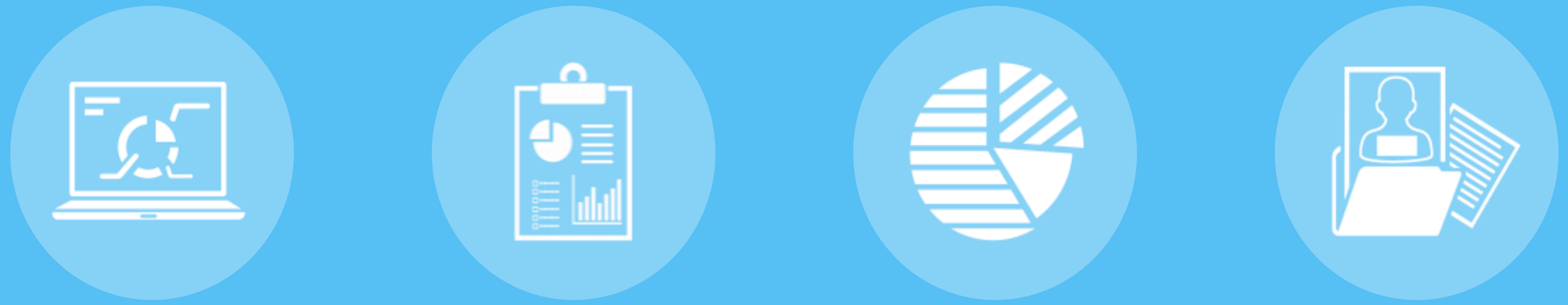
AWS Solutions Architect—Associate Level

Lesson 6: Amazon Simple Storage Service (S3)



What You'll Learn

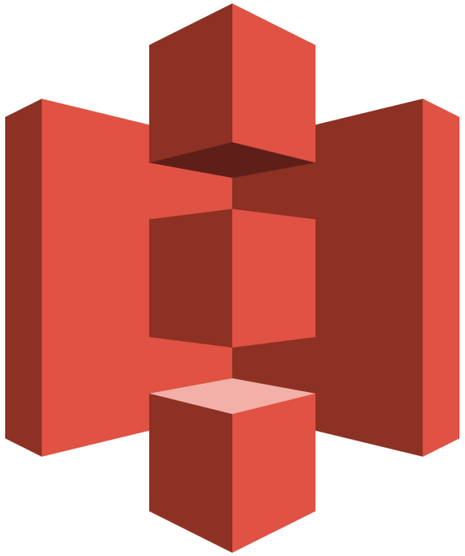
- Overview of S3
- Know what an Amazon S3 bucket is
- Different storage types
- S3 version control and lifecycle management
- How S3 integrates with CloudFront and CDNs
- How to secure and encrypt your data on S3
- How to get your data into and out of S3
- AWS recommended best practices for S3
- Costs associated with S3

Amazon S3 Overview

Overview of Amazon S3 concepts

Simple Storage Service (S3)

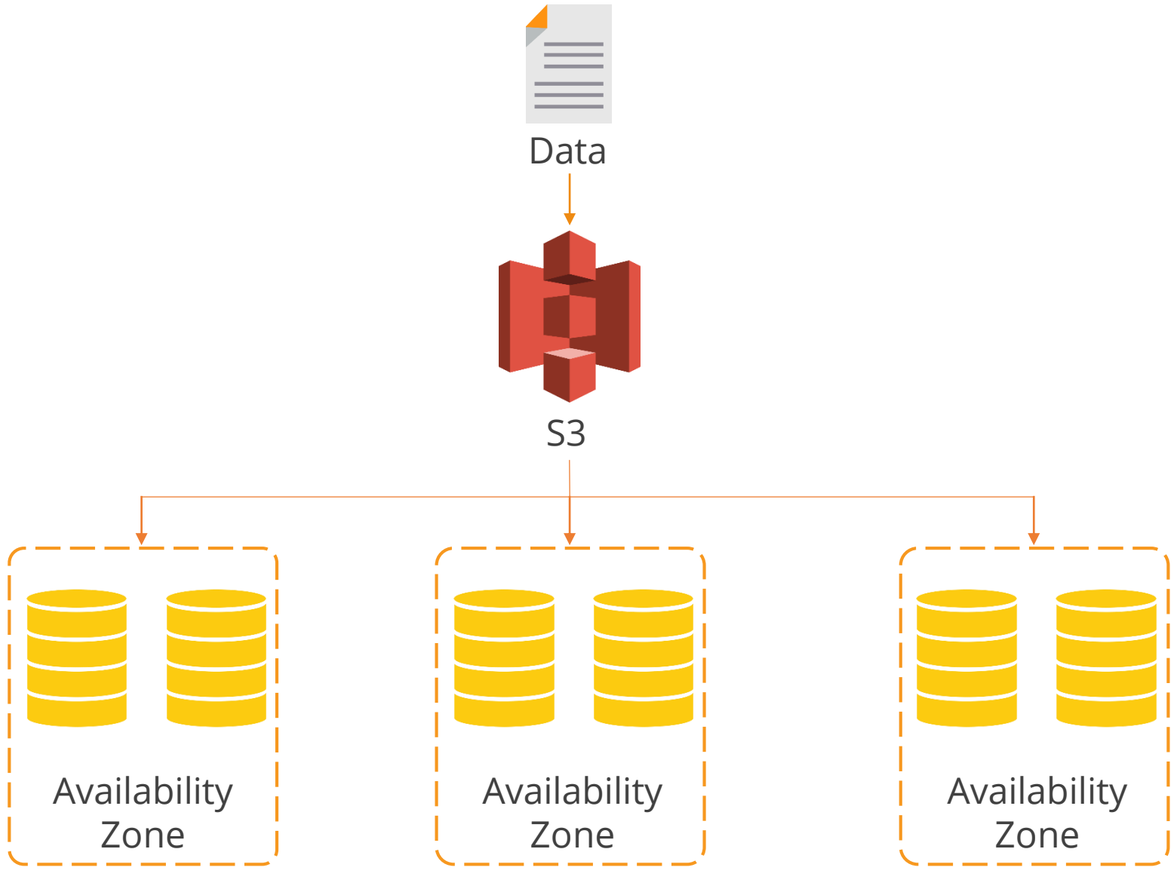
Amazon Simple Storage Service (S3) provides developers and IT teams with secure, durable, and highly-scalable cloud storage.



