Table of Contents

What Is Cloud Computing?

Cloud computing refers to the on-demand delivery of information technology (IT) resources via the Internet with pay-as-you-go pricing. Instead of buying, owning, and maintaining your own data centers and servers, organizations can acquire technology such as compute power, storage, databases, and other services on an as-needed basis.

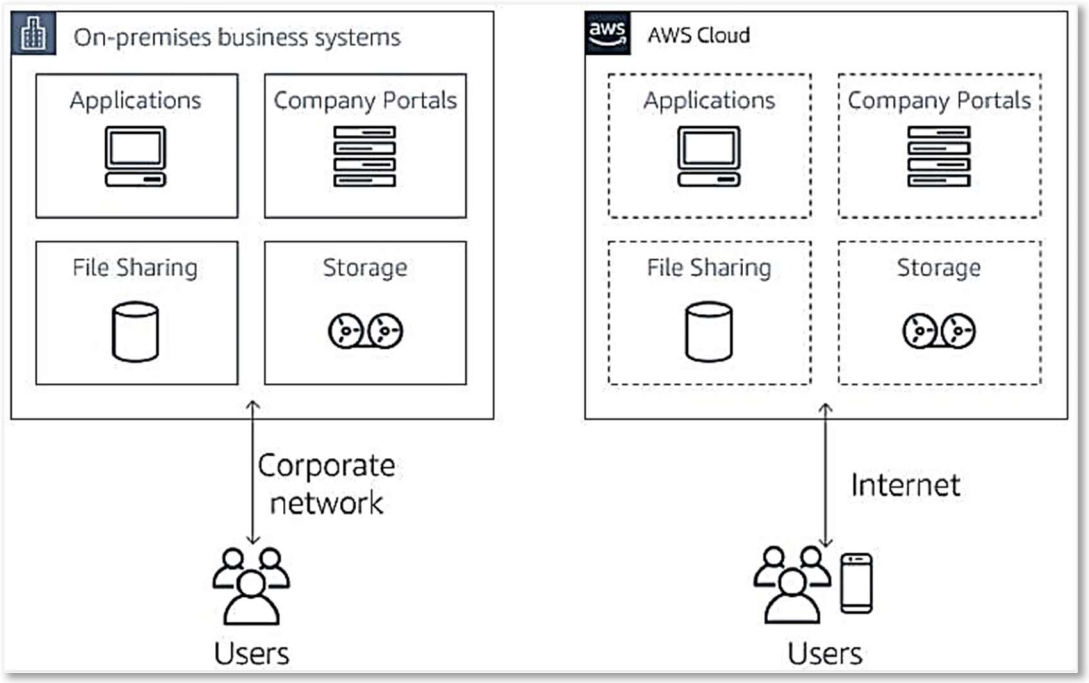
Think of how you can flip a switch to turn on lights in your home and the power company sends the electricity. It's like that.

On-Premises Infrastructure Versus Cloud Computing

In a traditional IT environment, all the physical components required to run your systems are owned, operated, maintained, and housed on-premises. However, hardware requires a large up-front investment to procure and continual expense and effort to maintain. The cost, complexity, and time required to expand or alter an on-premises infrastructure can slow or even stop you from experimenting with new processes or systems.

Cloud computing has become the ideal solution to achieve those needs.

In an on-premises environment, you connect and log on to the corporate network to access resources such as applications, file sharing, and storage. With cloud computing, virtual technology provides access to the same or similar IT resources through the Internet.



Which Cloud Computing Model Is Best for You?

Now that you have decided to move to the cloud, you must decide which cloud computing deployment model is best for your project. Based on budget and company policies, every deployment has to follow a

set of predetermined guidelines. This can include internal or external governance requiring sensitive data to be stored in-house, or technical challenges that do not allow for a fully deployed cloud solution.

