

Experimental Cloud using Commodity Hardware

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Content

1 Introduction

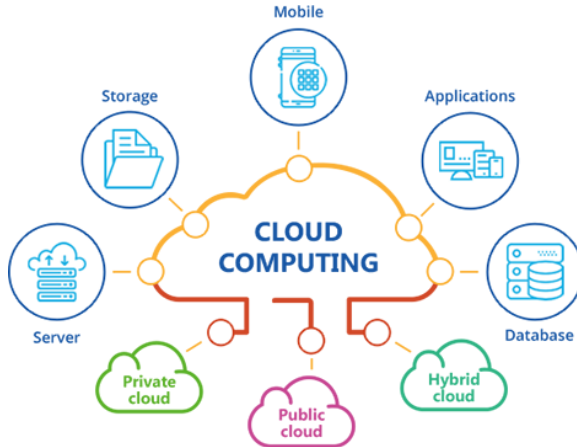
2 MaaS

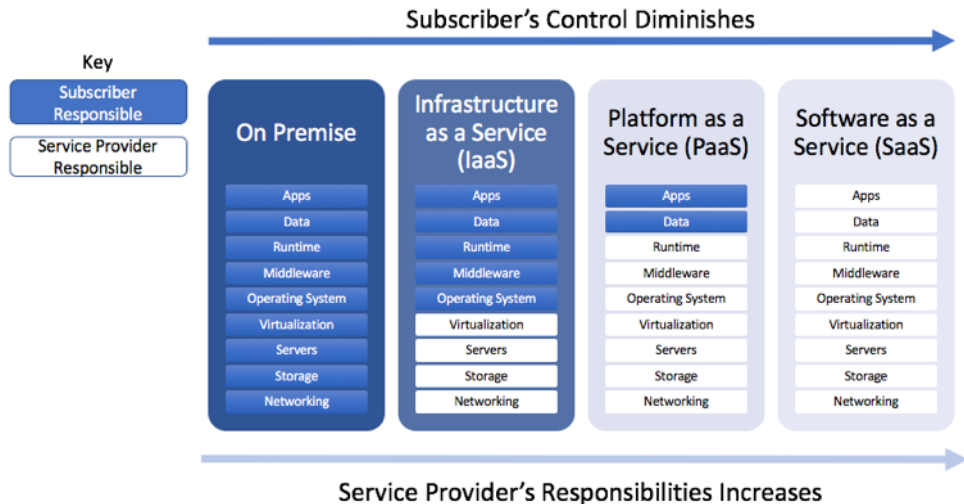
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Cloud

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.





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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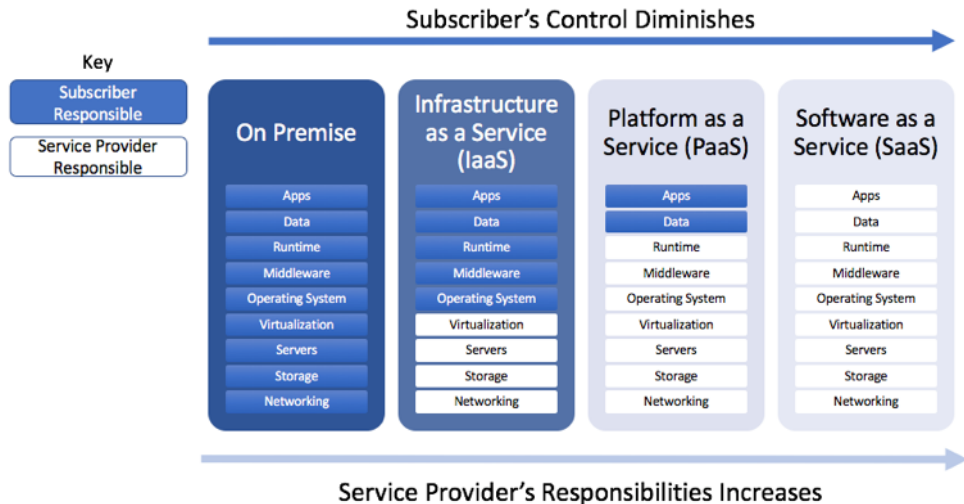
Bare metal cloud

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.

Is there any difference between IaaS & MaaS?

This depends on the view point.

IaaS vs. MaaS



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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)

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.

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Future Work

- Fix some occasional errors while commissioning nodes due to network and connectivity related problems.
- "In Production" maas based virtual cloud.
- Moving out of the virtual platform to physical racks and controllers.

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