Amazon S3

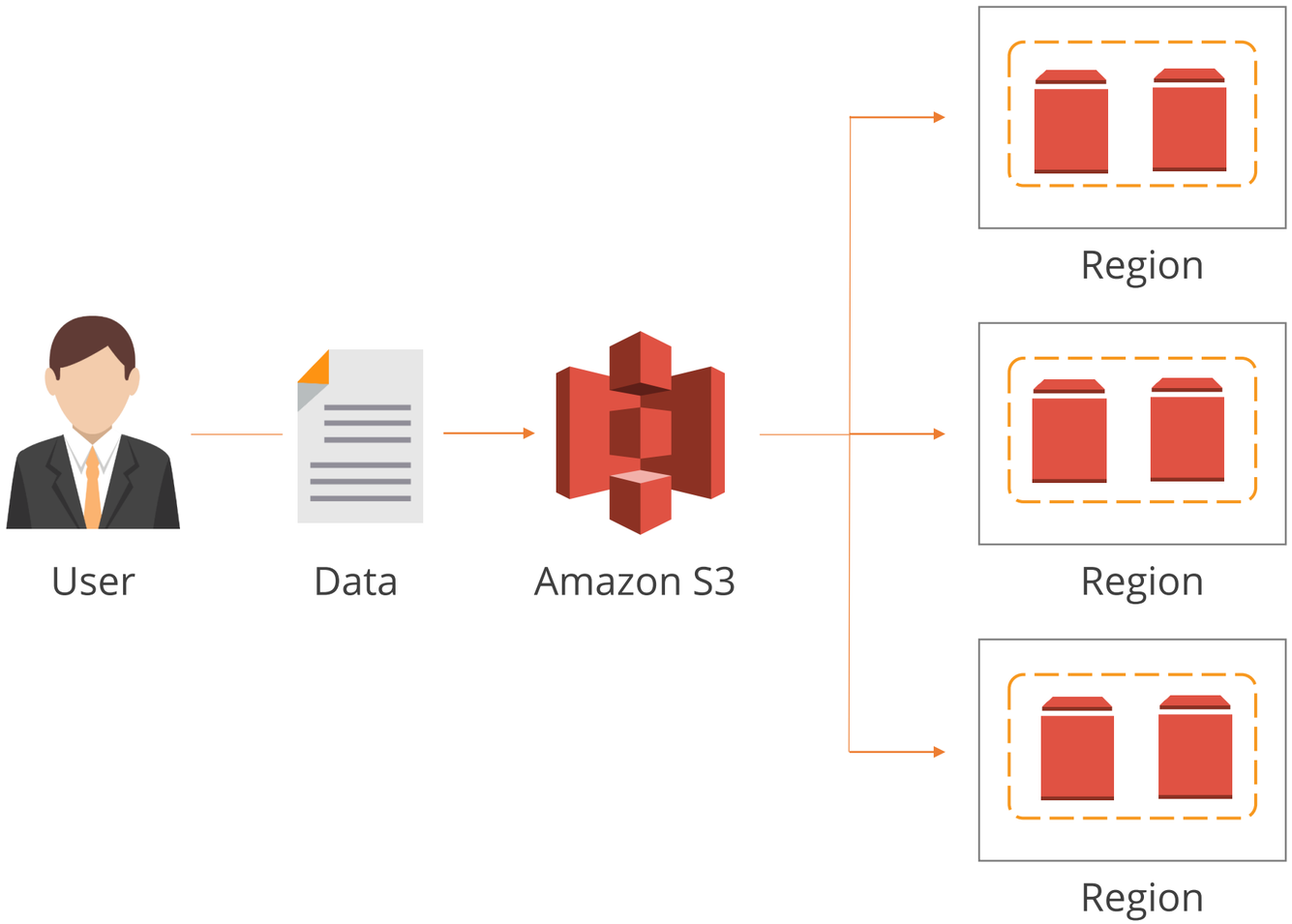
Durable

Amazon Simple Storage Service (S3) provides developers and IT teams with secure, durable, and highly-scalable cloud storage.



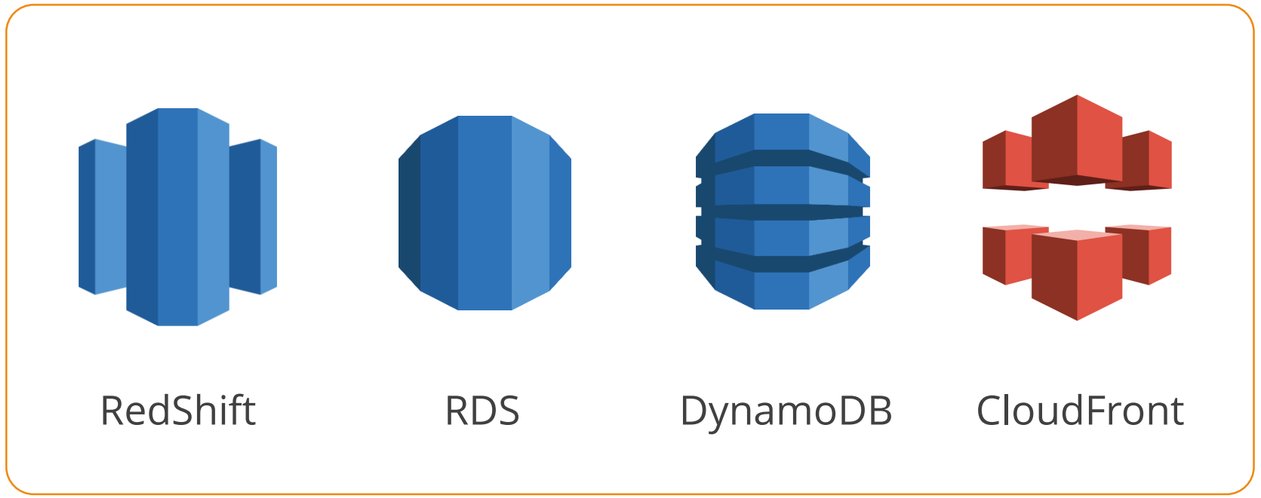
Available

Amazon S3 is designed for 99.99% availability. You can choose the AWS region to store your data to optimize latency, minimize costs, or address regulatory compliance.



