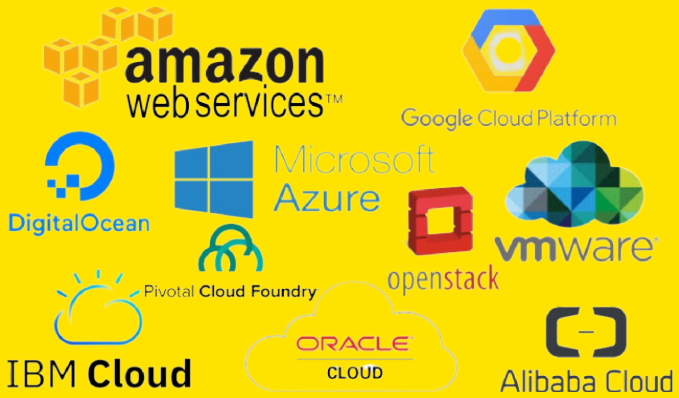
CLOUD COMPUTING
SERVICE PROVIDER

Date : 25 November 2021



Cloud computing is the act of satisfying a need by allowing access to a shared library of computing services on the internet such as storage, servers, applications and services. It mainly reflects on the principle of pay-as-you-go, meaning that consumers will only pay for the amount of usage and time they had consumed.

This access is mainly enabled through service providers like AWS, Azure, IBM Cloud, Google cloud platform, Oracle Cloud, and Alibaba Cloud. Apart from AWS which has been the leading service provider for the past years, there has been several other providers catching up and growing rapidly in the market:

	Expected change in vendor spend	Annual revenue	Implemented sections
Microsoft Azure (launched in 2010) which has been growing fast in the past few years starting in 2015 where they gained $880 million to 2019 with over 1000% change difference ($13 billion). According to a survey done by Flexera Azure has made the gap between it and AWS less with AWS' growth of 77% and Azura 73%. Azure is widely used all over 140 countries. There are several characteristics making Azura stands out such as being flexible, reliable, and economical. In addition, it comes with Microsoft windows OS and database SQL as a marketing attraction for costumers.	Significant Increase : 19% Significant Decrease : 3%	Over $60 billion	Machine Learning, AI, Governance, blockchain, etc.
Google cloud platform (launched in 2008) just like AWS and Azure, its services are implemented in diverse sections (e.g., identity, database, storage, AI, machine learning, etc.). One advantage of using Google cloud is that all other google products, for instance, Google Maps, and G suite comes with the platform. Unlike Azure, its popularity is only in 61 countries.	Significant Increase : 8% Significant Decrease : 3%	$4.9 billion (in the third quarter)	virtualizations, Security, database, Devops, etc.
IBM cloud (Launched in 2011) similar to GCP and Azure it consists of PaaS, IaaS, and SaaS and in several models whether it is private, public, or hybrid	Significant Increase : 4% Significant Decrease : 5%	$18.7 billion (in the second quarter)	Management, Security, Storage, AI, IOT, etc.
Oracle cloud (Launched in 2016) it has the cloud traditional models (IaaS, PaaS, SaaS) in addition to a model named DaaS which represents data as a service.	Significant Increase : 5% Significant Decrease : 4%	$28.7 billion	Storage, networking, Governance, DNS, Load balancing, etc
Alibaba Cloud (Launched in 2009) which despite being originally created to serve the needs of Alibaba e-commerce, it is currently available to the public. It is also the number 1 service provider in China	Significant Increase : 4% Significant Decrease : 3%	$9.18 billion	Networking, middleware, Analytics, Domains and Websites

CONCLUSION

The cloud computing is absolutely useful in several aspects and its advantages can be highlighted when compared with on-premise services because in cloud computing the consumer will only pay for the amount he used while in on-premise the consumer might pay extra charges that he is no need for. Cloud computing, moreover, has numerous advantages over on-premise, for example, less maintenance, more secure, less data loss, easier data recovery and much more. This is why most business have started altering to cloud computing and much more business are advised to do so. There is a plethora of cloud service providers who always compete to always upskilling their services and this consequently provide users with a more satisfying experience.

