**Cloud Service Model Comparison**

***Advance Cloud Computing***

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# Introduction

# Most of the organizations now purchase and utilize technology differently because of cloud computing. There are three major cloud computing services models Infrastructure as a Service (IaaS), Platform as a Service (PaaS) and Software as a Service (SaaS), each of them have a distinct function. This study gives an appropriate example and describes each model, emphasizing the differences in particular.

# Definitions

### Software as Service:

SaaS platform allows software applications over the internet, which allows users to access them via web applications. This model discards the need for local installation and maintenance, as providers handle updates and security. SaaS is ideal for businesses seeking streamlined operations without the overhead of traditional software management.

### Platform as Service:

### The developers will be able to create, launch, and manage programs without having to worry about the underlying infrastructure. Database management systems and integrated development environments are among the application development technologies increases the development process's efficiency and speed.

### Infrastructure as Service:

Virtual computer resources are made available via the Internet by IaaS. This paradigm provides enterprises with flexibility and control over their IT environments by granting users access to basic resources like servers, storage, and networks. Scaling resources in accordance with needs is beneficial.

# Key Differences

### Control and Management:

* SaaS: Minimal control; providers manage everything.
* PaaS: Users control application development while providers manage infrastructure.
* IaaS: Maximum control; users configure and manage their resources.

### Target Users:

* SaaS: End-users needing ready-to-use applications.
* PaaS: Developers requiring a platform for application development.
* IaaS: IT administrators needing flexible infrastructure solutions.

### Use Cases:

* SaaS: Email services, CRM, collaboration tools.
* PaaS: Application development in agile environments.
* IaaS: Virtual servers, storage solutions, backup systems.

# Examples From Real World:

### Software as Service:

* Dropbox: A cloud storage solution that allows users to store and share files from any device, all managed by the provider.
* Slack: Collaboration platform for team communication which does not need to be installed and maintained by a service provider.
* Adobe Creative Cloud: A portfolio of creative applications offered as SaaS gives users access to tools with automatic updates and cloud storage.

### Platform as Service:

* Red Hat OpenShift: A containerized application platform that allows developers to build and manage applications without worrying about infrastructure.
* IBM Cloud Foundry: Platform for rapid application development It provides developers with integrated tools and environments.
* Oracle Cloud Platform: It provides services for application development, integration, and analytics. To improve the development process.

### Infrastructure as Service:

* **DigitalOcean**: Delivers scalable computing resources through virtual machines. It allows users to manage their infrastructure.
* **Linode**: Provides virtual cloud servers that users can configure and manage It is an example of the flexibility of IaaS.
* Amazon Web Services (AWS) EC2: Amazon's Elastic Compute Cloud (EC2) provides scalable computing capacity in the cloud.

# Conclusion

To conclude, all these three module serve distinct functions in cloud computing. The ready to use system available as software applications are known as SaaS, development platforms are provided by PaaS, and fundamental infrastructure resources are provided by IaaS. For enterprises to select the best cloud model for their requirements, it is critical to comprehend these variations.

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