Roll No. 67

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SUB: CC

ASSIGNMENT: 2

ASSIGNMENT 2

Q5 Explain Cloud Club Model?

→ The cloud club model is a business model where a group of companies collabrate and pool resources together to build and operate a cloud computing platform. The idea is that by working together, these companies can leverage their collective resources to create a more robust and efficent cloud platform than any of them could build alone

In this model, each company involved in CC contributes resources such as server, Storage and networking equipment to the pool. They collabrate on software development and maintenance as well as sharing expertise in area such as security and data management

The benefit of CC include reduce cost, improved scalability and increased resilience By pooling resources the companies involved can spread cost of building and maintaining the cloud platform. and benefit from economies of scale They can also quickly scale up or down the platforms resources as need to meet changing Demand

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Q4 Explain Containerization and state differences between Virtual machine and Container?

Ans

a) Containerization is a method of operating system virtualization that enables multiple isolated user space instance, called containers to run on a single host operating system. Each container has its own runtime environment, including its own file system, libraries and networking configuration, but shares the same host kernal with other containers.

b) Containers are similar to virtual machines but there are some key differences between the two. Virtual machines emulate an entire computer system including the OS, hardware and drivers using a hypervisors. In contrast, containers run on a single host OS and share the same kernal

Some key Difference between Virtual machine and Containers are:

1) Resource Usage: Containers generally use fewer resources than virtual machine because they don't need to emulate hardware or run a separate operating system

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2) Isolation: Virtual Machine provide stronger isolation than containers because they run their own OS and have a dedicated virtual hardware. In contrast, container share the same host OS which can make them more vulnerable to attacks that exploit vulnerabilities in the host kernel.

3) Portability: Containers are more portable than virtual machine because they are smaller and have fewer dependencies. Containers can be easily moved from one environment to another such as from developer's laptop to a production server.

4) Management: Virtual Machines can be managed using traditional Hypervisor management tools while containers can be managed using container orchestration platform like kubernetes

Therefore Containerization is a lightweight virtualization technology that allow multiple isolated instances to run on a single host OS. While VM provides stronger isolation, containers are more light weight and portable making them a popular choice for modern application development and deployment

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Q2 Explain how Storage As a Service is different From Software as a Service?

Ans a) Storage as a Service (STaaS) is a model where a 3RD party provider offers storage infrastructure to customer over the Internet. The provider owns and manges the storage infrastruc-ter and custome can use the service to store and retrieve data from anywhere with an Internet connection. Customes typically pay for the storage capacity they use, often on pay-as-you-go basis.

b) Software as a Service (SaaS) is a cloud Computing model where a 3RD party provides offer software applications to customer over the Internet. The provider owns and manages the software infrastructer, and customer can use the service to access and use software From anywhere with an Internet Connection. Customers typically pay for the software on a subscription basis

In Summary the key difference between STaaS and Saas are:

1) Purpose: STaas provide Storage Infrastructer while Saas provide Software applications

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2) ownership: STaas is owned and managed by the storage provider while Saas is owned and managed by software provider

3) Pricing: Staas ~~is~~ pricing is based on storage capacity used while Saas pricing is based on subscription basis

4) Service Offering: STaas focuses on storage related services, such as backup and recovery while Saas focuses on software related service such as upgrade and support

In Conclusion STaas and Saas are 2 different cloud computing models that serve different purpose and offere different services to customer.

Q2 EXPLAIN NETWORK VIRTUALIZATION?

Ans Network Virtualization is the process of creating a virtual version of physical computer network. The virtual network can be then used to create multiple smaller networks that can be managed separately. It's like creating different room within a house that are separated from each other but all connected to the same power supply and internet connection

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This technology is useful in cloud computing because it allows cloud providers to create and manage multiple virtual networks that can be customized to meet the need of different customers. It makes it easier to manage complex network without having to worry about physical infrastructer and provide more flexibility, scalability and customization for cloud based applications and services

Q3 What is Walrus Storage Controller? Explain the working of this particular module in detail?

Ans The Walrus storage Controller is a component of the Eucalptus cloud computing platform which provides and open-source implementation of Amazon Web Services APIs. The walrus Storage Controller is responsible for managing and storing vm ie virtual machine image used in cloud infrastructer
The working of Walrus Storage Controller can be divided into 3 main parts;

Object Storage:
The Walrus Storage Controller provides an object storage servlet that can be accessed using Simple Storage Service (S3). User can upload

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and download data to and from the Walrus Storage Controller using standard S3 clients and the Walrus Storage Controller stores this data as object

Image management:
The Walrus Storage Controller is responsible for storing and managing the virtual machine image used in cloud infrastructer. When a user launches a new virtual machine instance, the Walrus Storge Controller retrieves the corresponding Vm Image and copies it to local storage of the hypervisor that is hosting virtual machine

Authorization and Authentication:
The Walrus storage Controller provides a secure mechanism for authenticating and authorizing access to storage services. Users must authenticate themselves using their credentials before they can access the storage service, and the Walrus Storage controller provides fine-grained access control to ensure that users can only access the data that they are authorized to see.

