AWS EFS

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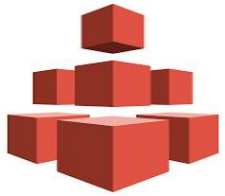
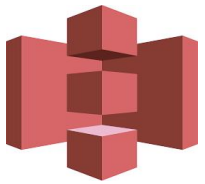
Introduction to EFS

Recap of the Storage Options



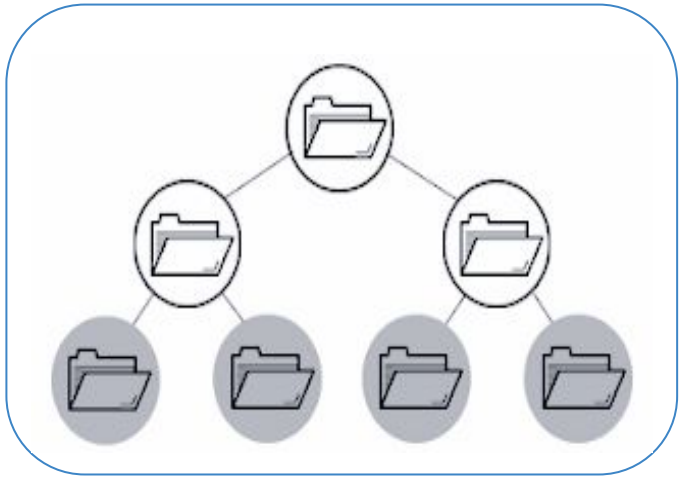
Amazon EFS



S3

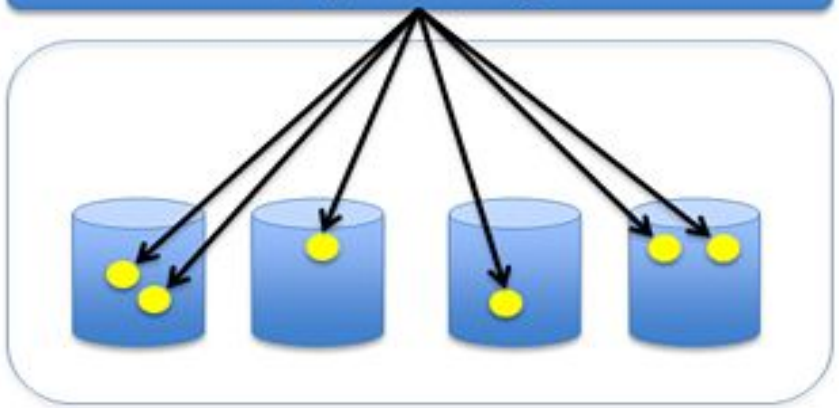
Amazon Elastic Block Storage (EBS)

