Cloud Computing
Group 4

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Cloud Computing Overview(Richard)

The purpose of Cloud Computing is to allow companies to move away from on-premise services IT-solutions and to rely on external sources. The three different types of those sources are IT infrastructures (IaaS), platforms (PaaS), and software (SaaS). This allows companies to not have to set up costly infrastructure at their workplace in order to utilize software on site. IaaS allows the client to have less of the software to have to manager themselves. In the case of SaaS, it's taken out off the client hands completely.

There's four types of cloud deployments. There's the public cloud, which is offered by third party providers and is available to anyone over the internet. The private cloud is only available to select users and thus is more secure, but requires traditional staffing and data maintenance by the client. A hybrid cloud uses a companies on premise data center to put into a private cloud, and connects that data to a public provider such as AWS and IBM cloud. A community cloud is a cloud environment shared amongst members of the same community. In other words, it is really more like a private cloud, but public amongst accepted community members. Typically, community clouds are only often used for fortune 500 corporations or government entities.

IaaS(Sendes)

- Explain what it is
- Identify a suite of products that would work for your example

What is an IAAS?

- IAAS or Infrastructure as a Service is a type of cloud computing service that offers essential computing, storage, and networking resources on demand, on a pay-as-you-go basis.
- Migrating your organization's infrastructure to an IaaS solution helps you **reduce maintenance** of on-premises data centers, **save money** on hardware costs, and **gain real-time business insights**.

Scenario Case 1 (IAAS) - A Course Teaching Platform (HelpCo)

- A company/business that requires most/all of their resources to be online
- A company that needs their resources accessible to their customers anytime and anywhere
- A company that doesn't know how many specific resources they'll need to account for ahead of time.

HelpCo is a course streaming platform that people use to learn specific industry based knowledge

They deal with services primarily on the internet, which means they need a place to store their resources.

This also means, these resources need to be highly secured, but still widely accessible.

And their system must be able to scale vertically and/or horizontally quickly to handle an influx of streamers (for example during a quarantine).

What Service is Best? - Answer (Google's GCP)

Reasons Include mostly security and cost:

- The Google Cloud Platform is a mixture between managed open source resources and the Google Cloud...compared to AWS which is heavily open source
- So the possibility of having resources leaked or stolen due to open source hacking is reduced (especially considering HelpCo's entire service is online)
- With cost in mind, GCP offers a 25% reduced cost for a 2 GB standard service package using 2 CPUs for $52 per month, with their largest package being 32 CPUs more than Azure and AWS while still being $1.47($5.32 per hour) less than Azure($6.79 per hour)
- AWS is ($3.97 per hour)

What Cloud Computing Type is Best?

HelpCo would benefit most from a hybrid cloud system.

- Due to the previously mentioned details with the streaming capabilities
- The security of having private date on **closed loop private systems**
- This relieves the GCP system from needing to secure confidential data (**Only streaming resources**)

Platform as a service (PaaS)

- PaaS provides a framework, over the web, for creating customized applications.
- The applications are maintained by the developers/owners.
- PaaS tools like database tools, development kits, servers, storage, hardware and software are provided by third party providers.
- PaaS is best when creating, for example, customized sales management application.
- Paas would enable customization, and help save time as the application can be quickly deployed. PaaS is cost effective and affords great flexibility, especially when you have many developers working on the project.
- PaaS would be public to make an application framework accessible to anyone interested in using the product.
- Some great suits of Saas products, for this project, are Salesforce sales Cloud, HubSpot Sales, FreshSales, Salesflare and Pipedrive.

Saas

What is Saas?

- Saas(Software as a Service) is the deliverance of complete software applications via the internet.
- They are usually in the form of subscriptions such as Google Workspace.
- All the user has to do is login and use the application while development and management is done behind the scenes by the provider.

Hypothetical

- A company that is looking for a fully enclosed software service that is outside of their scope would want to use a SaaS platform.
- For **example,** if my company is growing from a small startup to a mid-sized company, then iMessage group chats will no longer work for organized communication.
- **Why:** We will need a SaaS platform that specializes in communication like Slack to facilitate growth, without needing to heavily invest in the development and maintenance that we do not have the time and resources for.
- The **cloud type** would be public since all services are housed by the third party SaaS platform (Slack).
- It would use **AWS suite** because of its range of choices, better infrastructure, and scalability compared to services like Azure.

Sources

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