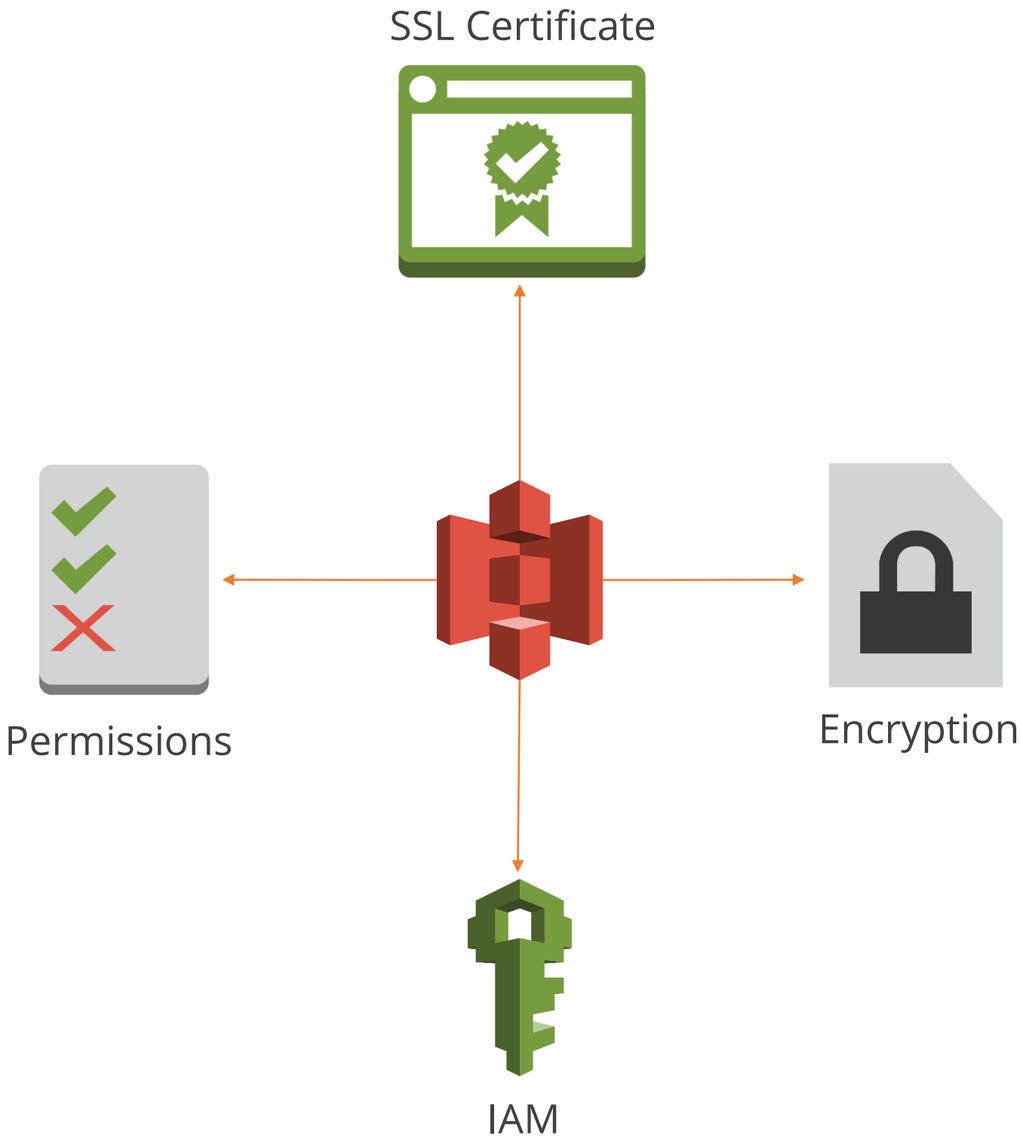
Cost Efficient

You can store large amounts of data at a very low cost. You have to pay for what you use and you are charged for GB per month usage. S3 offers a variety of different storage classes based on which you can categorize your data.



Secure

Amazon S3 offers numerous security options.

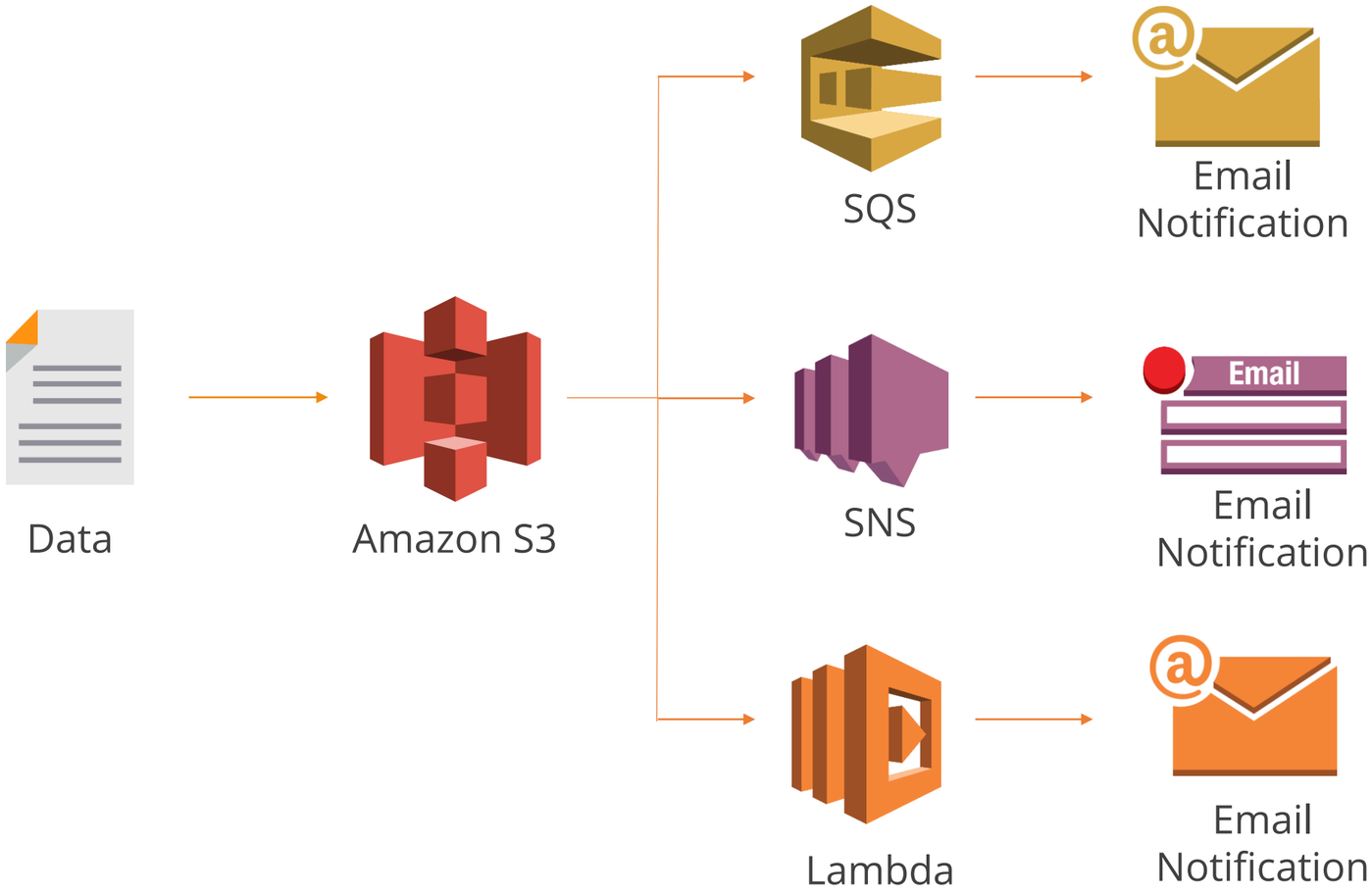


Scalable

Amazon S3 allows you to store as much data as you want. The storage is elastic, so you can scale up and down as required.

