Experimental Cloud using Commodity Hardware

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September 27, 2019

Content

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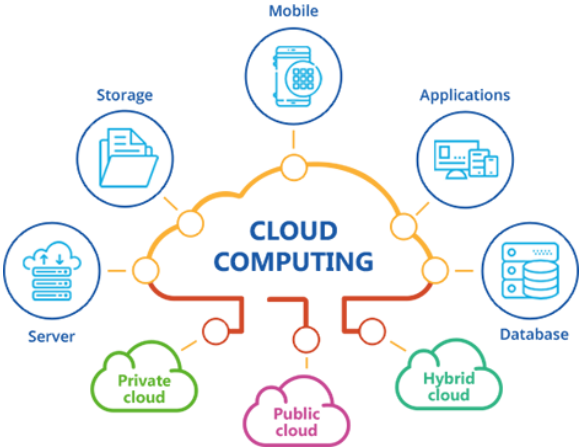
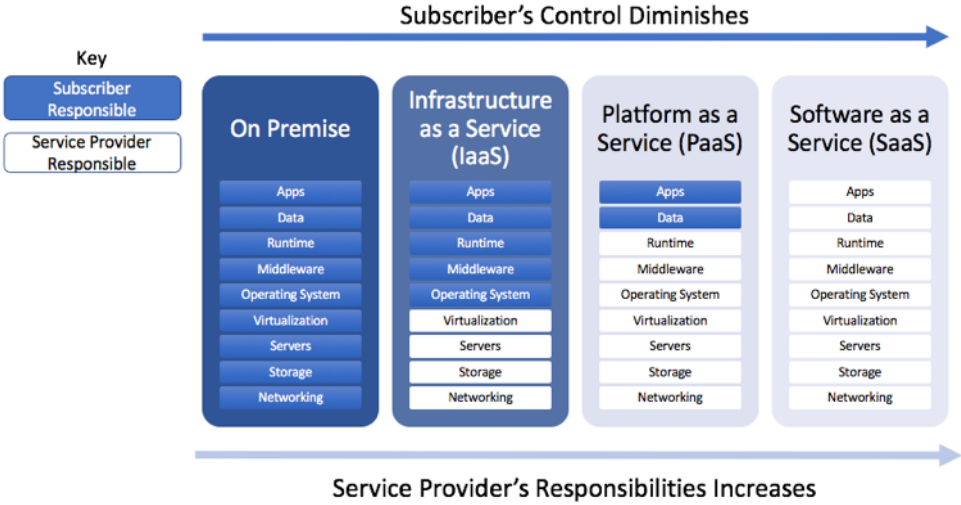
Cloud

Essentially, it is a term used to describe a global network of servers, which are hooked together and meant to operate as a single ecosystem.



Cloud Services



Pros & Cons

Pros

- Reduced hardware equipment for end-users
- Improved performance
- Lower H/W and S/W maintainence
- Instant software updates
- Improved disaster recovery
- Less expensive
- Accessibility

Cons

- Requires good internet connection & bandwidth
- Limited control on infrastructure

Problem Statement

Experimental Cloud using Commodity Hardware

The objective of this project is to create an experimental cloud by repurposing commodity hardware. The cloud we create would be made available to students as virtual desktops which may be used to host web services which can vary from simple static page to complex web applications.

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Metal-as-a-Service: MaaS

Bare metal cloud

Bare metal cloud is an environment in which physical, dedicated servers can be provisioned to customers with cloud-like ease and speed. Bare metal cloud customers are given access to the entire processing power of individual servers, as well as any storage, networking or other services they require.

