
AWS
re:Invent

STG213

What's new with Amazon EFS

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AWS

AWS re:Invent

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Agenda



What is Amazon EFS?

What's new with Amazon EFS?

Enterprise capabilities

AWS integrations

Performance enhancements

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What is Amazon EFS?

SIMPLE, SCALABLE, FULLY MANAGED, HIGHLY DURABLE, AND AVAILABLE SHARED FILE SYSTEM FOR AWS COMPUTE

SIMPLE AND HIGHLY RELIABLE



Elastic

Pay only for capacity used

Performance built-in, scales with capacity



3-AZ durable and all-AZ available

Designed for 11 9's of durability

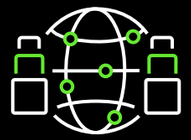
99.99% availability SLA

SERVERLESS SHARED STORAGE



Serverless and scalable

No provisioning, scale capacity, connections, and IOPS



Concurrent access for 10,000s of connections

EC2 Instances, containers, and Lambda invocations

PERFORMANT AND COST OPTIMIZED



Performant

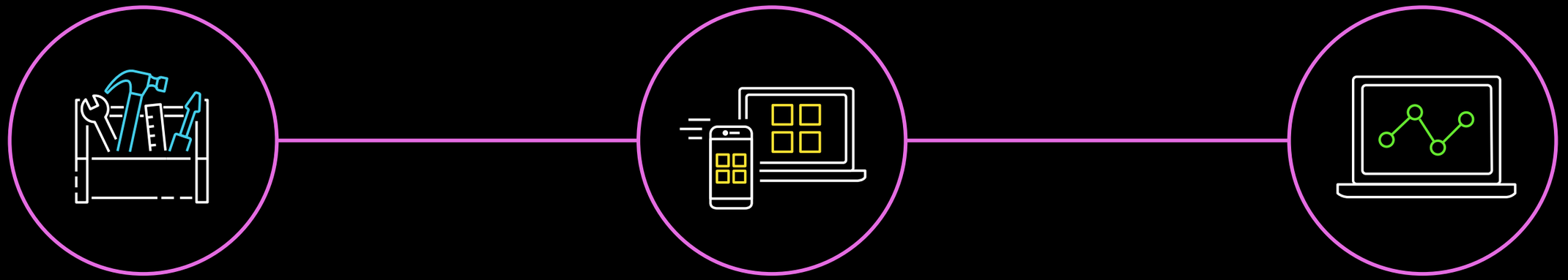
10s of GB/s of and 500,000+ IOPS



Two storage classes

Lifecycle-based cost optimization

Use cases for Amazon EFS



Home directories

Container storage

Application test/dev
(Jenkins, JIRA, Git)

Lift and shift enterprise apps

Web serving (nginx)

Content management
(Wordpress, Drupal)