File Storage

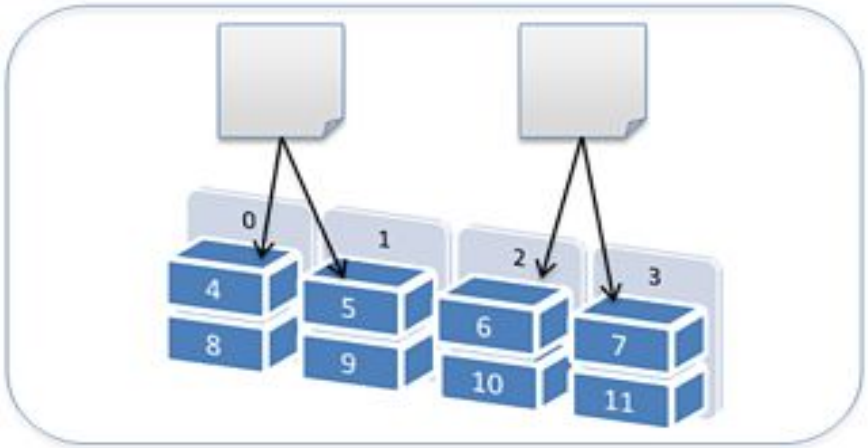


HTTP(S) Interface

Object Storage

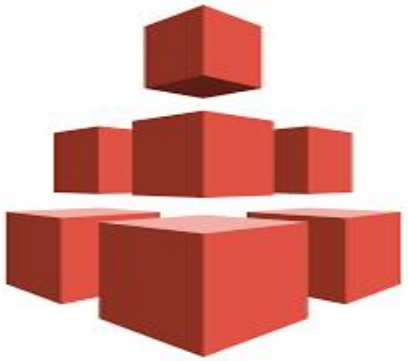


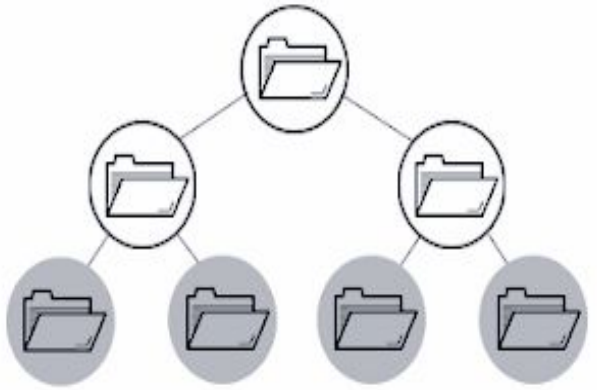
Block Storage



Introduction to EFS

What is EFS?



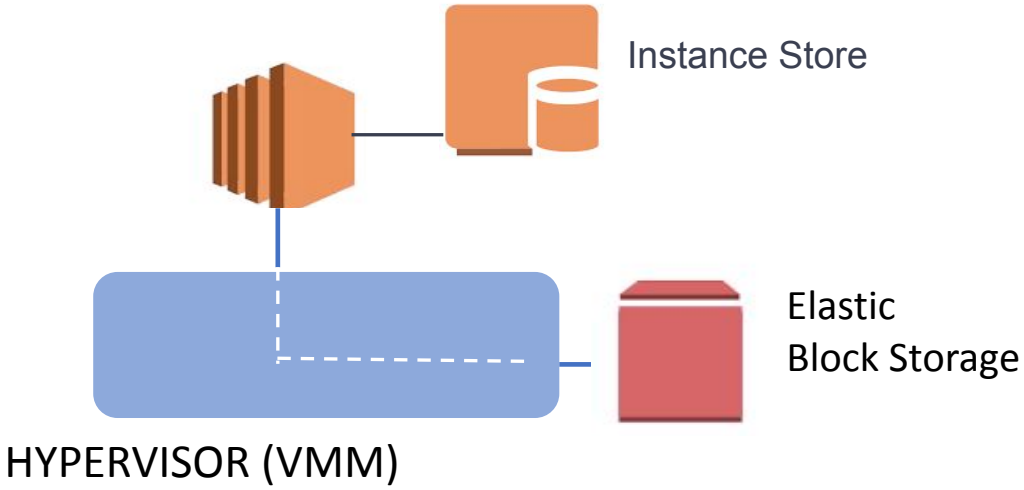


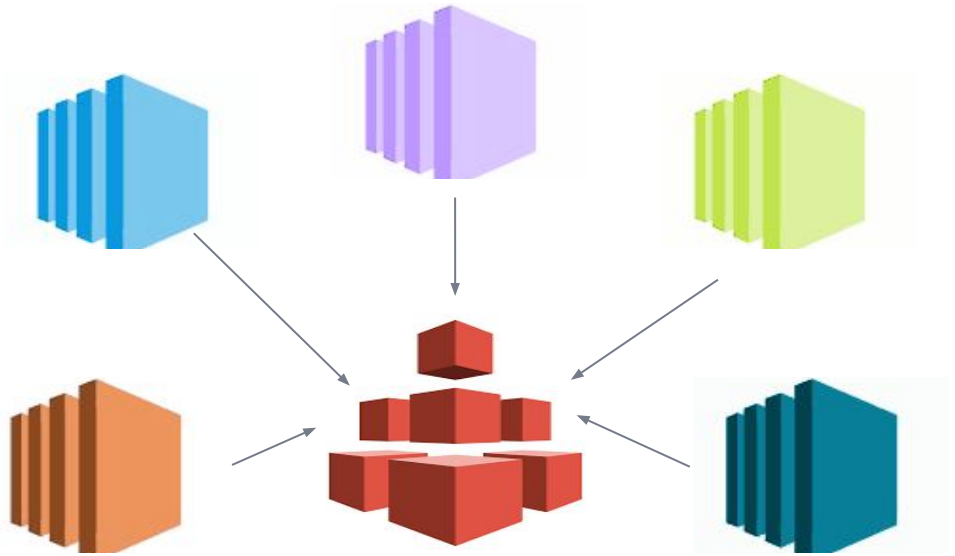
- Simple, scalable, fully managed and serverless Elastic NFS file system.

