

Cloud Computing

From floppy disks to CDs to USB flash drives, file saving and sharing has undergone a significant evolution over the past decades. The devices to share files are becoming smaller and have higher capacities, increasingly destined to serve an on-the-go lifestyle.

Today you no longer need to save all your documents on one particular device. Instead, you can access your files from any terminal at any time, thanks to “cloud computing.”

Definition

Cloud computing is where a collection of servers are used to store or process data instead of doing this on your own computer. Your computer simply needs an internet connection in order to communicate with the bank of servers.

Sharing and Storing Data

Cloud computing, in turn, refers to sharing resources, software, and information via a network, in this case the Internet. The information is stored on physical servers maintained and controlled by a cloud computing provider, such as Apple in regards to iCloud. As a user, you access your stored information on the cloud via the Internet.

By using cloud storage, you don't have to store the information on your own hard drive. Instead, you can access it from any location and download it onto any device of your choice, including laptops, tablets, or smartphones. Moreover, you can also edit files, such as Word documents or PowerPoint presentations, simultaneously with other users, making it easier to work away from the office.

There are different types of cloud computing services available to suit different needs. While some cater to individual users who want to store photos, documents, and videos, others are destined for companies that need extensive platforms to develop IT applications, for example.

Depending on your needs, the prices will vary. As an individual user, you can get an initial amount of storage for free, such as 5GB with iCloud. If you need additional

storage, you will have to pay a fee. Fees are usually set at monthly or yearly rates, depending on the services you are using.

Types of Cloud Computing

IT people talk about three different kinds of cloud computing, where different services are being provided for you. Note that there's a certain amount of vagueness about how these things are defined and some overlap between them.

- **Infrastructure as a Service (IaaS)** means you're buying access to raw computing hardware over the Net, such as servers or storage. Since you buy what you need and pay-as-you-go, this is often referred to as utility computing. Ordinary web hosting is a simple example of IaaS: you pay a monthly subscription or a per-megabyte/gigabyte fee to have a hosting company serve up files for your website from their servers.
- **Software as a Service (SaaS)** means you use a complete application running on someone else's system. Web-based email and Google Documents are perhaps the best-known examples. Zoho is another well-known SaaS provider offering a variety of office applications online.
- **Platform as a Service (PaaS)** means you develop applications using Web-based tools so they run on systems software and hardware provided by another company. So, for example, you might develop your own ecommerce website but have the whole thing, including the shopping cart, checkout, and payment mechanism running on a merchant's server.

Advantages

1. **Worldwide Access:** Cloud computing increases mobility, as you can access your documents from any device in any part of the world. For businesses, this means that employees can work from home or on business trips, without having to carry around documents. This increases productivity and allows faster exchange of information. Employees can also work on the same document without having to be in the same place.
2. **More Storage:** In the past, memory was limited by the particular device in question. If you ran out of memory, you would need a USB drive to backup your current device. Cloud computing provides increased storage, so you won't have to worry about running out of space on your hard drive.

3. **Easy Set-Up:** You can set up a cloud computing service in a matter of minutes. Adjusting your individual settings, such as choosing a password or selecting which devices you want to connect to the network, is similarly simple. After that, you can immediately start using the resources, software, or information in question.
4. **Automatic Updates:** The cloud computing provider is responsible for making sure that updates are available – you just have to download them. This saves you time, and furthermore, you don't need to be an expert to update your device; the cloud computing provider will automatically notify you and provide you with instructions.
5. **Reduced Cost:** Cloud computing is often inexpensive. The software is already installed online, so you won't need to install it yourself. There are numerous cloud computing applications available for free, such as Dropbox, and increasing storage size and memory is affordable. If you need to pay for a cloud computing service, it is paid for incrementally on a monthly or yearly basis. By choosing a plan that has no contract, you can terminate your use of the services at any time; therefore, you only pay for the services when you need them.

Disadvantages

1. **Security:** When using a cloud computing service, you are essentially handing over your data to a third party. The fact that the entity, as well as users from all over the world, are accessing the same server can cause a security issue. Companies handling confidential information might be particularly concerned about using cloud computing, as data could possibly be harmed by viruses and other malware. That said, some servers like Google Cloud Connect come with customizable spam filtering, email encryption, and SSL enforcement for secure HTTPS access, among other security measures.
2. **Privacy:** Cloud computing comes with the risk that unauthorized users might access your information. To protect against this happening, cloud computing services offer password protection and operate on secure servers with data encryption technology.
3. **Loss of Control:** Cloud computing entities control the users. This includes not only how much you have to pay to use the service, but also what information you can store, where you can access it from, and many other factors. You depend on the provider for updates and backups. If for some reason, their server ceases to operate, you run the risk of losing all your information.

4. **Internet Reliance:** While Internet access is increasingly widespread, it is not available everywhere just yet. If the area that you are in doesn't have Internet access, you won't be able to open any of the documents you have stored in the cloud.

Popular Cloud Computing Services

iCloud: Apple's iCloud allows you to store music, documents, photos, and other files via WiFi. You can then access them from all of your devices. When you sign up for iCloud, you automatically get 5GB of free storage. All the other Apple apps (calendar, mail, and more) are integrated to work seamlessly with iCloud.

Google Cloud Connect for Microsoft Office: Google Cloud Connect allows various users to interact using Microsoft Office. This includes simultaneous sharing and editing of Microsoft Word, PowerPoint, and Excel documents. You can also save secure copies of each document.