# Experimental Cloud using Commodity Hardware

### Kaushal Kishore, Sandeep Chandran



Indian Institute of Technology, Palakkad – IITPKD

September 27, 2019

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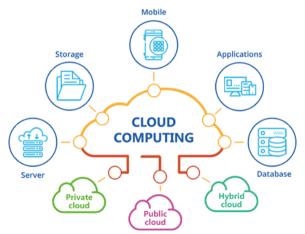


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# Cloud

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

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

Service Provider's Responsibilities Increases

# 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.

# laaS vs. MaaS

Is there any difference between laaS & MaaS?

# laaS vs. MaaS

This depends on the view point.

## laaS vs. MaaS

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

Service Provider's Responsibilities Increases

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# Progress Report

### 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

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# Fundamentação Teórica

Nesta abordagem nós fizemos bla bla bla

- Exemplo de item
- Exemplo de item

# Theorem (Mass-energy equivalence)

$$E = mc^2$$

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# Metodologia

#### Passos da metodologia

- Statement
- ② Explanation
- 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

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# Agradecimentos

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

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## Referências I



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