

# THE 4 TYPES OF CLOUD COMPUTING SERVICES



The types of cloud computing services vary but using the cloud has become the “Gold” standard for enterprises to access IT infrastructure, hardware, and software resources. It offers a big shift to the way businesses think about IT resources.

Cloud Computing is all about the delivery of computing services like databases, software, analytics, servers, storage, networking, and intelligence. For many enterprises the cloud offers flexible resources, economies of scale, and faster innovation.

According to **Gartner**, the cloud services market is anticipated to grow by

**17.33%** in 2019...

...reaching **\$206.2 billion**,

compared to **\$175.8 billion** in 2018.

## WHAT IS CLOUD COMPUTING?



Cloud technologies have transformed how organizations procure and manage infrastructure. ExitCertified has partnered with all of the major players in public cloud training, including AWS, Microsoft Azure, Google Cloud, IBM, and Oracle. We also [support private and hybrid cloud training](#) on tools and frameworks like VMware, Cloud Foundry, OpenShift, and OpenStack.

### THE TOP CLOUD COMPUTING SERVICES



Cloud Computing services are changing the way information technology is being used by public institutions and private organizations. Today, there are a variety of cloud computing services to fulfil almost any IT requirement. Organizations typically pay only for the cloud service they use, helping them reduce operating costs and run infrastructure more efficiently.



With every organization today entering the cloud world, it is essential to understand the different types of services cloud computing offers. Although there are many types of cloud computing services, all these services have a few basic features and advantages in common and can be categorized into four basic cloud service offerings. Organizations can fly their business, small or big, to the cloud with these four different types of cloud computing services.

## 1 INFRASTRUCTURE AS A SERVICE (IAAS)



The lower end of managed cloud computing services where hardware resources are provided by an external provider and managed for you. IaaS provides users access to computing resources such as networking, processing power and data storage capacity.



IaaS helps users to use computing power or virtual machines without labor-intensive hardware investments or server management. Physically, the hardware resources are pulled from a variety of networks and servers distributed across different data centers, all of which are managed and maintained by the cloud service provider.



For example, say a user wants a Linux system, with IaaS he will get access to it without having to worry about the networking of the machine on which Linux is installed or the physical system.



IaaS is beneficial for customers who want to create cost-effective and highly scalable IT solutions where the expenses and complexities involved in managing hardware resources are outsourced to a service provider. Most of the IaaS packages include servers, networking, storage, and virtualization components while the users are responsible for installing and maintaining databases, OS, applications, and security components.

**Example of IaaS:** Amazon EC2, Windows Azure, Rackspace, Google Compute Engine.

### FEATURES AND BENEFITS OF IAAS CLOUD COMPUTING SERVICE

- ✓ A typical infrastructure as a service offering saves both time and money as the underlying hardware set up and support is provided by the service provider.
- ✓ Resources are available on demand as and when required so there is no wastage of any unused resources and no delays on adding any resources.
- ✓ Utility-based pricing model i.e. pay only for the resources you actually use.

## 2 PLATFORM AS A SERVICE (PAAS)

This cloud computing service is an advanced version of IaaS. Apart from just providing the IT infrastructure, PaaS also provides the computing platform and solution stack as a service. PaaS is a cloud computing service that provides developers with a framework that can be used for building custom applications. Platform as a Service lets software developers build custom applications online without having to worry about data storage, data serving, and management.



### A TYPICAL PLATFORM AS A SERVICE OFFERING CONSISTS OF

- Hosting Solutions
- OS
- Software tools for design and development.
- Environment for server-side scripting
- DBMS
- Network Access
- Storage
- Server Software
- Support

Examples of PaaS solutions include

- Microsoft Azure
- AWS Elastic Beanstalk
- Force.com. by Salesforce
- Google App Engine
- Rackspace Cloud Sites
- OpenShift
- Apache Stratos

### FEATURES AND BENEFITS OF PAAS CLOUD COMPUTING SERVICE

- ✓ PaaS makes software development easy even for non-experts as anybody can develop an application through the web browser with just a single click functionality.
- ✓ There is no need for the users to upgrade or update the infrastructure as the PaaS service provider handles all the update patches, upgrades, and regular software maintenance.
- ✓ PaaS provides location independence as developers in different locations can work together on the same application build.
- ✓ There is no need to invest in physical infrastructure or in expertise required to manage it. The ability to rent virtual IT infrastructure brings in great cost benefits for the users.