2 Features of EFS

Features of EFS

Attaching



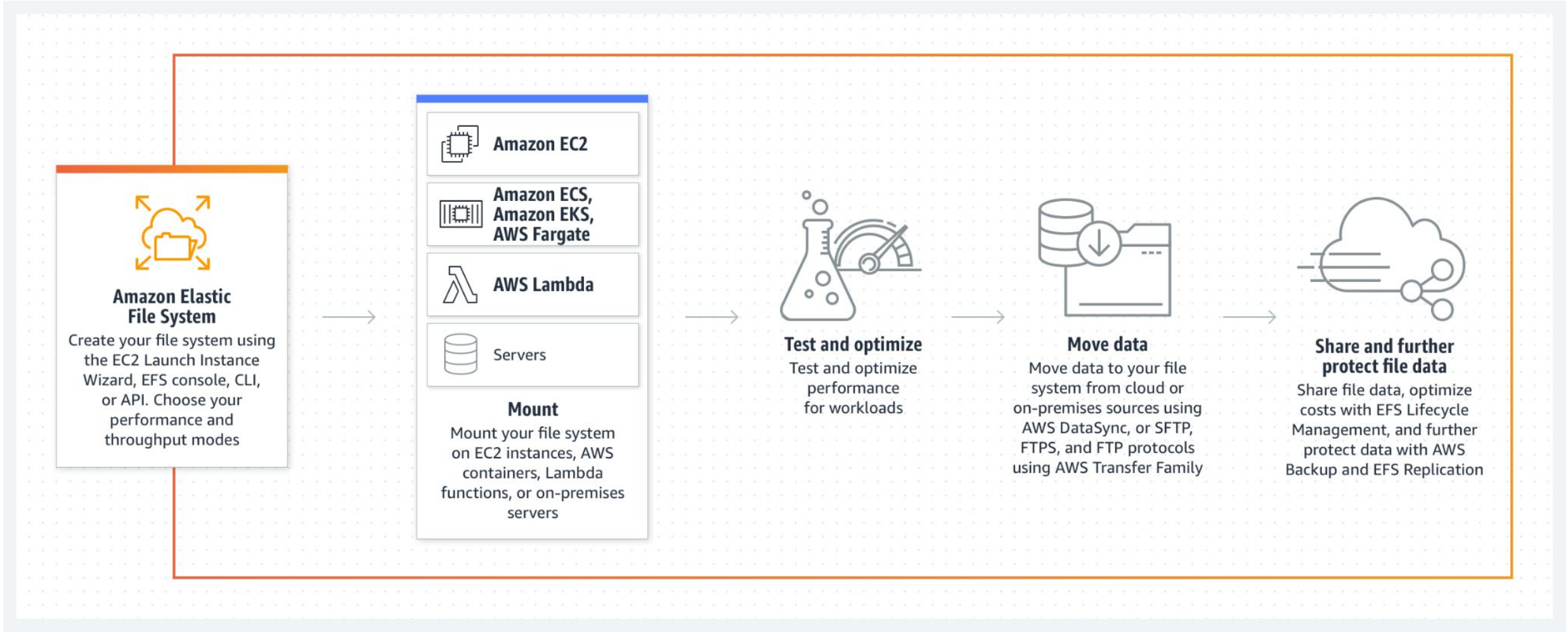


- Unlike *EBS, **multiple Amazon EC2** instances (**Linux only**) even **in different AZ's** can be attached Amazon **EFS** file system **at the same time**.

*Except Nitro-based instances in the same Availability Zone.