Database backups

Analytics

Media workflows

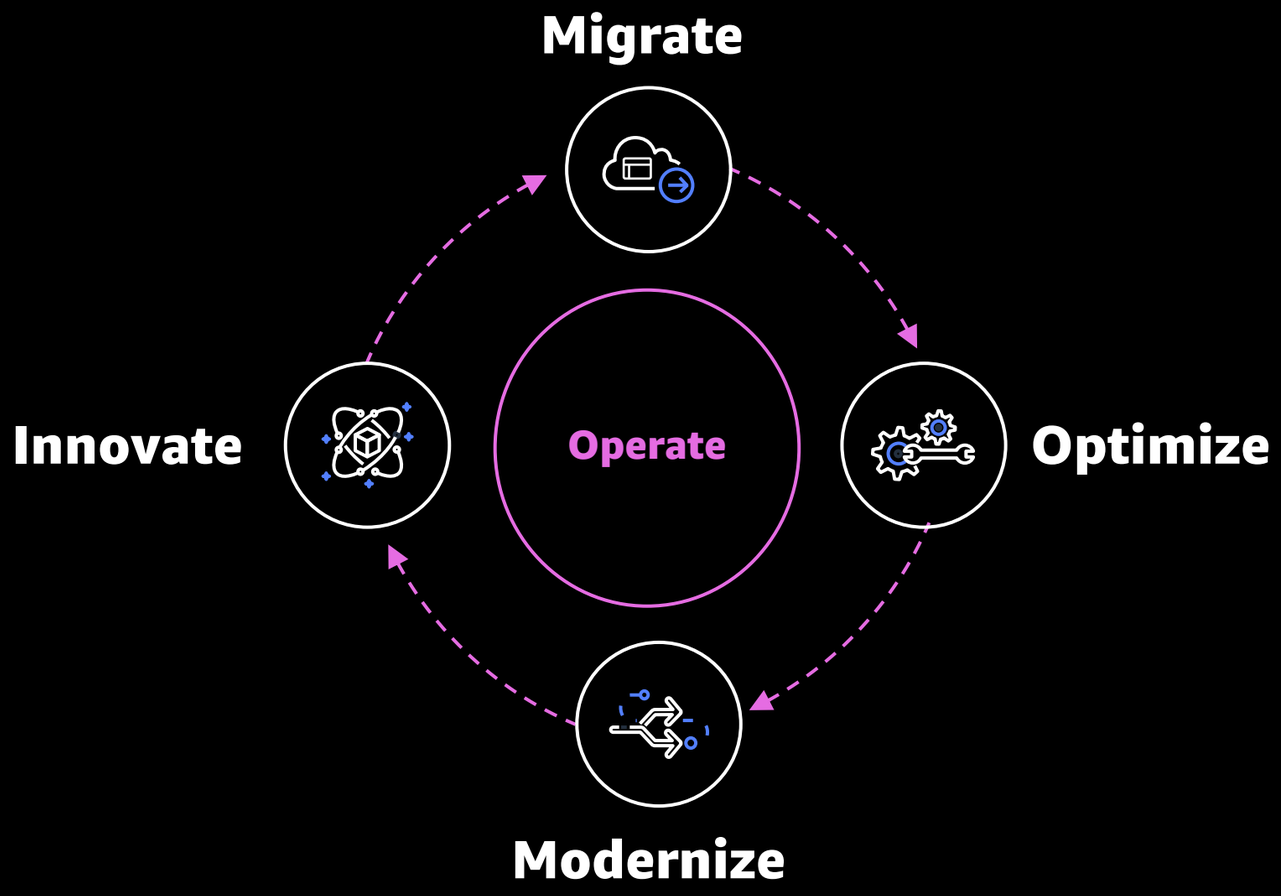
Metadata-intensive jobs

Scale-out jobs

Low latency and serial I/O

High throughput and parallel I/O

Amazon EFS meets you where you are today and tomorrow



Migrate: lift and shift to AWS cloud without refactoring application

Optimize: enable cost efficiency

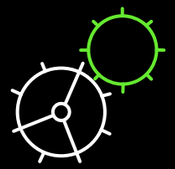
Modernize: build micro-services into application with common data platform

Innovate: improve development efficiency, build new features, enter new markets

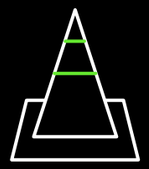
Fast migration, no disruption



Company background
Global leader in family history and consumer genomics



Challenge
Limited business agility, undifferentiated heavy lifting, migrate without disruption



Services used

Amazon EFS, Amazon EC2, Amazon EMR, Amazon S3

ancestry.com®

Migrated data science environment from on-premises NAS cluster to Amazon EFS without impacting **staff productivity**; improved **business agility** while **reducing TCO**

What’s new with Amazon EFS?