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CLOUD COMPUTING WITH AMAZON WEB SERVICES

27th NOVEMBER 2021

REFLECTION

DR. Qusay Al-Maatouk gave us a brief introduction on cloud computing and how Infrastructure as a Software with AWS is more flexible, quicker easier and more cost-effective than the traditional on-premises Infrastructure as a Hardware. Dr. Qusay Al-Maatouk gave us hands on example by starting a service by AWS, he showed us how easy it is to spun up a virtual machine with AWS, and how quickly it can be started and stopped, indeed it was a matter of seconds, Dr. Qusay emphasized on the cost-effective part of AWS, and he stressed on the fact that you only pay for what you use and if the budget is exhausted, AWS gives you the option to set a budget limit, so that when the limit is reached the service is automatically stopped, and you don't pay further

SUMMARY

To wrap up, Infrastructure as Software provided by AWS, is a more flexible, easier and for most situations more cheaper than the traditional way of buying all hardware and keeping them on-premises, as it eliminates the undifferentiated heavy-lifting tasks, like the provision of capacity usage and the requirements for the estimated traffic in the foreseeable future. AWS charges for only what you use and it can be easily stopped once your budget limit is reached. AWS also provides various deployment models, whether its cloud, hybrid, or your own private on-premise(private cloud) while using .AWS Software Services

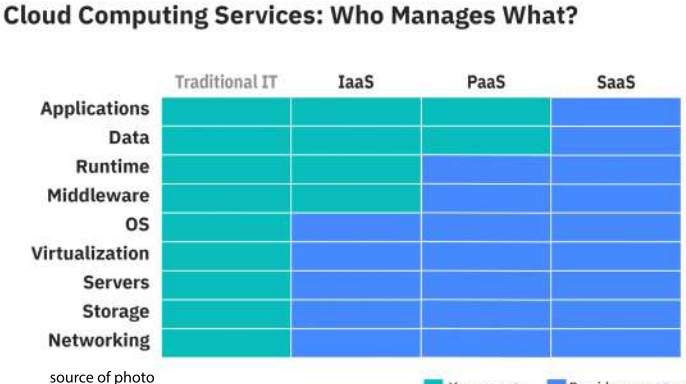
sources
https://dunhamconnect.com/blog
why-migrate-to-the-aws-cloud/
https://www.ibm.com/cloud
learn/iaas-paas-saas/
Notes taken from the slides of industrial talk3

source of photo
/https://logos-world.net/amazon-web-services-logo

HOW AWS SOLVES THE ISSUES OF ON-PREMISE HARDWARE SOLUTIONS

The traditional way of delivering computing power has always been to get your own hardware solution, on-premise also known as Infrastructure as Hardware, this solution came with drawbacks and challenges especially with regards to the capital expenditure, Infrastructure as Hardware requires you to pay for all the hardware upfront as well you will need to estimate the hardware needs for the increasing traffic of your application in the foreseeable future, this means until the estimated traffic is reached you will be paying for unused resources, which further contributes to the diseconomies of scale, and apart from the hardware requirements you will need to pay for, on-premises Infrastructure as Hardware requires physical space, staff, physical security, seasonal maintenance, etc.., which can be a burden on the budget of your company, and may risk the failure of your .business model

Cloud computing is the on-demand delivery of computing resources via the internet. One of the providers of on-demand cloud computing is AWS (Amazon Web Services); it provides what is also known as Infrastructure as Software. AWS gives you all the computing resources you need as software solutions, it removes all the estimation part that comes with the on-premises solution, and lets you pay for only what you use, this comes with huge benefits for the economies of scale, and removes all the need for the non-technical requirements, like space, staff, physical security as Amazon manages all these factors for you. AWS is more flexible as you can expand your plan to cope with the increasing traffic of your application. AWS gives you the option to have more control over the resources or less control, from Iaas (Infrastructure as a service), to PaaS(Platform as a Service) to SaaS(Software as a service