Features of EFS

Attaching



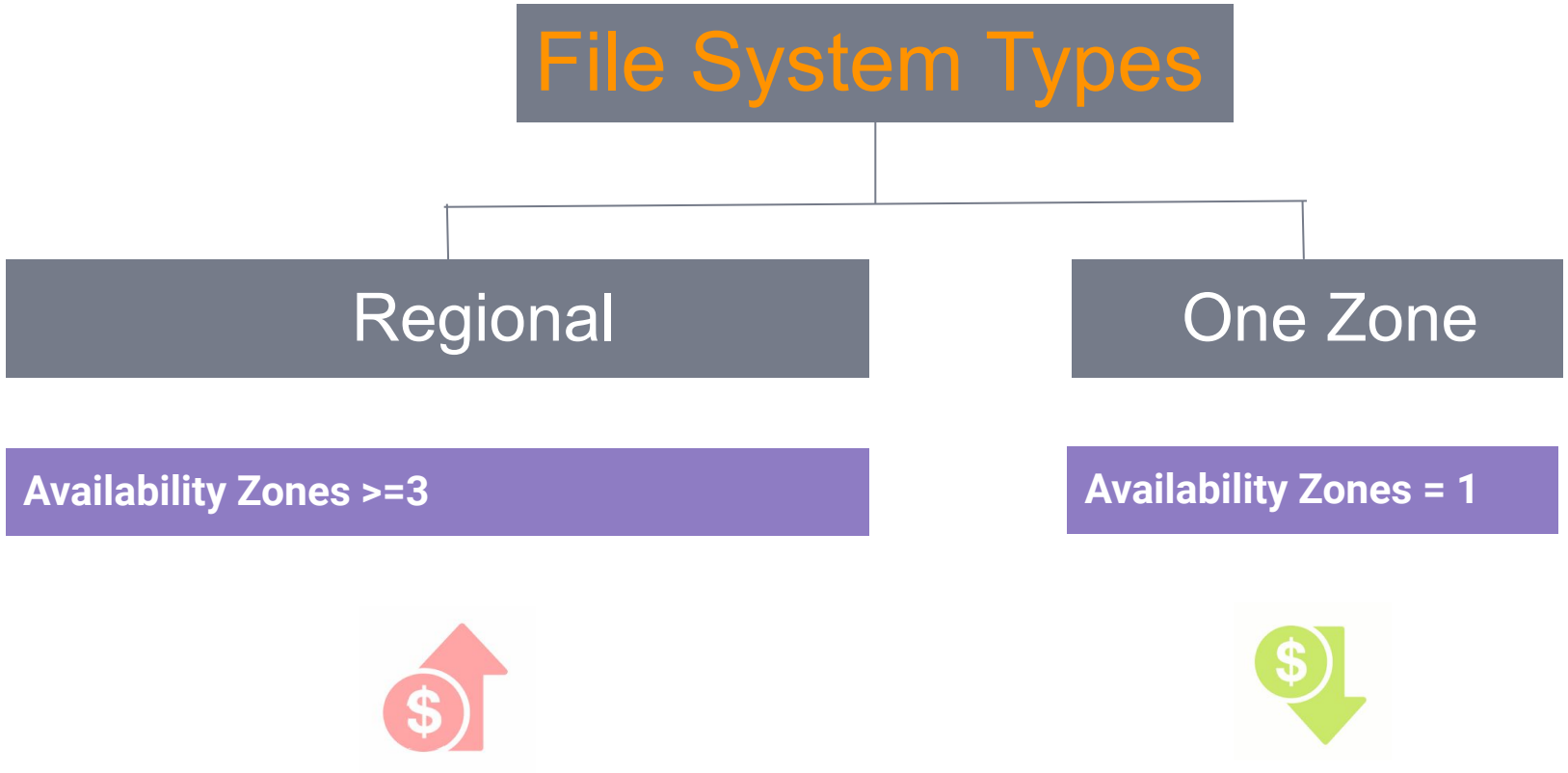
Features of EFS

Scalability-Cost

- EFS is elastic, storage capacity increases and decreases automatically as you add and delete files.
- There is no minimum fee or setup cost.
- Free Tier: 5 GB of EFS storage in the EFS Standard and Regional