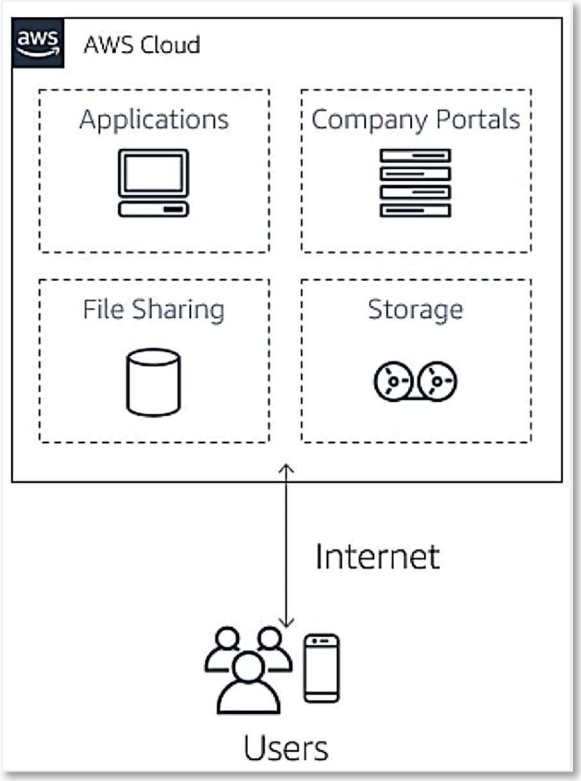
The cloud computing deployment models include:

- Cloud
- Hybrid
- On-premises or private cloud

Each of the cloud computing deployment models allows for a solution that provides you with different levels of control, flexibility, and management.

Cloud

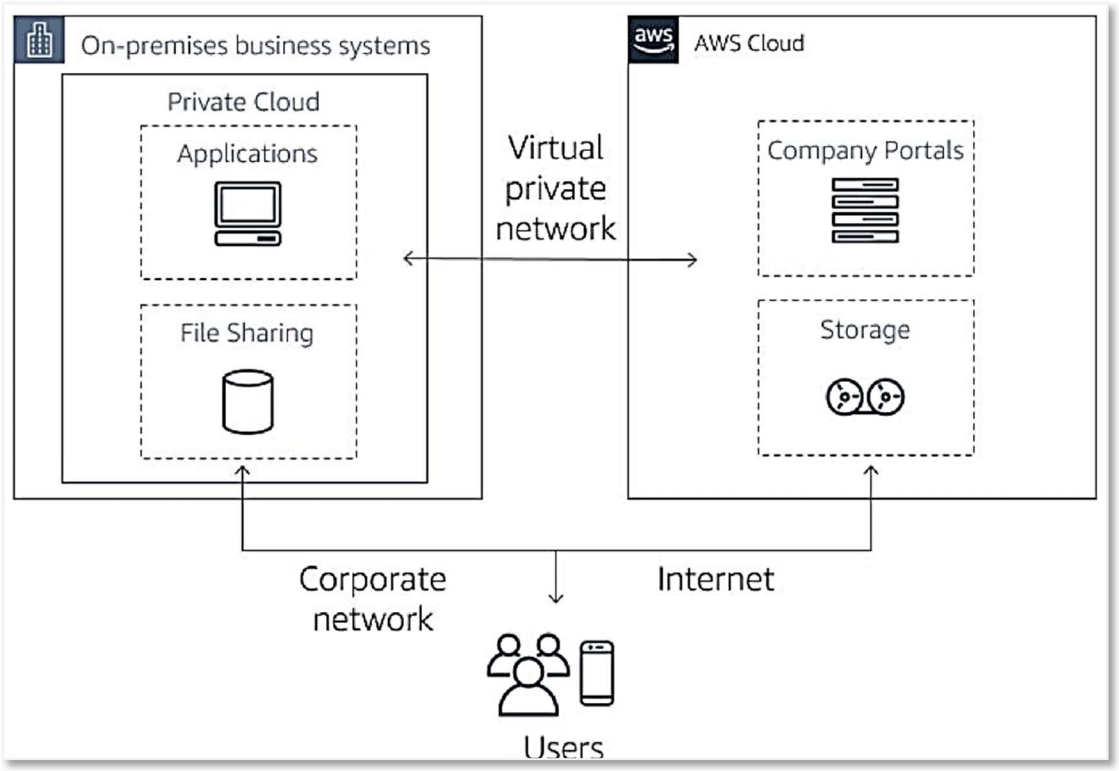
A cloud-based application is fully deployed in the cloud. Applications in the cloud have either been created in the cloud or have been migrated from an existing on-premises infrastructure to take advantage of the benefits of cloud computing. Cloud-based applications can be built on low-level infrastructure pieces like file sharing and storage, or can use higher level services where you don't need to worry about infrastructure management, architecting, and scaling requirements.