source of photo
https://www.ibm.com/cloud/learn/iaas-paas-saas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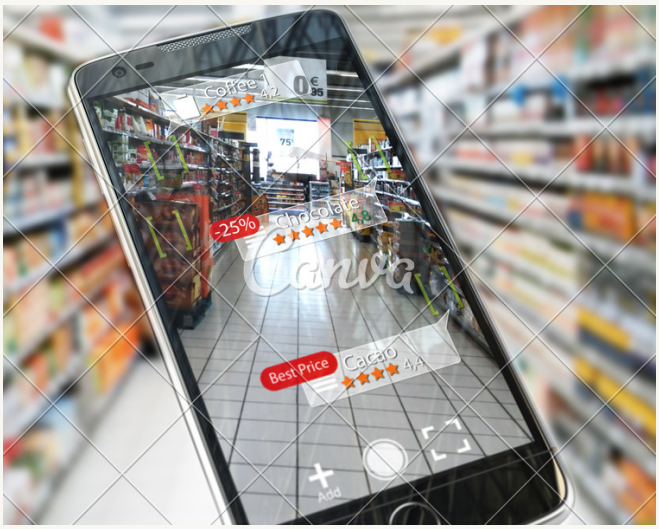
AUGMENTED REALITY

Newsletter by Group 1

- Nov 27th, 2021



REFLECTION

Augmented reality simulates real life situations, allowing user to experience cases that would otherwise be difficult or even impossible to achieve. For instance, AR can be used in surgical training, by adding radiographic pictures on live previews, it allows doctors to train effectively without putting the patient's health at risk. Moreover, it can be used in job training where errors would be expensive or dangerous, like oil and gas industries, which can be a huge issue for beginners without AR. Furthermore, it can be used for education. AR can make education really entertaining for students, allowing them to get better understanding and higher marks.

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SUMMARY

The Industrial Talk by OZEL Sdn. Bhd. by Dr. Ruzimi bin Mohamed @ Mahmood covers on the various aspects of the importance and true potential of Augmented Reality (AR). The technology of Augmented Reality is being implemented in every nook and corner of the country as we speak. The talk opens with the discussion about technology predictions in 2025 with the statistics provided by the World Economics Forum. Then, the future and expected revenue of Augmented Reality (AR) had also been discussed. For example, it was also mentioned in the talk that AR is so widely used, that it is also being implemented in billboards on highways. Not only that, but AR can revolutionize the study of Biology and Anatomy subjects as well. With the use of AR, students can see how certain medications can affect the human body. Furthermore, the talk has showcased a mobile application called IskandAR, which is an app where the basics of Islam is being taught by using sign language through the implementation of AR technology. The talk too further discusses about the types of AR, such as projection based and superimposition based AR alongside with some of their examples, such as how AR can be used for the creation of the metaverse, a virtual fitting room, an outdoor and indoor navigation and many more other things. Moreover, the ten main skills required for future jobs in the IR 4.0 niche, six common positions in AR work and also five key things to consider before choosing our career had been explained and elaborated in the talk as well. Lastly, the final thing highlighted in the talk was about three main things on what only humans can do, but robots can't, which are creative endeavors, social interaction and physical dexterity and mobility, which can become the key to future job creation. In essence, it is hoped that the advancement of AR does not only stop here, but will continue to advance more and more alongside with the Industrial Revolution 4.0 in the mere future.

ISSUES

- High Costs - It takes a huge amount of resources and effort to develop and maintain a functional AR. Thus, it is really expensive to build one.
- Lack of Privacy - Most of the applications using AR suffer from a lack of privacy, which is a massive security risk for users.
- Creative Endeavors - Humans can be artistic when implementing everything, from scientific researches to creative writing and business planning. While AR is based on logic and algorithm.
- Social interaction – AR doesn't have any internal emotions. This can be a huge problem when designing a system, as a whole interaction system would be created from the very beginning.

RESOURCES

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