

TYPES OF CLOUD STORAGE

	Direct Attached	File Storage	Block Storage	Object Storage
Features	<ul style="list-style-type: none"> ○ It is attached directly to a computer without network usage. ○ In SSD or HDD 	<ul style="list-style-type: none"> ○ Data is stored in files with extensions according to the type of the file. ○ Hierarchical structure ○ Accessible with file name and path 	<ul style="list-style-type: none"> ○ Data is divided into blocks with unique identifiers. ○ Blocks can be stored in different OSs. 	<ul style="list-style-type: none"> ○ Objects with the identifier, data, and metadata ○ API is used to access objects
+	<ul style="list-style-type: none"> • Fastest • Easy setup (plug & play) 	<ul style="list-style-type: none"> • Easy to access if the file system is relatively small. • Familiar to users • Simple interface • Easy to set access rights 	<ul style="list-style-type: none"> • Easy to modify unlike object storage • Faster than file and object storage 	<ul style="list-style-type: none"> • Easy to retrieve data using metadata • Purchase only for the storage you need unlike the file storage • Good for unstructured data
-	<ul style="list-style-type: none"> ○ Only one person at a time can use the data. ○ Data is not sharable. 	<ul style="list-style-type: none"> ○ Challenging to manage when the number of files is large ○ Expensive (extra hardware is needed for storage) 	<ul style="list-style-type: none"> ○ Hard to search if the blocks have large volumes ○ No metadata 	<ul style="list-style-type: none"> ○ No locks unlike file and block storage ○ Slowest among the storage types ○ You cannot change the object after it is created
Use Cases		<ul style="list-style-type: none"> • Archiving • Storage requiring data protection 	<ul style="list-style-type: none"> • Databases • Business applications for being reliable and fast 	<ul style="list-style-type: none"> • Storing video recordings • Backup & recovery (slowness does not matter here)

Reference

<https://www.ibm.com/cloud/blog/object-vs-file-vs-block-storage>

<https://www.backblaze.com/blog/object-file-block-storage-guide/>

Lecture 2 Slides