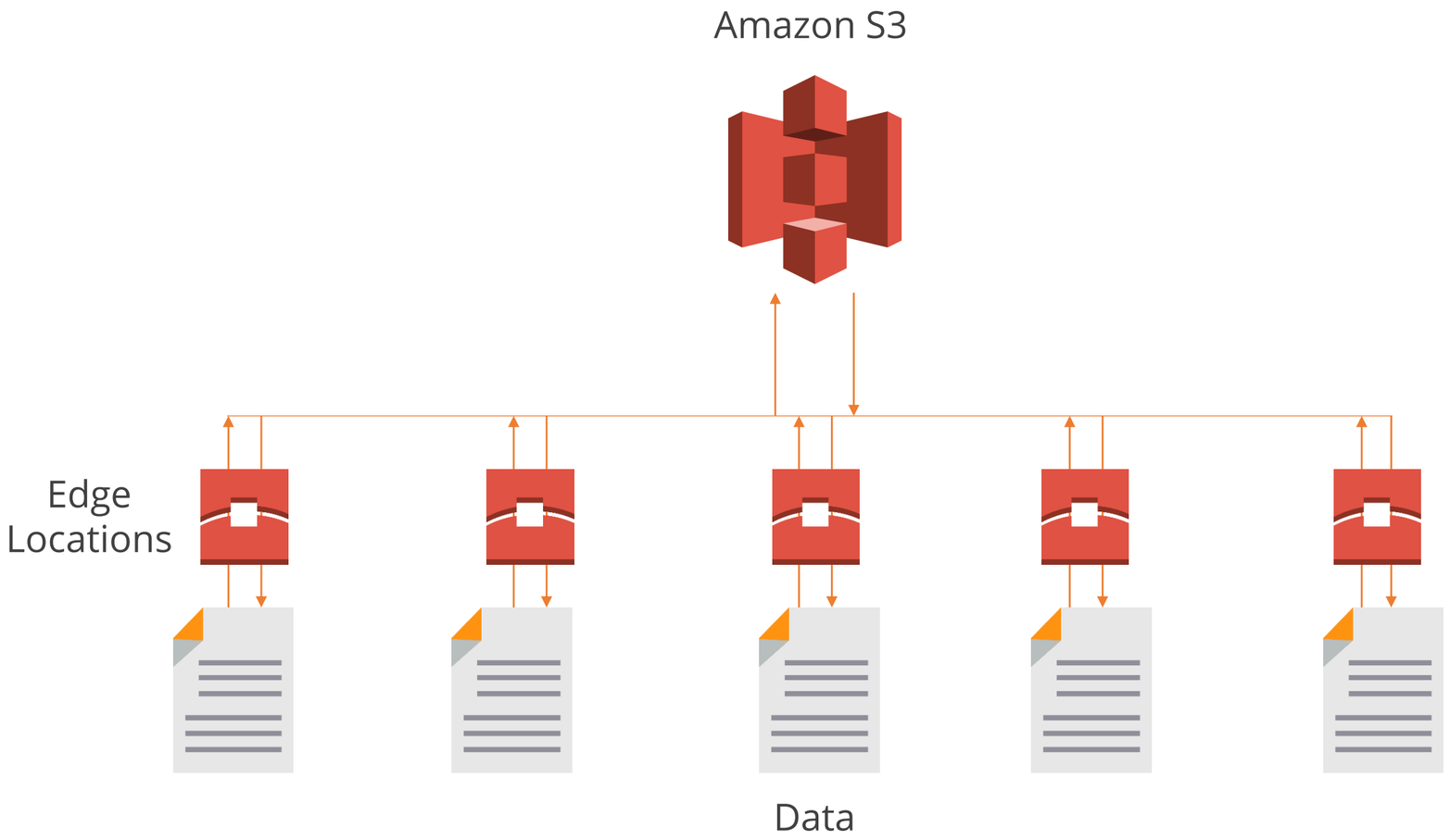
Notifications

You can configure notifications to be sent when objects are loaded to Amazon S3 using SQS or SNS.



