AWS – EFS

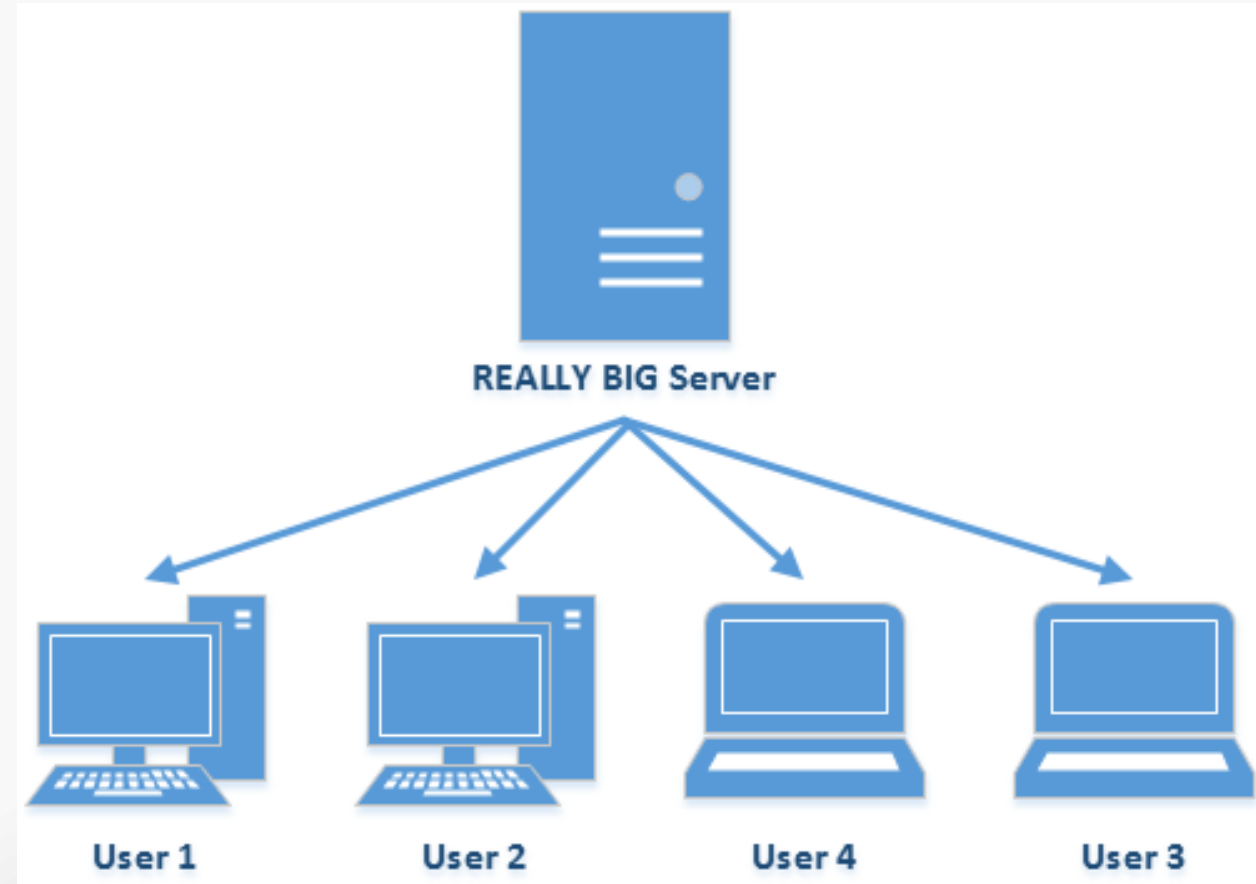**VISHWANATH M S**

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# What is File Share?

- To share data over the network between 2 Computers.
- 2 Types
    - Peer to peer Sharing
    - Centralized server Sharing

- 2 Kinds of File Share
    - CIFS → For windows OS
    - NFS → For Linux OS

REALLY BIG Server

User 1   User 2   User 4   User 3

Concepts of EFS – Elastic File Store

- It is used as Common Shared Folder
- It works on NFS4.0 and NFS 4.1 Protocols
- EFS works on IP address unlike the Volumes.
- The EFS Volume can be accessed by more than 2 EC2 instance at the same time.
- We don't set an Storage limit on EFS, it can grow as the data Grows.
- EFS is always part of an **VPC.**
- EFS can be Encrypted. (Default encryption by AWS)
- EFS can be accessible only within the VPC (Private Network only)