Enterprise capabilities

99.99% Availability SLA

AWS IAM Authorization for NFS Clients

EFS Access Points

Additional cost-optimization via lifecycle management

AWS integrations

Container services (Amazon ECS, Amazon EKS, AWS Fargate)

AWS Lambda

EC2 Launch Instance Wizard Integration

Automatic backups and item-level recovery with AWS Backup

Performance enhancements

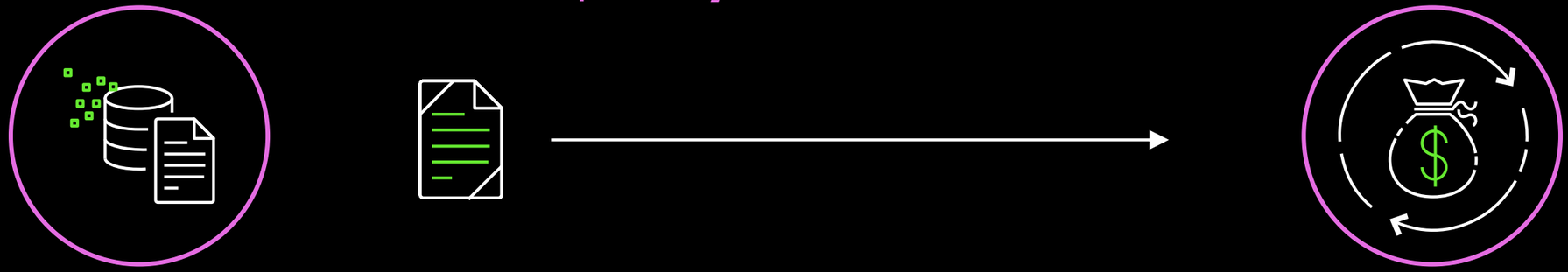
5x read IOPS (up to 35K)

2x per client throughput (up to 500 MB/sec)

Enterprise capabilities

AUTOMATIC COST OPTIMIZATION

Pay-as-you-go, effective storage cost of
$0.08/GB-MONTH*



Standard storage class

General-purpose file storage

$0.30/GB-month*

Infrequent access storage class

Cost-optimized for files not accessed every day

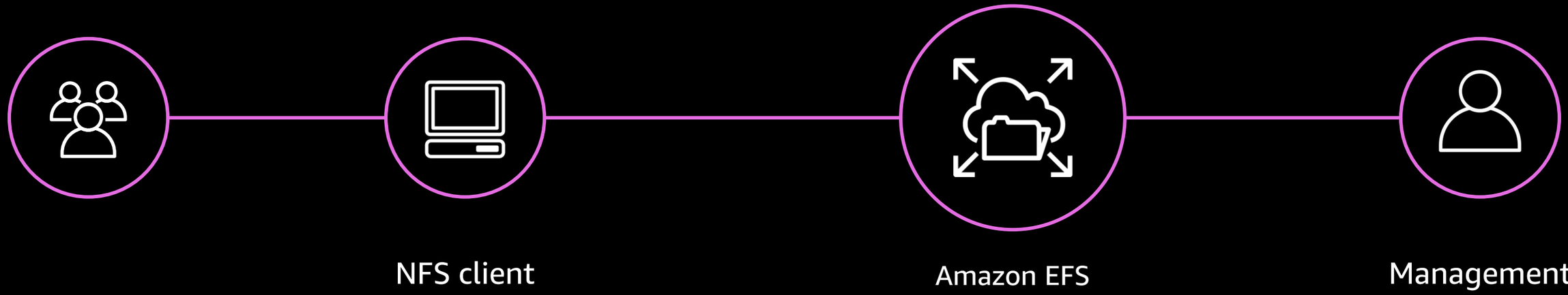
$0.025/GB-month* for storage

$0.01/GB* for access

*Pricing in the US East (N. Virginia) Region. Assumes 80% of the files are infrequently accessed

Enterprise capabilities

IAM AND ACCESS POINTS





Industry best practices

Enforce encryption
Prevent privilege escalation
Synchronize user and group access



