CLOUD COMPUTING APPLICATIONS

Amazon AWS EFS

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Amazon AWS EFS

- Elastic File System
- Motivation: enterprise customers need a large distributed file system
  - S3 is large and distributed, but it is an object store without performance guarantees and eventual consistency model
  - Block storage (EBS, instance store) are small
    - Enterprise can build a distributed file system on top of these, but it requires operational expertise
  - Glacier: Good for only archival storage
- EFS provides a fully NFSv4 compliant network file system

Amazon AWS EFS

- SSD backed
- Highly available and highly durable
  - files, directories, and links are stored redundantly across multiple Availability Zones within an AWS region
- Grow or shrink as needed
  - No need to pre-provision capacity

Amazon AWS EFS

		Amazon EFS	Amazon EBS PIOPS
Performance	Per-operation latency	Low, consistent	Lowest, consistent
	Throughput scale	Multiple GBs per second	Single GB per second
Characteristics	Data Availability/Durability	Stored redundantly across multiple AZs	Stored redundantly in a single AZ
	Access	1 to 1000s of EC2 instances, from multiple AZs, concurrently	Single EC2 instance in a single AZ
	Use Cases	Big Data and analytics, media processing workflows, content management, web serving, home directories	Boot volumes, transactional and NoSQL databases, data warehousing & ETL