Difference Between Amazon EBS and Amazon EFS

The AWS EFS(Elastic file system) and AWS EBS(Elastic block storage) are two different types of storage services provided by Amazon Web Services. This article highlights some major differences between Amazon EFS and Amazon EBS.

What is AWS EBS?

EBS(Elastic block storage) is a block-level storage service provided by Amazon and it is basically designed to be used exclusively with separate EC2 instances, no two instances can have the same EBS volume attached to them. As EBS is directly attached to the instance it provides a high-performance option for many use cases, and it is used for various databases (both relational and non-relational) and also for a wide range of applications such as Software Testing and development.

EBS stores files in multiple volumes called blocks, which act as separate hard drives, and this storage is not accessible via the internet.

Note that Elastic block storage is similar to a hard-drive connected to a physical computer and this storage can be attached and detached at any time.

What is AWS EFS?

EFS(Elastic file system) is a file-level storage service that basically provides a shared elastic file system with virtually unlimited scalability support. EFS is highly available storage that can be utilized by many servers at the same time. AWS EFS is a fully managed service by amazon and it offers scalability on the fly. This means that the user need not worry about their increasing or decreasing workload. If the workload suddenly becomes higher then the storage will automatically scale itself and if the workload decreases then the storage will itself scale down. This scalability feature of EFS also provides cost benefits as you need not pay anything for the part of storage that you don't use, you only pay for what you use(Utility-based computing).

Comparison based on Characteristics:

Storage Type

EBS(elastic block storage) & EFS(elastic file system), as the name suggests EBS is block-level storage and EFS is file-level storage.

Data Stored

The data stored in EBS remains in the same availability zone and multiple replicas are created within the same availability zone whereas in EFS the data stored remains in the same region and multiple replicas are created within the same region.

Data Access

One most important disadvantage of EBS is that it cannot be accessed directly via the internet, it can only be accessed by a single EC2 instance with whom it is connected, whereas EFS storage allows access of 1 to 1000s of EC2 instances concurrently via the internet but these instances must be present in the same region only.

File Size Limitation

As EBS is directly connected to the EC2 instance so we have don't have any limitation on file size whereas in EFS the maximum size of a single file can be up to 47.9TiB.

	Amazon EBS	Amazon EFS
1.	The full form of Amazon EBS is **Amazon Elastic Block Store**	The full form of Amazon EFS is **Amazon Elastic File System**
2.	It is used to provide the block-level storage volumes for the use of EC2 instances.	It is simple to use.
3.	It is mainly used for data that should be quickly accessible and requires long term durability.	It is used in modernize application development
4.	It is suitable for both types of database-style applications -: 1. Those rely on random reads 2. Those rely on random writes.	Industries use this for enhancing content management systems