Hybrid

A hybrid deployment is a way to connect infrastructure and applications between cloud-based resources and on-premises systems. This type of model can extend and grow your infrastructure into the cloud while connecting to internal systems through secure network connections.

At the most fundamental level, hybrid can be viewed as having data that resides both on-premises and in the cloud. This is often done to economically store large amounts of data, use new cloud-native databases, move data closer to customers, or to create a backup and archive a solution with cost-effective high availability.

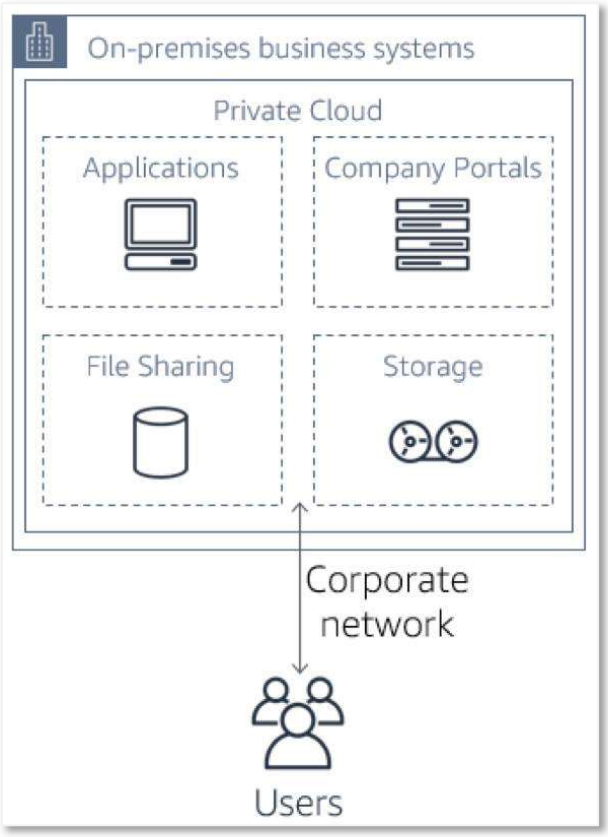


On-premises

Deploying resources on-premises, by using virtualization software and resource management tools, is also called **private cloud**. An on-premises deployment does not provide many of the benefits of cloud computing (which are discussed later in this module). However, it's sometimes preferred for the ability to provide dedicated resources at your physical location.

In this model, you carry the burden of all operating expenses of the deployment. These expenses can include IT infrastructure upkeep, software licensing, and the people needed to manage the physical infrastructure.

In most cases, an on-premises deployment model is the same as with legacy IT infrastructure. But it has the added complexity of using application management and virtualization technologies to try and increase your return on investment.



Cloud, hybrid, and on-premises deployments are all cloud computing deployment models that you can choose to deliver resources to your users.

Stop Spending Money Running and Maintaining Data Centers

Maintaining an on-premises data center is expensive and complex. Whether you own or rent data center facilities, you still need to manage investments such as servers, storage, networks, and IT staff, to name a few.

Cloud computing essentially moves the traditional data center to the cloud and reduces or even eliminates the need to manage those elements mentioned above. In other words, cloud computing enables you to focus on your customers' needs without the heavy lifting of running data centers.

The AWS Total Cost of Ownership (TCO) Calculator compares the cost of running your applications in an on-premises environment to AWS. A link to the TCO Calculator is available in the Resources section at the end of this unit.

AWS Total Cost of Ownership (TCO) Calculator

Use this new calculator to compare the cost of your applications in an on-premises or traditional hosting environment to AWS. Describe your on-premises or hosting environment configuration to produce a detailed cost comparison with AWS.