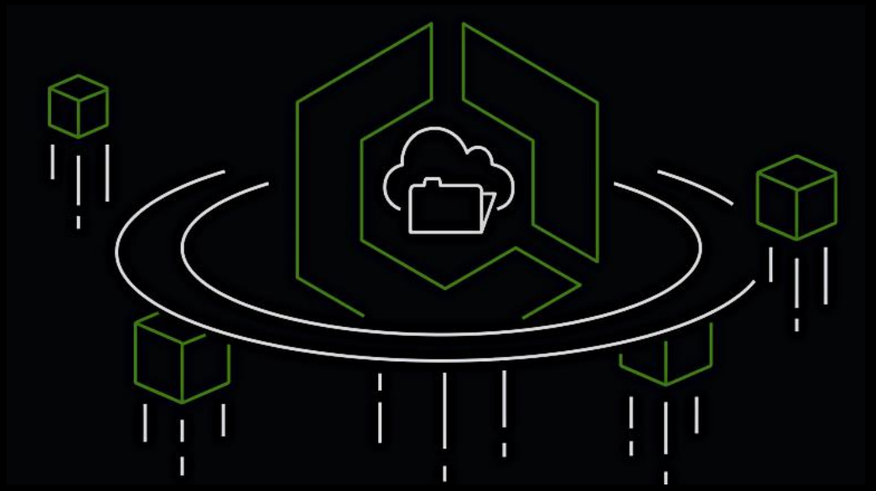
Cloud native security

Client Authentication using IAM
Access Points for multitenant datasets

AWS integrations

CONTAINERS AND AWS LAMBDA

Acquia®



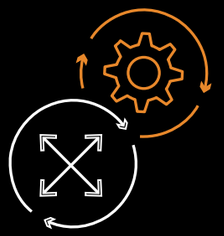
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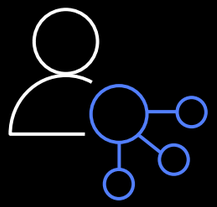
Secure