EFS Architecture
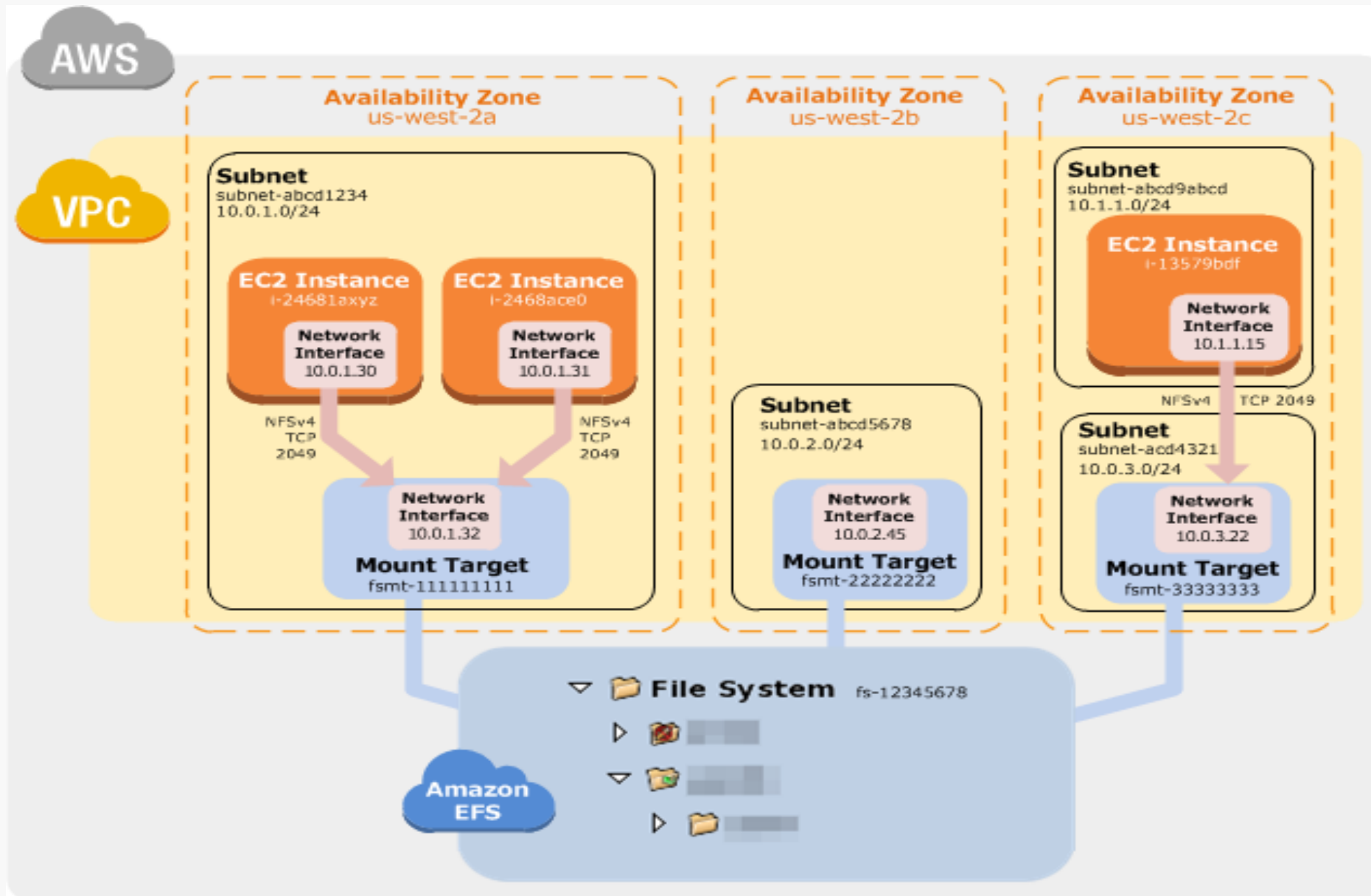
Drawbackups of EFS

- This EFS CANNOT be used ON Windows Machines and CAN be only Used on **Linux Machine**.

