Private Clouds virtualization strategies

Proposta de Bolsa/Estágio na Altice Labs

ID do Projeto	2024/25_N61
Departamento	DMO
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IDI - Áreas Chave

Private Clouds, virtualization, hypervisors

Tema / Título

Private Clouds through virtualization strategies

Contexto

Private clouds are gaining traction as organizations seek customizable IT environments onpremises, as an option in their IT strategy. Virtualization plays a critical role in private clouds, optimizing resources usage, scalability and manageability.

Due to recent licensing cost changes of the market dominant products, organizations are looking for affordable alternatives solutions. In this context, this internship proposal focuses on exploring and implementing virtualization options for private clouds.

Objetivos do Projeto

- Gain a comprehensive understanding of virtualization technologies and their application in private cloud environments
- Research and propose virtualization hypervisors solutions, considering factors like technical features and cost efficiency
- Implementing the chosen virtualization solutions
- Automate virtual machines management and users self-service
- Document the findings, including a detailed analysis of the implemented solutions and their effectiveness in enhancing private cloud performance

Aspetos Inovadores

- Private cloud virtualization and hypervisors
- Automation of IT resources provision

Ferramentas a utilizar

- Scripting
- Terraform

Referências Bibliográficas

- https://learn.microsoft.com/en-us/virtualization/
- https://www.vmware.com/products/vsphere-hypervisor.html.html
- https://www.proxmox.com/en/

Atividades

- Conduct a literature review of virtualization core concepts: virtualization benefits, hypervisors, network virtualization
- Install and configure a Proxmox hypervisor
- Automate the creation of virtual machines, using scripting and/or infrastructure as a code tools like Terraform;
- Integration with an observability stack
- Integration with backup tools
- Write a final report with the main findings of the project.

Competências Chave Requeridas

- IT infrastructure;
- Computer networks;
- Virtualization;
- Good communication skills.

Orientador (nome e e-mail)

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