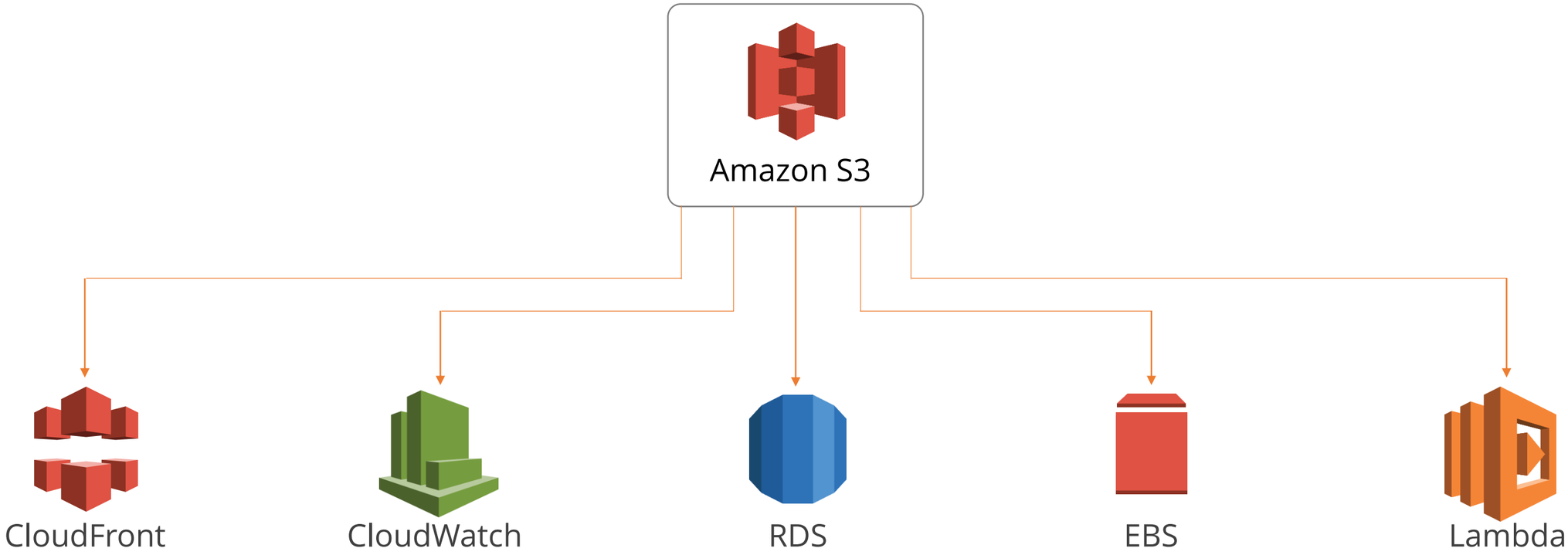
High Performance

Multi-part uploads maximize network throughput and resilience. Amazon S3 Transfer Acceleration allows you to make use of Edge Locations to increase upload and download times.



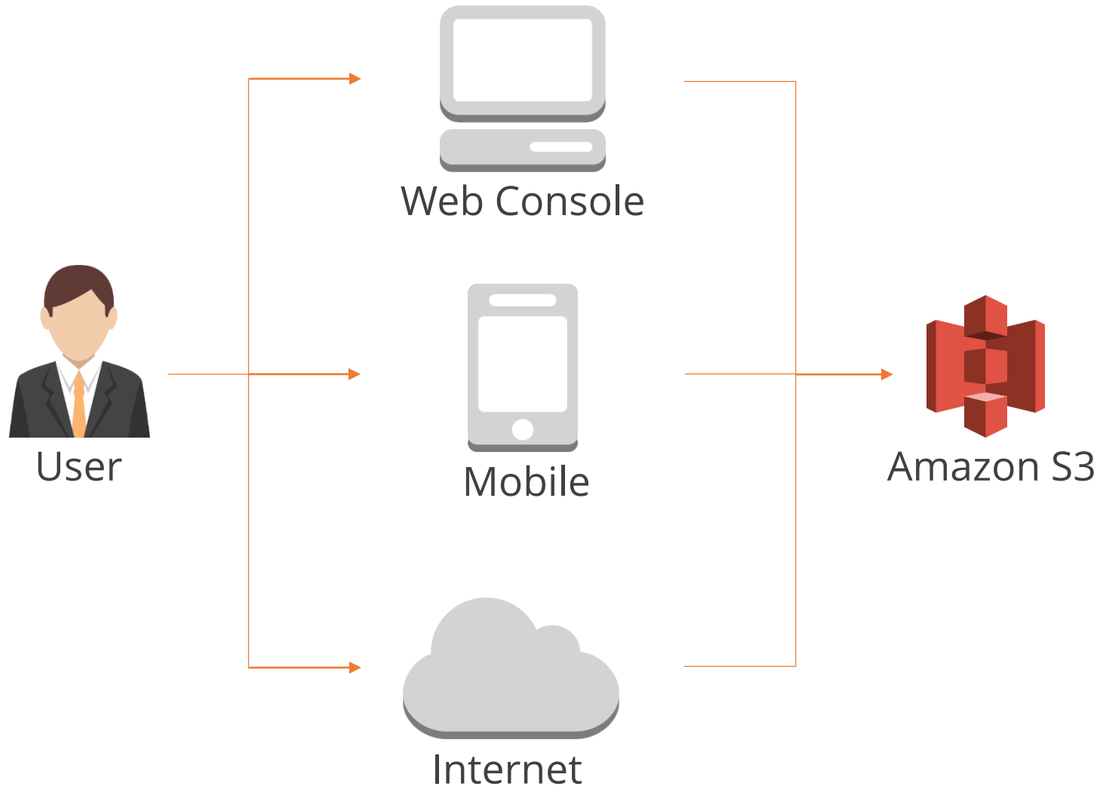
Integrated

S3 is integrated with many AWS products such as CloudFront, CloudWatch, RDS, EBS, and Lambda.



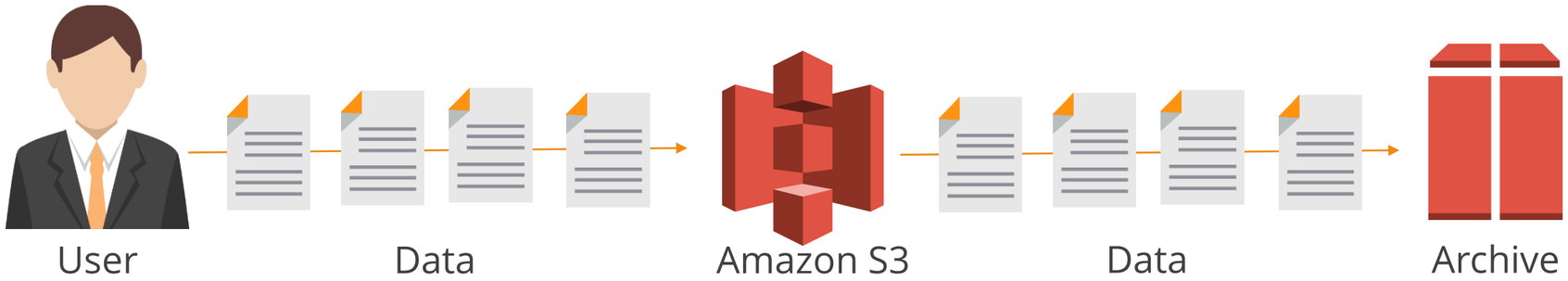
Easy to Use

S3 has multiple connectivity options: Simple web-based console, AWS CLI, mobile app, and API/SDK access.



