IIIT DHARWAD
CS360-Introduction to Cloud Computing
MID TERM EXAMINATION

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ECE.

12/03/2021

(2) The Layers of cloud computing Services are.

1. IAAS (InfraStructure as a Service)
2. PAAS (Platform as a Service)
3. ~~Saf~~ SAAS (Software as a Service).

1. IAAS (InfraStructure as a Service):-

→ It provides cloud infrastructure in terms of hardware like memory processor speed etc.

→ The providers give low-level abstractions of physical devices.

Ex:- AWS is an Example of IAAS, GCE, Digitalocean. It provides EC2 for computing, S3 buckets for Storage etc.

2. PAAS (Platform as a Service):-

→ It provides Cloud application platform for the developers.

→ PAAS provider offers managed Services like Rails, Django etc.

Ex:- Google App Engine, Openshift, Apache Stratos.

These are the environments in which developers Can develop Sophisticated Software with ease. Developer just focus on developing Software, whereas Scaling and performance is handled by PAAS provider

3. SAAS (Software as a Service) :-

→ It provides Cloud applications which are used by the user directly without installing anything on the system. The application remains on the and it can be saved and edited in there only.

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→ provider offers an actual working software application to clients.

Ex:- Salesforce and Github

They hide the underlying details of the software and just provide the an interface to work on the system.

Cost effective:-

IAAS :-

It's an NON-ecommerce and also cost effective.

Justification:-

for, Example if we take EC_2 users, they don't own the physical servers, AWS provides virtual servers. So users only pay for the usage of the servers, saving them the cost (and associated ongoing maintaince) of investing in physical hardware.

(1) API:- (Application Programing Interface)

It's the interface b/w two applications to communicate with each other. An API delivers user response to a system and sends the system response back to the user.

They also allow us to share the imp. data and expose practical business functionally b/w the devices, application & individuals.

For example weather snippets:-

Rich weather snippets seem to be common place, found on all platforms, like google search, apple weather etc. For example if you search weather on google, you'll see a dedicated box at the top of the search results with the current weather conditions and forecast. Google isn't business of weather data, so, they source this information from a third party. They do so by means of an API.

(5) The cloud architecture is different from the traditional hosting in many ways.

→ In cloud architecture, the servers hardware is provided and maintanance to it is done by the service provider.

→ Users can draw the services they require over the internet eliminating the need to purchase any new hardware.

→ Users pay for the services they use. It does away the need to pay any fixed monthly plan fees in traditional hosting.

→ Cloud architecture is scalable on demand.
→ Cloud hosting is capable of handling workloads seamlessly without any possibility of failure.
→ Users can increase/decrease their resources depending on their ~~needs~~ business needs.
→ Cloud offers better data security and recovery from any natural disasters and human errors as it backups data over multiple locations.

(6) The purpose of elasticity is to match the resources allocated with actual amount of resources needed at any given point in time.
→ Scalability handles the changing needs of an application with in the confines of the infrastructure via statically adding/removing resources to meet applications demands if needed. In addition, scalability can be more granular and targeted in nature than elasticity when it comes to sizing.
→ Elasticity is the ability to grow or shrink infrastructure resources dynamically as needed to adapt to workload changes in an autonomic manner, maximizing the use of resources. This can result in saving in infrastructure ~~cost~~ cost overall.
→ Scalability includes the ability to increase workload size within existing infrastructure without impacting performance. These resources required to support this are usually pre-planned capacity with a certain amount of headroom built in to handle peak demand.

(6) Applications:-

→ Applications with uneven usage or spiked during periods, having built in plasticity and scalability is crucial.

→ Applications should be designed to detect variations in the realtime demand resources, such as bandwidth, Storage and compute power.

→ Most legacy applications have born developed to run on a single machine and require recoding to adapt for both the scalability and elasticity that the cloud provides.

(3) Commonly used cloud services are

→ EC2
→ S3
→ Dynamo dB.
→ Aws lambda.

All are parts of Aws which are used widely.

→ In EC2 we virtualize all the thing and can run with out a hardware machine

→ In S3 we can store our files & data & also we can keep a backup like Google drive.

→ In business point of view dynamodb can be used widely in fetching the details of employees and storing them.

→ Aws lambda can be used for hosting an webapplication or hosting and also used for triggering.

True, it's not economical because all the services offered by git hub are costeffective and also pay-per-use.

(4) "Scalable" and "elastic" infrastructure resources to efficiently handle the applications and also even being charged for services that are no longer used.