CLDV6221

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POE Part 1



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# D. Cloud Computing Basics

## Question 1

Background information

Looking at the resources provided by (s, 2025), we can understand firstly the definitions of on-premises and cloud deployment. This being that on premises involves all the IT infrastructure being managed onsite whilst Cloud computing allows on-demand access to IT services via the internet.

Considering the difference between these two ways of deployment, there is differences in security, deployment speed and resource management.

Security

“Cloud security focuses on safeguarding data stored in the cloud, while on-premise security focuses on protecting data stored within a business's own infrastructure.”

Taking the above into consideration after reading the article by Aztech, (Aztech, 2024), it shows how this difference in data storage means each method of deployment has its own set of unique security concerns. In cloud deployment the responsibility is shared between a business and its provider whilst on-premises is entirely controlled by the business itself. This is often why for example majority of Banks make use of on-premises deployment to limit access to their data and remain in complete control. The downside to this is that it is much more expensive compared to cloud considering the necessary infrastructure that needs to be in place.

Cloud has the advantages of shared responsibility and compliance support, whilst on-premises has the advantages of its full control and customization in terms of being able to apply internal policies on their security without having to necessarily comply with another business. After reading through the resources provided by (Amazon, 2025) and (Microsoft, 2025),when implementing security, a company could use the following based on their chosen deployment:

Cloud deployment: AWS IAM and Encryption

On-premises: Firewall and an Active Directory

Deployment Speed

With regards to (Toan, 2024), with the ability of having pre-configured settings, cloud deployment can be done faster compared to on-premises. This is due to the fact that on-premises deployment speed is based on how quick the installation and configuration of infrastructure can be done. Cloud deployment also has the advantage of fast provisioning, being the ability to create resources much more easily which further Increases deployment speed compared to on-premises which involves a lot more manual work in order to accommodate changes, considering the physical infrastructure changes.

If we were to make use of an example, it would be the following when looking at Deployment speeds:

Cloud deployment: make use of GitHub to and then, with regards to (Amazon, 2025),deploy it to AWS Lambda

On-Premises: compiling and moving code to a server which would the require a team to configure a Tomcat server to then deploy.

Resource Management

Cloud is easily scalable. This means depending on the necessary changes or requirements it can be flexible and accommodate it. This can not be said for on-premises as it is much more fixed. If changes are needed to be made, more infrastructure would be needed, and previously used equipment might have to be entirely changed based on the increase or decrease.

If a cloud deployment is chosen, it can be hosted on AWS and at peak times make use of more servers to accommodate the increase and then decrease the number of servers on of-peak time. If on-premises is chosen, the business would have to purchase what they estimate to be the right number of servers to accommodate their peak times. This amount cannot be changed unless servers a physically removed or added which thus makes it more rigid compared to cloud deployment.

## Question 2

Background

With reference to (IBM, 2021), we can firstly explain what IaaS, PaaS and SaaS are:

**IaaS**: Cloud-hosted physical and virtual servers, storage as well as networking. The main IT infrastructure responsible for running applications as well as work louds is based in the cloud.

**PaaS**: Complete (developing, running maintaining and managing) and ready-to-use cloud hosted platform for applications.

**SaaS**: Ready-to-use cloud hosted application software.

Understanding what each is allows us to identify key differences between the two, which has been identified in the below:

IaaS vs PaaS vs SaaS

**IaaS**

* We manage the Data, App as well as OS
* Provider manages the Network and Hardware

**PaaS**

* We manage the App and Data
* The provider manages the Hardware, runtime and OS

SaaS

* We are not required to manage anything, as a result the provider handles all the necessary tasks and data

Why should EventEase use PaaS?

PaaS is more tailored to developing a new application. As said by (IBM, 2021), PaaS more importantly hosts the servers for your development, testing and deployment as well as run times and development tools. This makes PaaS ideal for creating new applications with minimum risk testing. This also leads to an application being released quicker into the market as development teams can easily collaborate, develop and test their application.

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