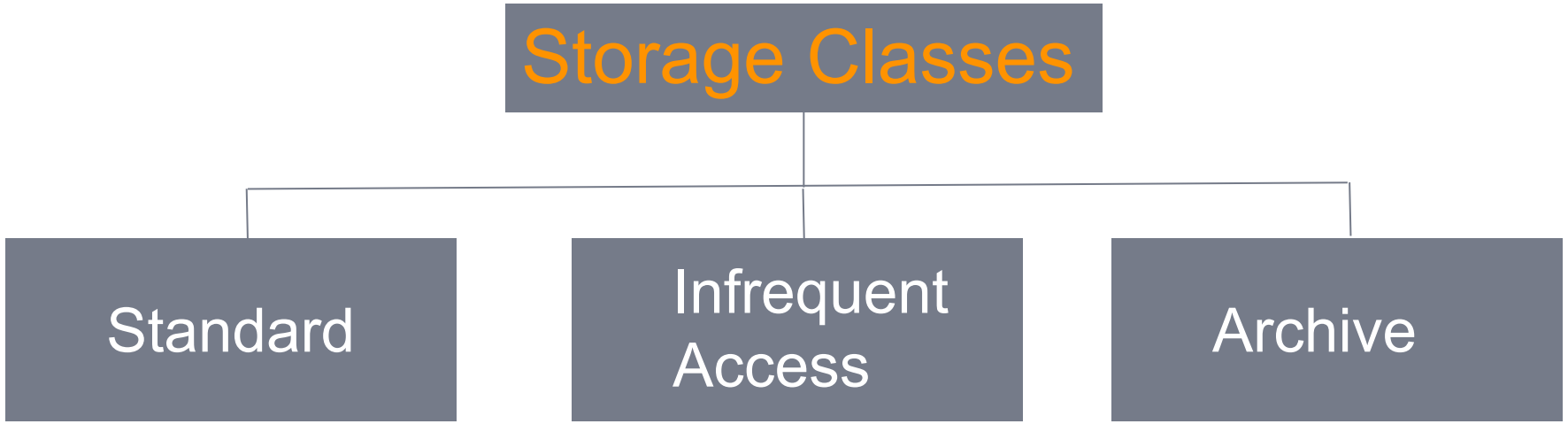
Features of EFS

EFS File System Types

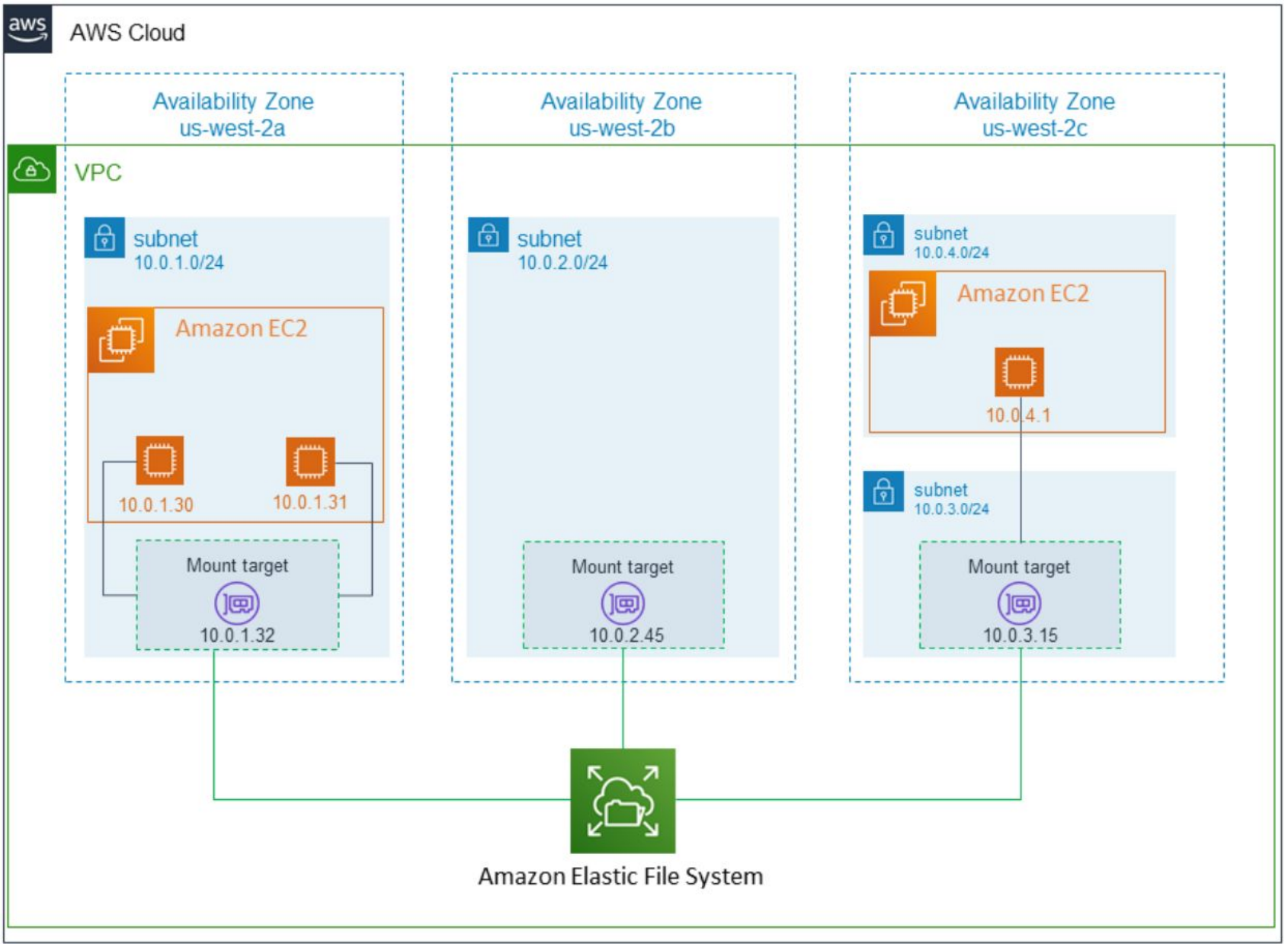


Features of EFS

Storage Classes

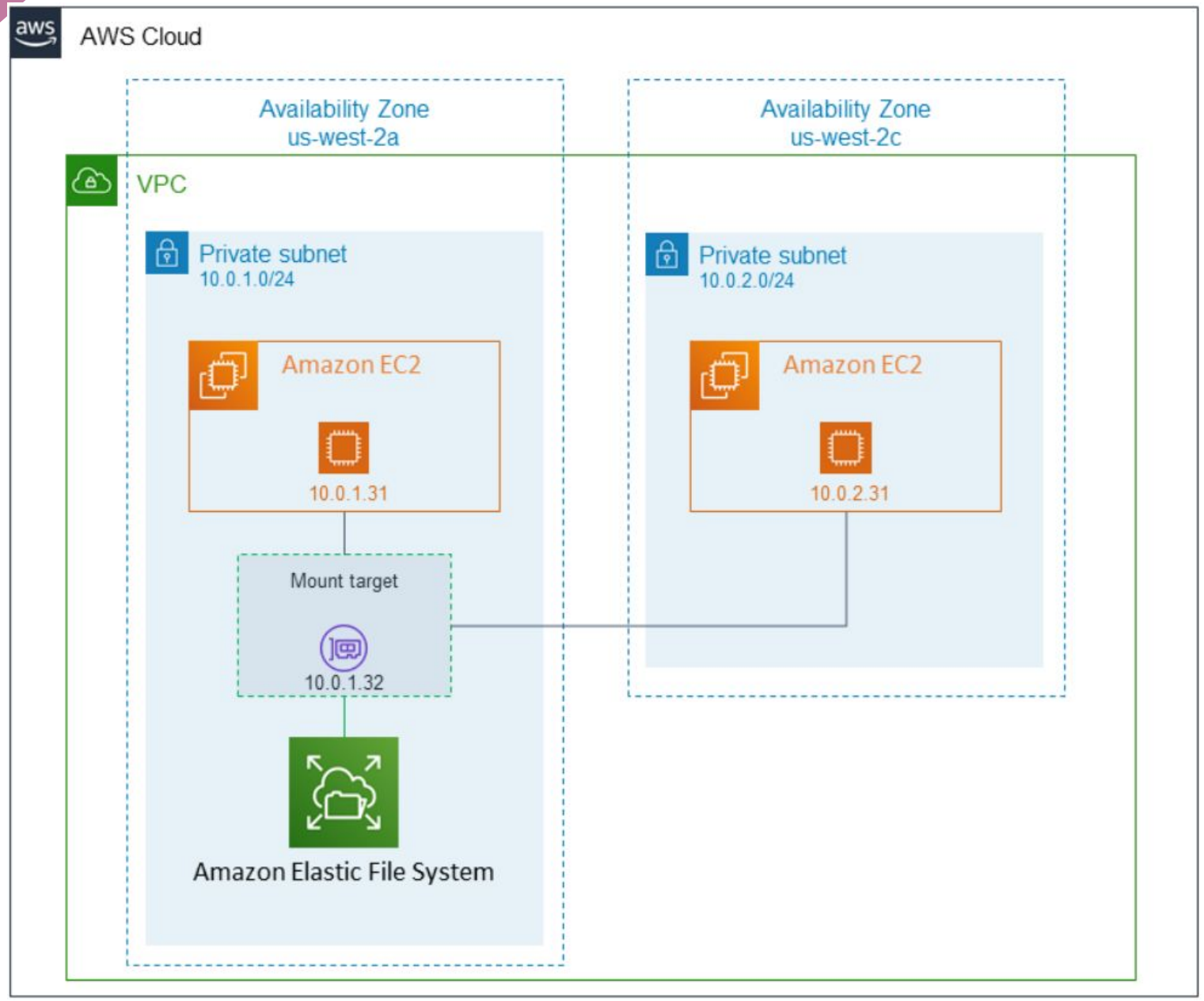


EFS Structure : Mount Target (for Regional Storage Class)



- Mount Target is a AZ based component.
- You can create only one Mount Target in a AZ
- It will be located only in one subnet of the relevant AZ.

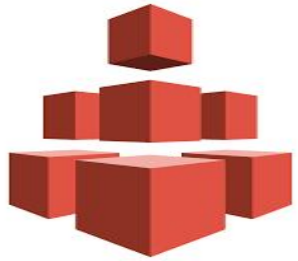
EFS Structure : Mount Target (for One-Zone Storage Class)



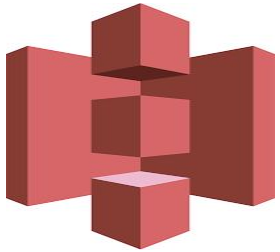
- Mount Target is created only in one subnet in relevant AZ.
- Other AZs also uses this Mount Target to communicate with EFS

3 Comparison of Storage System

Comparison of Storage Systems



Amazon EFS

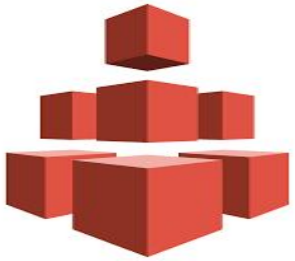