Available and durable



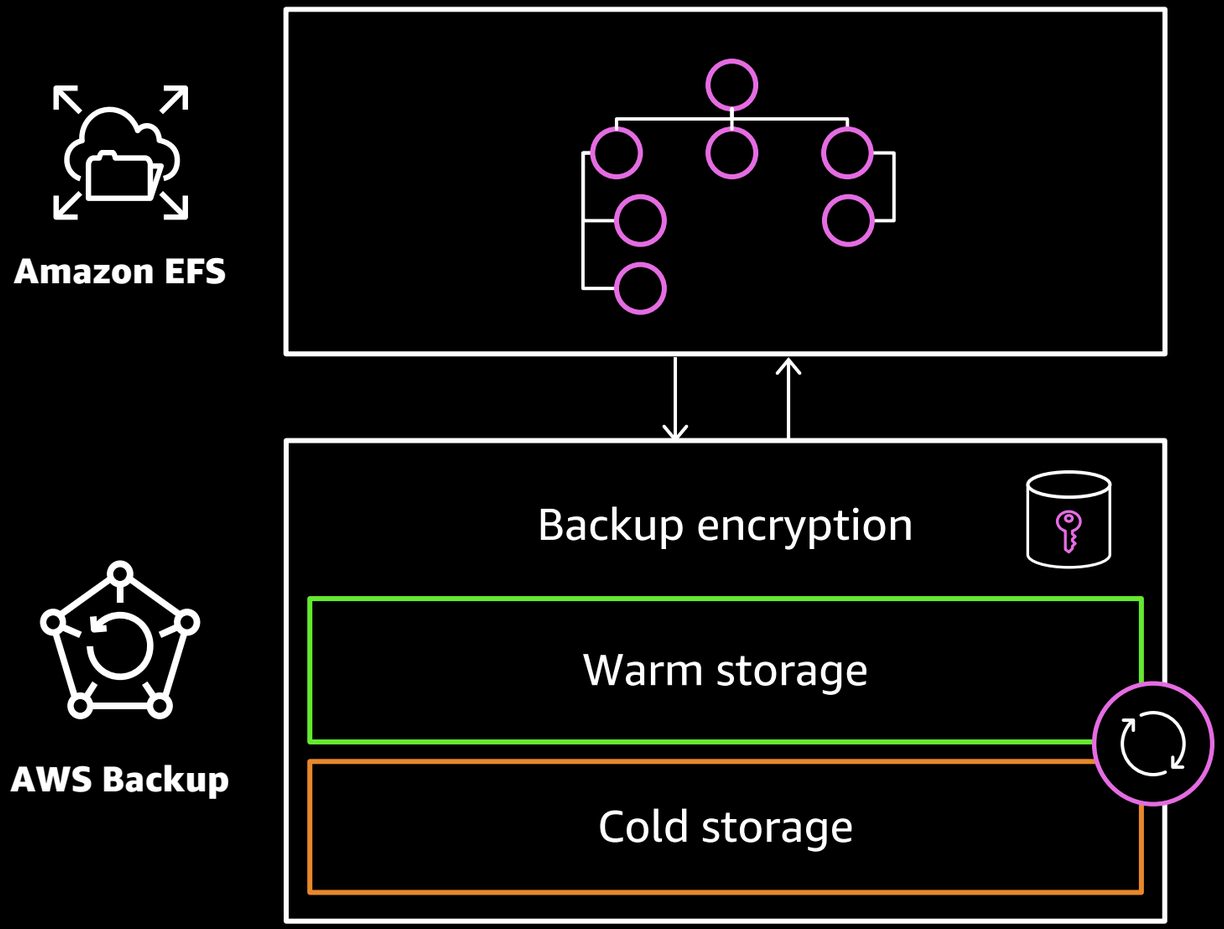
Elastic



Simple

AWS integrations

Automatic backup and item-level recovery



All **AWS Backup** generated backups of **Amazon EFS** file systems are replicated to 3 AZs, and are designed for 11 9s durability and regional availability

Amazon EFS file systems can be backed up and restored using AWS Backup

AWS Backup provides automated backup scheduling and retention per user defined policy

AWS Backup offers two classes of service backup storage with the ability to lifecycle to cold storage

Restore individual files and directories

Performance enhancements



5x Read IOPS

Jenkins, Git
Document management

2x client throughput

Database backup
Analytics

2x small file performance

Git clone

What's new with Amazon EFS

2020

February 2020

Available in AWS GovCloud (US-East)

May 2020

Available in AWS Europe (Milan)

Available in AWS Africa (Cape Town)

July 2020

Automatic Backups

Infrequent Access as Default

Doubled per-client throughput

New console

September 2020

Enforce encryption at rest

Integration with AWS Systems Manager

November 2020

Amazon EFS Quick Create using Amazon EC2 console

January 2020

IAM Authorization and Access Points

Available in AWS China (Beijing)

Available in AWS China (Ningxia)

AWS Backup item-level recovery

April 2020

Attach to containers launched by Amazon ECS

Update SLA to 99.99%

400% increase in read operations

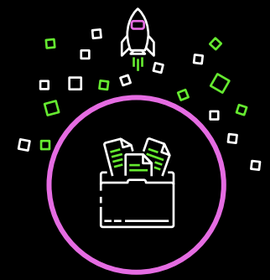
June 2020

Attach to AWS Lambda functions

Increased minimum throughput

August 2020

Mount Amazon EFS with Amazon EKS on AWS Fargate



Today

Amazon EFS Sessions

STG213 What's new with Amazon EFS

STG306 Security best practices with Amazon EFS

STG307 Deep dive on Amazon EFS

STG310 Modernize your applications with AWS Lambda and Amazon EFS

STG311 Optimizing Amazon EFS for cost and performance, using best practices

STG312 Modernize your applications with containers using Amazon EFS

STG313 Reduce TCO for your Linux file-based applications

STG314 Amazon EFS performance best practices for Linux workloads

Thank you!



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