

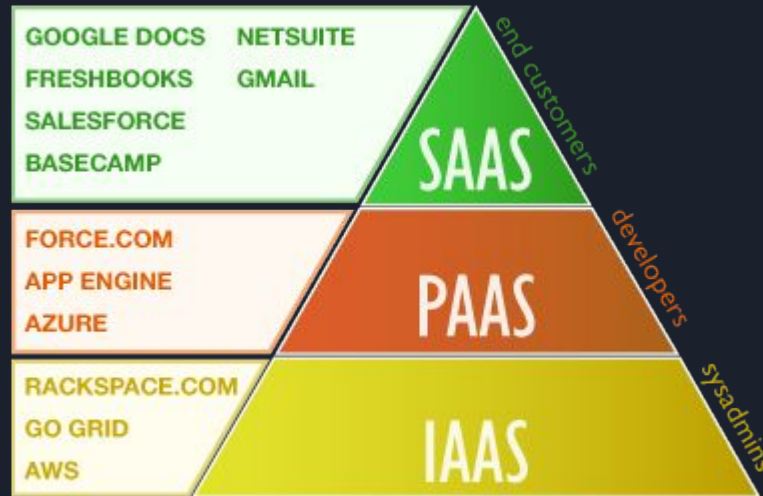


Cloud Services

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Types of Cloud Services

- IaaS (Infrastructure as a Service)
- PaaS (Platform as a Service)
- SaaS (Software as a Service)





IaaS (Infrastructure as a Service)



With IaaS, you rent IT infrastructure (servers and virtual machines (VMs), storage, networks, operating systems) from a cloud provider on a pay-as-you-go basis. IaaS quickly scales up and down with demand. IaaS helps you avoid the expense and complexity of buying and managing your own physical servers and other datacenter infrastructure.

Infrastructure as a Service is designed for customers in need of a temporary platform that supplies virtualization, servers, storage, and networking. Customers can rent these infrastructures, which are scalable (up or down) in size and complexity. Customers can rent these infrastructures only for as long as they need them.

Organizations use their own platforms and applications within a **service** provider's **infrastructure**.

Example: IBM Cloud





IaaS (Infrastructure as a Service)

Example: Startups with small amount of in house servers

Why is IaaS the best service for this situation?

IaaS also lowers the financial and logistical barriers for startup businesses to enter the market and push their products and services to customers in a fraction of the standard timeframe. The IaaS model allows startups to start small and grow to any size on the pay-as-you-go plan. There's not a huge outlay of capital on hardware and FTEs that traditionally built businesses have experienced.

Another advantage of IaaS is rapid innovation. For example, if you have an idea for a new service today, you could spin up a virtual test infrastructure for a few hundred dollars, test your service, demo your service and deploy a working business model in a matter of days instead of months.



IaaS (Infrastructure as a Service)

Example: Startups with small amount of in house servers

Is a private, public or hybrid cloud best for this situation?

A public cloud would decrease complexity and be readily available for a startup with low existing server infrastructure



PaaS (Platform as a Service)

Definition:

A PaaS vendor provides hardware and software tools over the internet, and people use these tools to develop applications. PaaS users tend to be developers.

Example:

1. Heroku

Users of PaaS services are able to deploy consumer-created or acquired applications onto the cloud infrastructure.

The users do not manage or control the underlying cloud infrastructure including network, servers, operating systems or storage. Instead, their developers focus on managing the applications supported by the deployed platform.



PaaS (Platform as a Service)

Example: **Microsoft Azure**

Why is PaaS the best service for this situation?

Best because we can use them without worrying about setting up or managing the underlying infrastructure of servers, storage, network, and databases needed for development.

Concrete service from a real world cloud provider (Azure, AWS) meeting this need:

Their PaaS offering includes all the standard features, for e.g., infrastructure, servers, storage, networking, security solutions, middleware, OS, databases, runtime environments, analytics, and development tools.



PaaS (Platform as a Service)

Example: For developers to quickly create web or mobile apps

Is a private, public or hybrid cloud best for this situation?

A hybrid would be best for this situation because application code can be kept in house to prevent security leaks of the application code



SaaS (Software as a Service)

SaaS is a service that is oriented towards the development and deployment of software and development across the internet. With the SaaS structure, cloud providers' experts manage the software application, maintenance, upgrades, security, and infrastructure. The role of the user with SaaS is simply to connect to the cloud provider's application and access its features.

Instead of installing software directly onto your computer, programs are available through a website or app.

Example: Salesforce

Customer relationship management (CRM) platform,

Keeps track of company data related to sales



SaaS (Software as a Service)



Example: Using calendar and office tools such as Office 365 instead of installing Office suite on every computer in the company

Why is SaaS the best service for this situation?

It decreases the amount of memory dedicated to office software and decreases money spent on setting up installation on multiple computers. Instead of a complicated installation process, users can just click a link and have access to needed office software

Concrete service from a real world cloud provider (Azure, AWS) meeting this need:

Office 365 subscriptions available to companies/universities



SaaS (Software as a Service)

Example: Using calendar and office tools such as Office 365 instead of installing Office suite on every computer in the company

Is a private, public or hybrid cloud best for this situation?

A public cloud service would reduce resources spent developing in house applications to be delivered over the cloud



Any questions?

