maintenance. In conclusion, cloud computing is a recent technological development that has huge impact on the world for its modernization. (Anon., 2021)

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