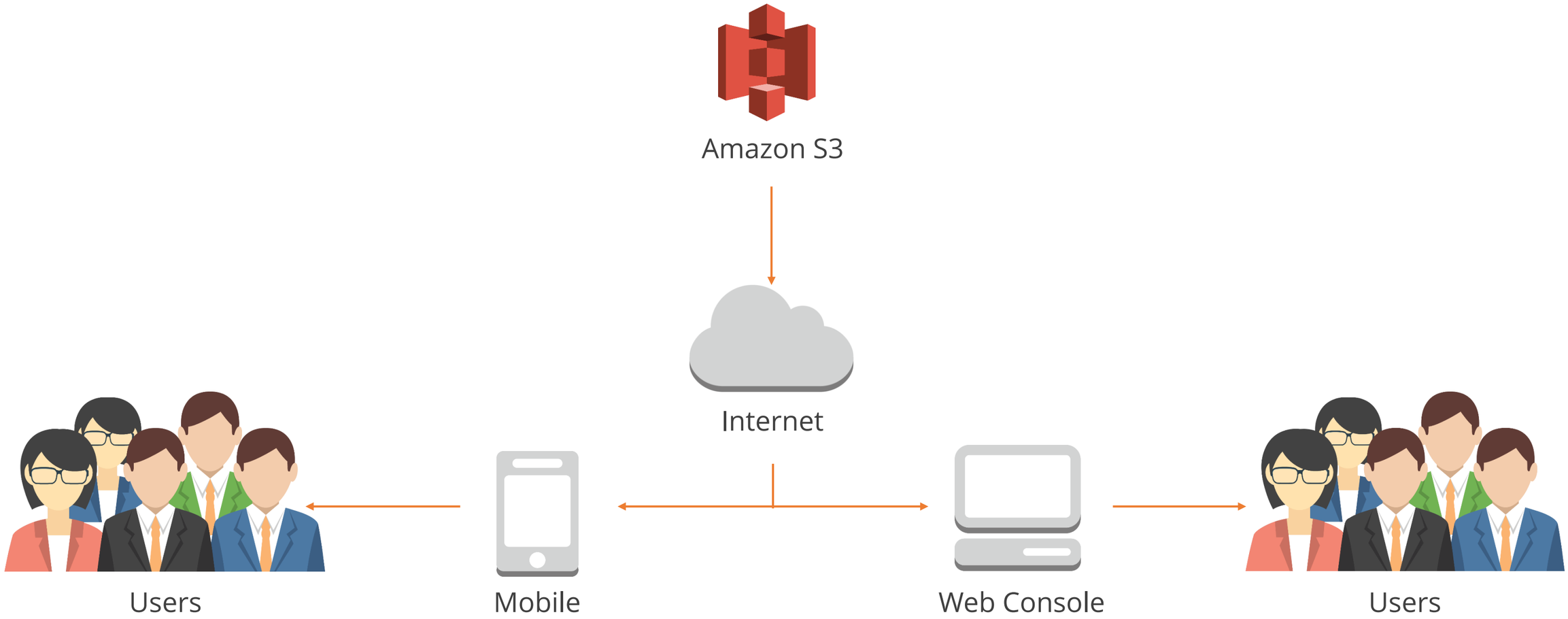
Backup and Archiving

Amazon S3 is ideal for backing up and archiving critical data. You can store unlimited amount of data if required.



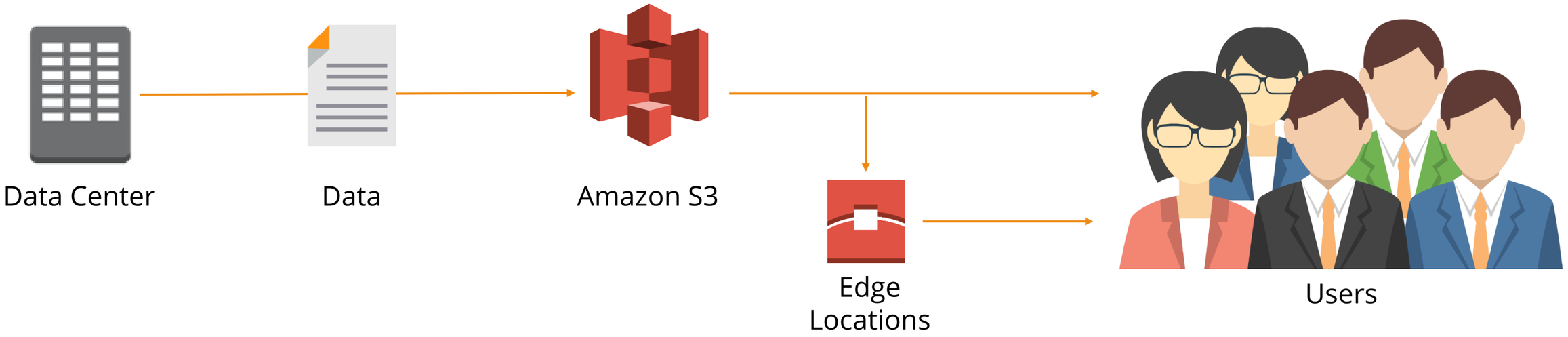
Elastic Web-Scale Computing

Amazon S3 is an object-based store and is accessible via a web interface, so you can store and retrieve your data anywhere on the web from anywhere in the world.