Therefore Walrus storage Controller is an important component of ~~Eucalyptus~~ Eucalyptus CC platform, providing object storage,

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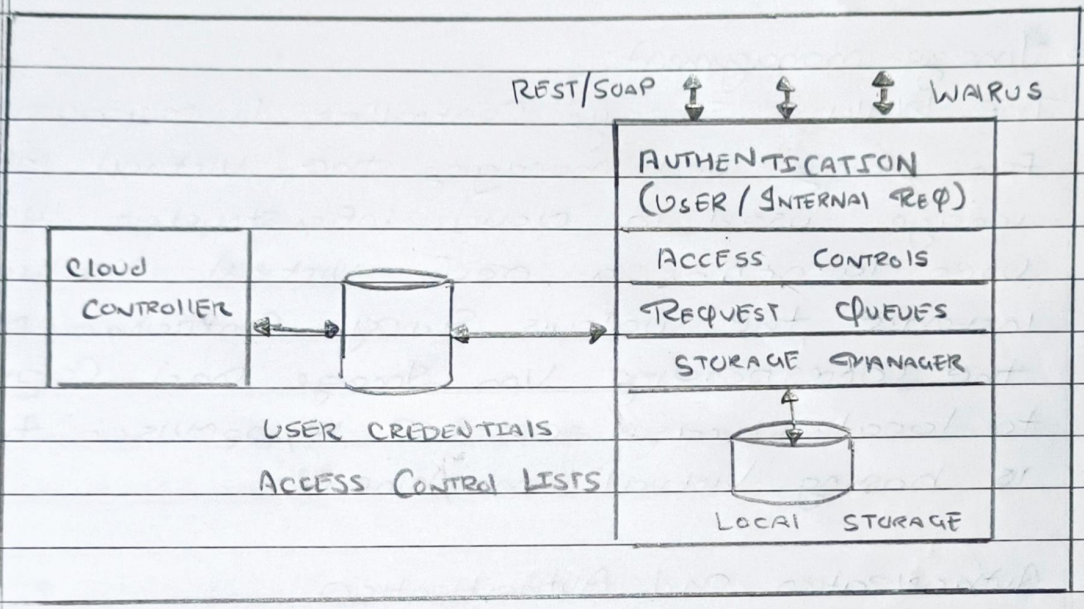
Image management and Secure authorization and authentication services. It plays a crucial role in managing and storing the V.M images used in cloud infrastructure.



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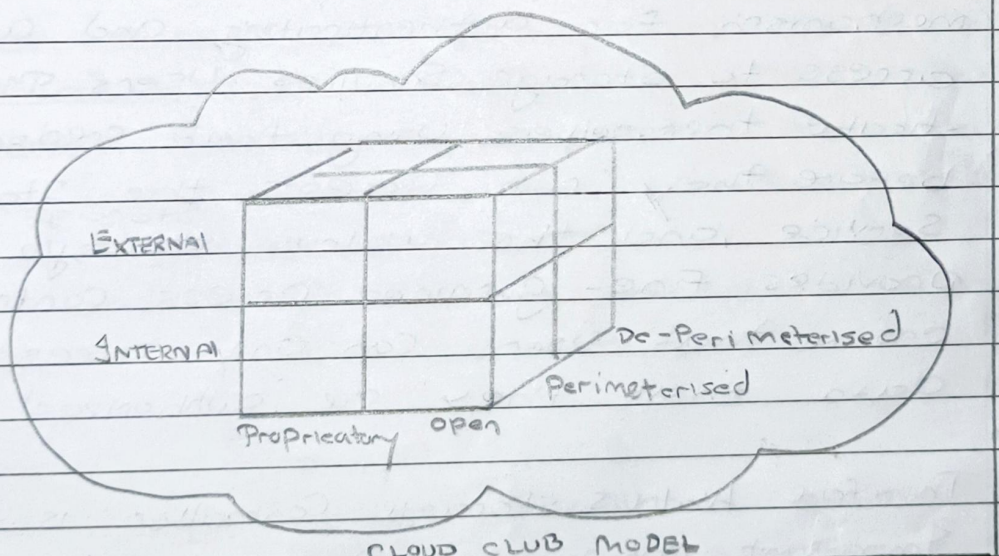

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