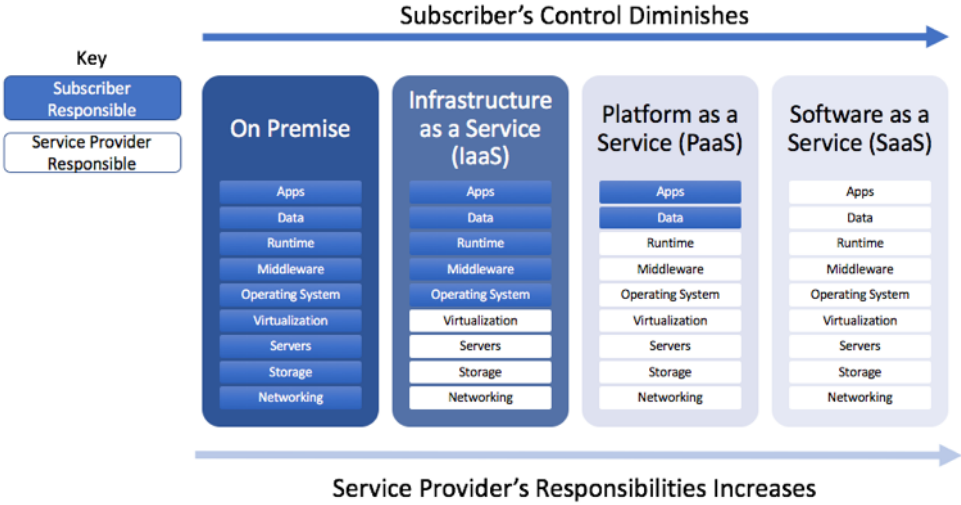
IaaS vs. MaaS

Is there any difference between IaaS & MaaS?

IaaS vs. MaaS

This depends on the view point.

IaaS vs. MaaS


Subscriber's Control Diminishes
Key
Subscriber Responsible
Service Provider Responsible
On Premise
Apps
Data
Runtime
Middleware
Operating System
Virtualization
Servers
Storage
Networking
Infrastructure as a Service (IaaS)
Apps
Data
Runtime
Middleware
Operating System
Virtualization
Servers
Storage
Networking
Platform as a Service (PaaS)
Apps
Data
Runtime
Middleware
Operating System
Virtualization
Servers
Storage
Networking
Software as a Service (SaaS)
Apps
Data
Runtime
Middleware
Operating System
Virtualization
Servers
Storage
Networking
Service Provider's Responsibilities Increases

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Major Milestones

1. MAAS based cloud in VENV
2. Hardware Assembly and Configuration
3. Deploying cloud server

Things that I learnt so far...

- Docker & Containerization (might need in future)
- MAAS (a provisioning construct created by Canonical)

Progress Report

MAAS in VENV

The problem statement is to repurpose the commodity hardware to create an experimental cloud. At present we don't have access to those hardwares hence we are conducting our experiments in a virtualized environment.

Justificativa: blocos

Block 1

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer lectus nisl, ultricies in feugiat rutrum, porttitor sit amet augue. Aliquam ut tortor mauris. Sed volutpat ante purus, quis accumsan dolor.

Block 2

Pellentesque sed tellus purus. Class aptent taciti sociosqu ad litora torquent per conubia nostra, per inceptos himenaeos. Vestibulum quis magna at risus dictum tempor eu vitae velit.

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Objetivos

Objetivo Geral

O objetivo geral é fazer um algoritmo para calcular expressão gênica a partir de uma parte da sequência de RNA

Objetivos Específicos

- Objetivo específico 1
- Objetivo específico 2
- Objetivo específico 3
- Objetivo específico 4

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Fundamentação Teórica

- Nós utilizamos essa abordagem
- Assim assim
- Assado

Fundamentação Teórica

Nesta **abordagem** nós fizemos bla bla bla

- Exemplo de item
- Exemplo de item

Theorem (Mass–energy equivalence)

$E = mc^2$

Content

Metodologia

Passos da metodologia

1. Statement
2. Explanation
3. Example

Explicando alguma coisa ... lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer lectus nisl, ultricies in feugiat rutrum, porttitor sit amet augue. Aliquam ut tortor mauris. Sed volutpat ante purus, quis accumsan dolor.

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Conclusão

- more work
- more responsibility
- more satisfaction

Agradecimentos

Agradeço a fulano, ciclano e beltrano que apoiaram o desenvolvimento dessa pesquisa.

Referências I

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