

9.14.2 Cloud Storage Security Facts

Cloud storage is a data storage model. It is usually provided by a third party as a service. Some of the most widely used cloud storage for enterprises are Google Cloud, Amazon Web Services, and Microsoft Azure. Many companies take advantage of cloud services to decrease costs and meet ever-increasing storage needs.

Cloud storage services may be accessed through a co-located cloud computer service, a web service application programming interface (API), or by applications that utilize the API, such as cloud desktop storage - a cloud storage gateway or web-based content management systems. A cloud access security broker (CASB) may act as a gatekeeper, extending an organization's security policies into the cloud storage infrastructure. A CASB focuses on the visibility of the company data, regulation compliance, user access to prevent threats, and data security through encryption and loss prevention.

Cloud storage is:

- Made up of many distributed resources but still acts as one, either in a federated or a cooperative storage cloud architecture.
- Highly fault tolerant through redundancy and distribution of data.
- Highly durable through the creation of versioned copies.

Cloud Storage is a virtual service, so the infrastructure is the responsibility of the storage provider. Access controls should be set in the same way as a local file system would be set, with no need for the provider to have access to the stored data. Measures for securing cloud storage include:

- Implement security controls in the same way as in a physical datacenter.
- Use data classification policies.
- Assign information into categories that determine storage, handling, and access requirements.
- Assign security classification based on information sensitivity and criticality.
- Securely dispose of data when it is no longer needed, by using specialized tools.

Advantages of Cloud Storage are:

- Companies only pay for the actual used storage. This does not necessarily mean that cloud storage is less expensive, but it only incurs operating expenses.
- Cloud storage can cut energy consumption by up to 70% making an organization a more green one.
- Organizations can choose between off-premises and on-premises cloud storage options, or a mixture of the two options.
- Storage availability and data protection is intrinsic to object storage architecture, so depending on the application, the additional technology, effort and cost to add availability and protection can be eliminated.
- Storage maintenance tasks, such as purchasing additional storage capacity, are the responsibility of the service provider.
- Cloud storage can be used for copying virtual machine images from the cloud to on-premises locations or to import a virtual machine image from an on-premises location to the cloud image library.
- Cloud storage can be used as natural disaster backup, as cloud storage providers' backup servers are normally located in different places around the globe.

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