## 3 SOFTWARE AS A SERVICE (SAAS)

A special cloud computing service that incorporates both IaaS and PaaS service offerings. SaaS is a cloud computing service that provides application-level services tailored to diverse business needs such as [business analytics](#), CRM, or marketing automation. SaaS is a cloud computing service offering that provides web-based software applications to customers on-demand. SaaS providers host a fully-functional application through a browser-based interface and make it accessible to the users through the Internet.

SaaS offerings allows the cloud to be leveraged for software architecture thereby reducing the overhead of support, maintenance, and operations as the applications run on systems belonging to the vendor. SaaS is the most familiar cloud computing service offering as users most often interact directly with SaaS applications like Netflix, Gmail, JIRA, Dropbox, or Salesforce.

SaaS is a subscription-based offering where users subscribe to software on a monthly basis instead of purchasing it so there are no upfront costs involved. It also provides a provision to the users to end the subscription when it is no longer needed.

**Examples of SaaS solutions include**  
SAP Business ByDesign, Zoho CRM, AppDynamics, Microsoft Office 365, Pardot Marketing Automation



### FEATURES AND BENEFITS OF SAAS CLOUD COMPUTING SERVICE

- ✓ There is no initial setup cost as the users can make use of the application as soon as they subscribe. There is no hardware cost as well because the processing power is supplied by the service provider.
- ✓ Flexible payments as the users pay for the services on a pay-as-you-go model.
- ✓ Any updates to the software are automatic and free of charge.
- ✓ SaaS provides cross-device compatibility because SaaS applications can be accessed through any internet enabled devices, such as laptop, smartphone, or desktop.
- ✓ Enterprises need not engage an IT expert to download the software on multiple systems in the office nor have to worry about the keeping the software up-to-date on every PC.

## 4 FUNCTIONS AS A SERVICE (FAAS)

Before we understand Functions as a Service, it is important to understand the most popular tech term associated with FaaS – serverless computing. Serverless computing is a cloud computing model that takes away low-level infrastructure decisions and server management from the developers. The application architect need not deal with the allocation of resources as it is managed by the cloud service provider.



FaaS is a brand-new and very young cloud computing service acting as a game-changer for many businesses. It is a serverless computing concept that lets software developers develop applications and deploy an individual “function”, piece of business logic, or an action without maintaining a server. It increases the efficiency as developers need not to consider server operations because they are hosted externally.

- Examples of FaaS include**
- Google Cloud Function
  - Microsoft Azure Functions
  - Webtask.io
  - Iron.io
  - Open Whisk
  - AWS Lambda

### FEATURES AND BENEFITS OF FAAS CLOUD COMPUTING SERVICE

- ✓ Money is never wasted on inactive resources as users are billed depending on the amount of functionality used.
- ✓ Makes developers efficient as they can focus more on writing application-specific logic rather than having to deal with the server logistics.
- ✓ FaaS code is inherently scalable and fault-tolerant.

### CLOSING THOUGHTS

Every business can benefit from one or more cloud computing services as they help improve efficiency and cut-down costs. Businesses can adopt one or more cloud computing services based on their requirements, areas of expertise, business processes, and other priorities. A key consideration point when choosing a cloud computing service provider is to do enough research to understand business requirements and find providers who can offer desired cloud solutions that will work perfectly based on the requirements.

For those interested in learning more about cloud computing services, ExitCertified offers [several cloud training courses](#) in collaboration with major public cloud providers like IBM, Google Cloud Computing, AWS, Azure, and Oracle that can help you upskill with the latest cloud computing tools and technologies.

Download the ExitCertified whitepaper, “[How to Ensure Maximum ROI on IT Initiatives with the Right Learning Partner](#)” to discover how a learning partner can support you in all stages of planning, implementing, and enabling high-quality training that aligns business and IT initiatives.

### ABOUT EXITCERTIFIED

Since 2001, ExitCertified has been a trusted name in education, providing IT training and certifications from the brands you trust and delivering vendor-approved content unsurpassed in quality. By partnering with ExitCertified, you get to choose from more than 9,500 courses for 45 different technologies; learn from award-winning, certified instructors backed by a Fortune 100 company; and leverage one contact for all your IT training needs.

To learn more, visit [exitcertified.com](http://exitcertified.com)