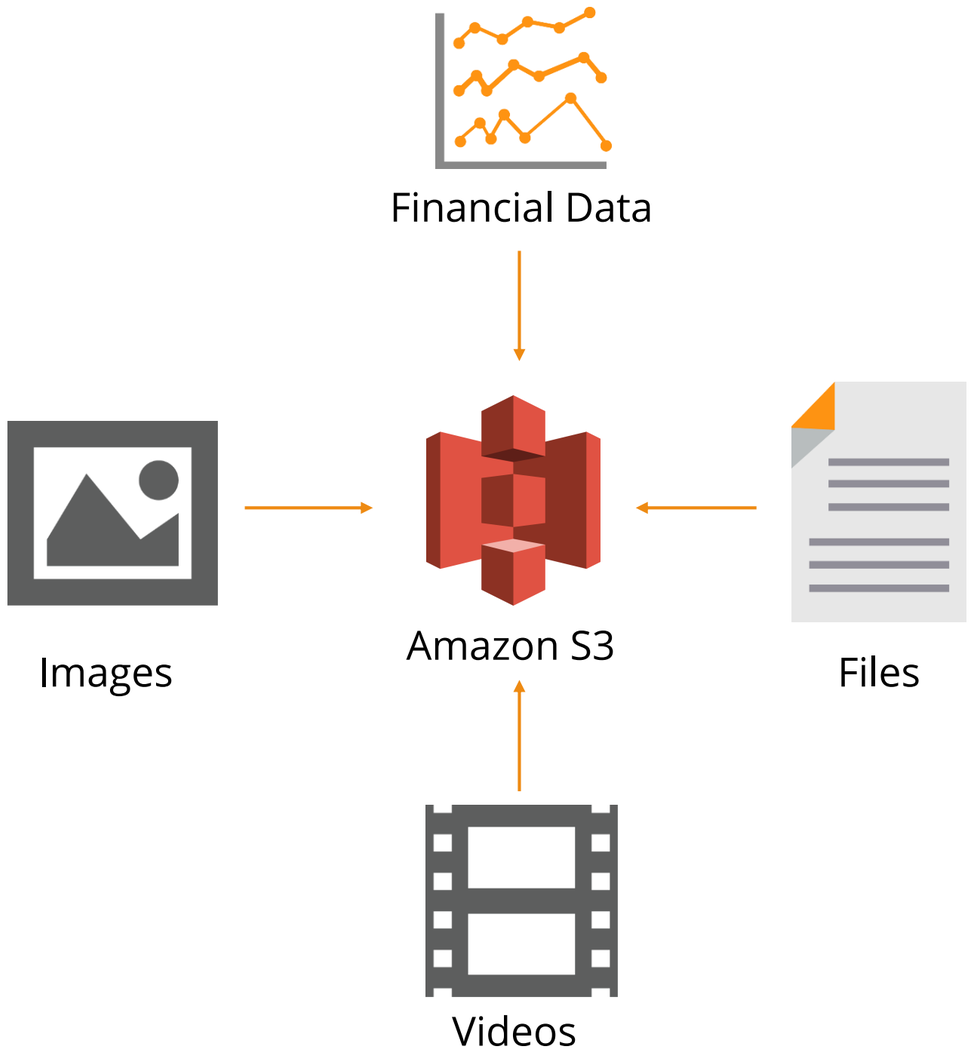
Content Storage and Distribution

You can offload your entire storage infrastructure to the cloud to minimize costs. You can distribute your content directly from S3 to end users, or use S3 as a source to deliver content to Amazon CloudFront edge locations.



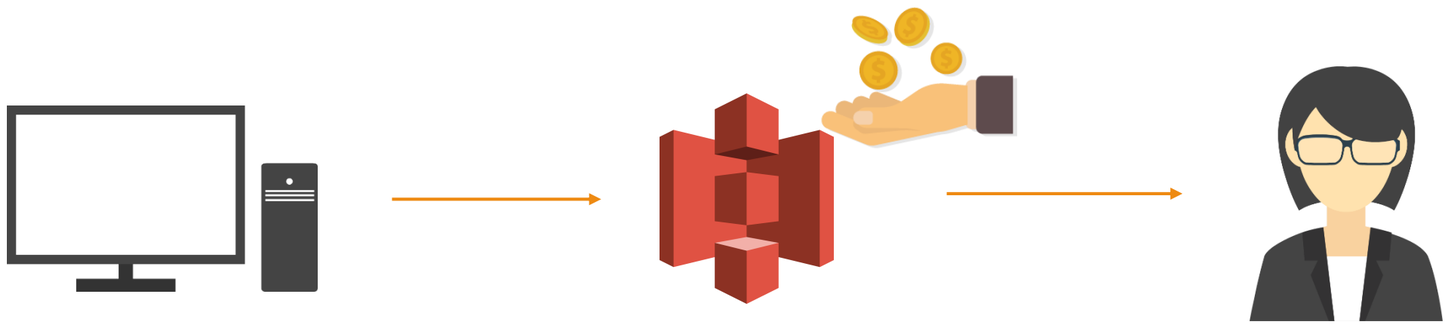
Big Data

Amazon S3 is designed to be used as a Big Data object store for things like photos, videos, and financial data.



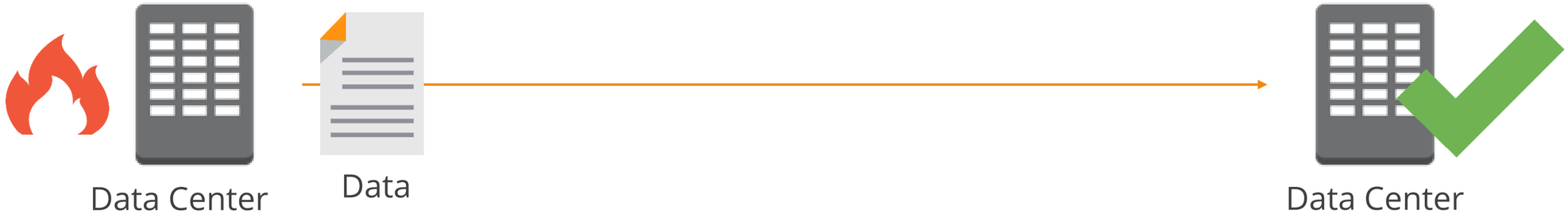
Static Website Hosting

Amazon S3 allows you to host your entire static website at a low cost. It provides you with a highly available hosting solution.



Disaster Recovery

Amazon S3 offers a robust disaster recovery solution. All data stored on S3 is automatically replicated to a different Availability Zone, and you can copy it to other regions using Cross-Region Replication.

