

Cloud Storage

An introduction to the important aspects of cloud storage, including how it works, its benefits, and the different types of cloud storage that are available.

What is cloud storage?

Cloud storage allows you to save data and files in an off-site location that you access either through the public internet or a dedicated private network connection. Data that you transfer off-site for storage becomes the responsibility of a third-party cloud provider. The provider hosts, secures, manages, and maintains the servers and associated infrastructure and ensures you have access to the data whenever you need it.

Cloud storage delivers a cost-effective, scalable alternative to storing files on on-premise hard drives or storage networks. Computer hard drives can only store a finite amount of data. When users run out of storage, they need to transfer files to an external storage device.

You pay for only exactly the capacity you use.

How does it work?

Like on-premise storage networks, cloud storage uses servers to save data; however, the data is sent to servers at an off-site location. Most of the servers you use are virtual machines hosted on a physical server. As your storage needs increase, the provider creates new virtual servers to meet demand.

Typically, you connect to the storage cloud either through the internet or a dedicated private connection, using a web portal, website, or a mobile app. The server with which you connect forwards your data to a pool of servers located in one or more data centers, depending on the size of the cloud provider's operation.

As part of the service, providers typically store the same data on multiple machines for redundancy. This way, if a server is taken down for maintenance or suffers an outage, you can still access your data.

Cloud storage is available in private, public and hybrid clouds.

Pros and cons

Pros

The pros of cloud storage include the following:

- **Off-site management:** Your cloud provider assumes responsibility for maintaining and protecting the stored data.
- **Quick implementation:** Using a cloud service accelerates the process of setting up and adding to your storage capabilities.
- **Cost-effective:** As mentioned, you pay for the capacity you use. This allows your organization to treat cloud storage costs as an ongoing operating expense instead of a capital expense with the associated upfront investments and tax implications.
- **Scalability:** Growth constraints are one of the most severe limitations of on-premise storage.
- **Business continuity:** Storing data offsite supports business continuity in the event that a natural disaster or terrorist attack cuts access to your premises.

Cons

Cloud storage cons include the following:

- **Security:** Security concerns are common with cloud-based services.
- **Administrative control:** Being able to view your data, access it, and move it at will is another common concern with cloud resources.
- **Latency:** Delays in data transmission to and from the cloud can occur as a result of traffic congestion, especially when you use shared public internet connections.