- **EFS Currently works only for IPv4 and does not support ipv6.**

- **EFS Does not support CIFS protocol.**

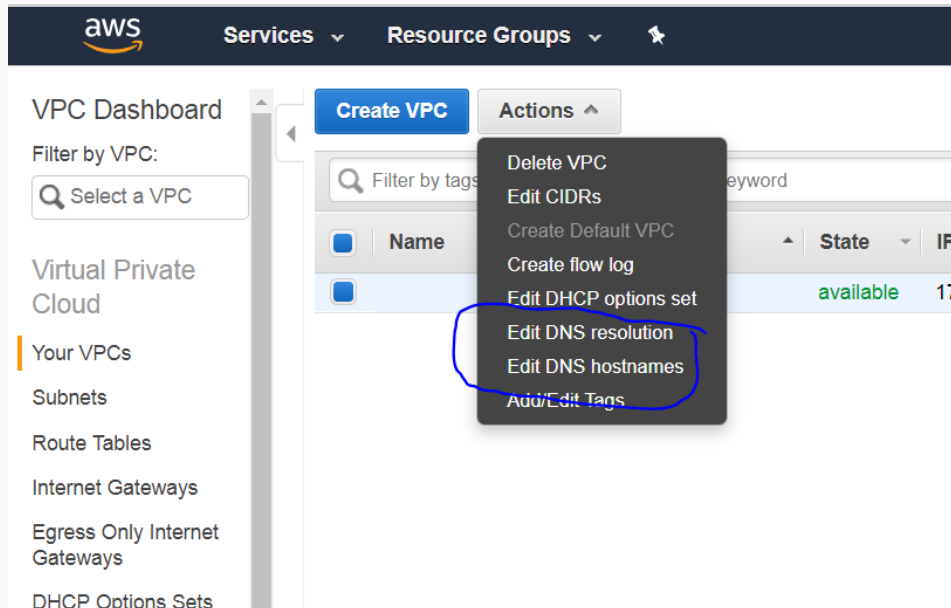- **EFS cannot be accessed on the Internet.**

Points to be Remembered for Design

- There are costs associated with cross–Availability Zone access.

- **We can change the Subnet's association on the EFS after it is created.**

- **But the VPC CANNOT BE CHANGED**

Pre-Requisite for EFS configuration

Enable – DNS Hostnames & DNS Resolution

- Enable "DNS Resolution" on the VPC

- Enable "DNS Hostnames" on the VPC

Create Security Group for NFS.

- Create an Security Group for the EFS which would allow inbound from the EC2 ip range that needs to access EFS

Create security group   **Actions ▼**

Q Filter by tags and attributes or search by keyword

	Name	▲	Group ID	▲	Group Name	▼	VPC ID	▼	Type	Description	▼	Owner
☑			sg-00b7aa1cfb3a2...		EFS-Access		vpc-08ed4f70		EC2-VPC	EFSAccess		558457644648

Security Group: sg-00b7aa1cfb3a271c9

Description | **Inbound Rules** | Outbound Rules | Tags

Edit rules

Type ⓘ	Protocol ⓘ	Port Range ⓘ	Source ⓘ	Description ⓘ
NFS	TCP	2049	172.31.0.0/16	-

VPC CIDR

After Creating the EFS

DNS name | fs-49a962ab.efs.us-east-1.amazonaws.com 🔵 | ← DNS Name to access the EFS

Amazon EC2 mount instructions (from local VPC)
Amazon EC2 mount instructions (across VPC peering connection)
On-premises mount instructions

Mount targets

VPC	Availability Zone	Subnet	IP address	Mount target ID	Network interface ID	Security groups	Mount target state
	us-east-1a	subnet-0b8044d04915fd918 (default)	172.31.16.61	fsmt-6f81578f	eni-0cba59625fd68363b	sg-0e443b1af068e6e20 - EFS-Access	Available
vpc-0b17f9a14de147cc1 (default)	us-east-1b	subnet-04f51f4d2fe464bc2 (default)	172.31.43.189	fsmt-70815790	eni-0663fa435ab432c7b	sg-0e443b1af068e6e20 - EFS-Access	Available
	us-east-1c	subnet-068f945b1fd13595a (default)	172.31.14.115	fsmt-71815791	eni-0ff7bdbed67fdb14c	sg-0e443b1af068e6e20 - EFS-Access	Available
	us-east-1d	subnet-0f3b774d3d05f9a3b (default)	172.31.89.217	fsmt-74815794	eni-0230c526424ff6f6e	sg-0e443b1af068e6e20 - EFS-Access	Available

EFS Pricing

Pricing Table

Region: [US West (Oregon) ▾]

Standard Storage (GB-Month)	$0.30
Infrequent Access Storage (GB-Month)	$0.045
Infrequent Access Requests (per GB transferred)	$0.01
Provisioned Throughput (MB/s-Month)	$6.00

Within your first 12 months on AWS, you can use up to 5 GB/month for free.

Reference Links for Further Read

https://docs.aws.amazon.com/efs/latest/ug/troubleshooting.html

https://docs.aws.amazon.com/efs/latest/ug/troubleshooting-efs-mounting.html