S3

EBS

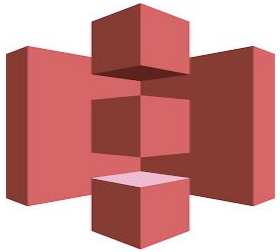
- Cost : S3 < EBS < EFS
- Performance (IOPS) : EBS , EFS > S3
- Performance (latency): EBS < EFS < S3
- EC2 mount : S3 : No
  EBS : Single*
  EFS : Multiple
- Storage Capacity : S3, EFS = ∞ vs. EBS =16 TB

Comparison of Storage Systems



Amazon EFS

- Large quantities of data,
- Large analytic workloads.
- Global content management



S3

-Website images and videos,
-Data analytics of mobile/web applications.
- Data which is needed to be accessed from anywhere.

EBS

- High IOPS required data ,
- Database management.

Comparison of Storage Systems

		File Amazon EFS	Object Amazon S3	Block Amazon EBS
Performance	Per-operation latency	Low, consistent	Low, for mixed request types, and integration with CloudFront	Lowest, consistent
	Throughput scale	Multiple GBs per second	Multiple GBs per second	Single GB per second
Characteristics	Data Availability/Durability	Stored redundantly across multiple AZs	Stored redundantly across multiple AZs	Stored redundantly in a single AZ
	Access	One to thousands of EC2 instances or on-premises servers, from multiple AZs, concurrently	One to millions of connections over the web	Single EC2 instance in a single AZ
	Use Cases	Web serving and content management, enterprise applications, media and entertainment, home directories, database backups, developer tools, container storage, big data analytics	Web serving and content management, media and entertainment, backups, big data analytics, data lake	Boot volumes, transactional and NoSQL databases, data warehousing & ETL

THANKS!

Any questions?