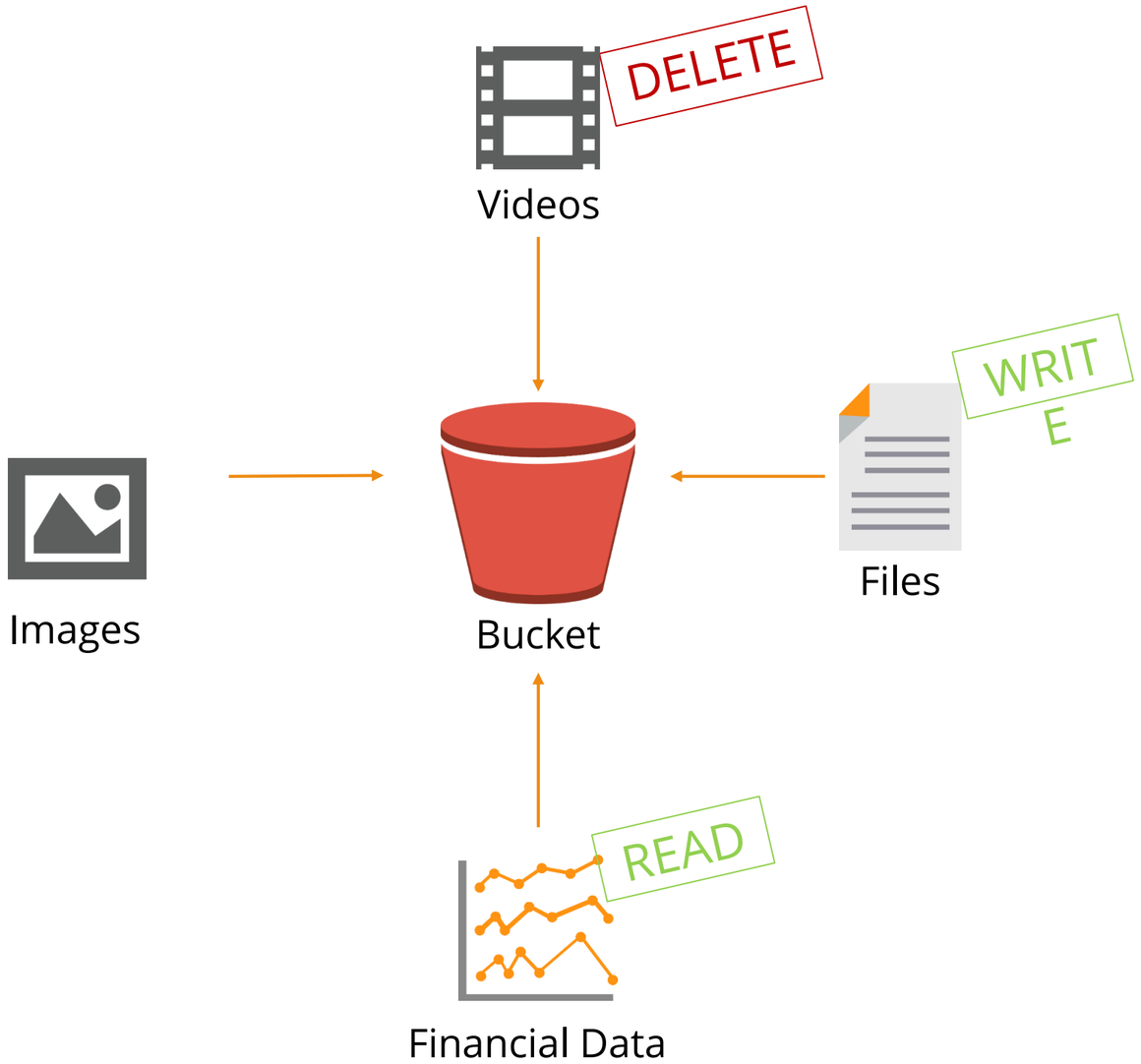


Amazon S3 Buckets

Details about Amazon S3 Buckets

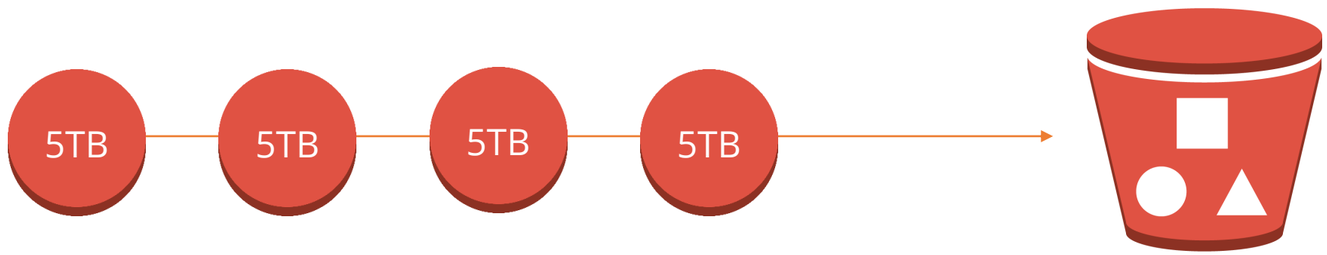
Buckets

All Amazon S3 data is stored in “buckets.” A bucket is a folder from which you can read, write, and delete objects.



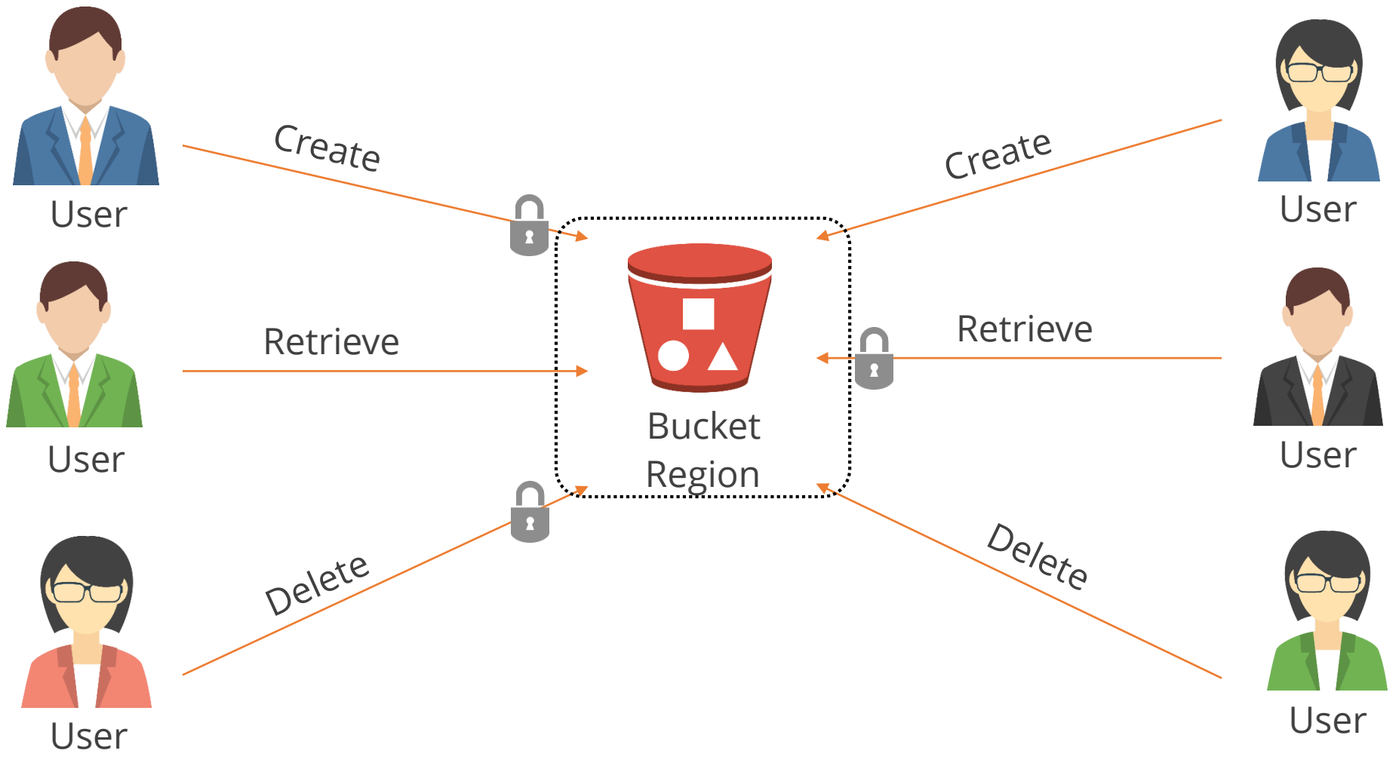
Buckets (contd.)

You can store as many objects as you want in a bucket, but objects are limited in size to 5TB and the largest PUT operation is 5GB.



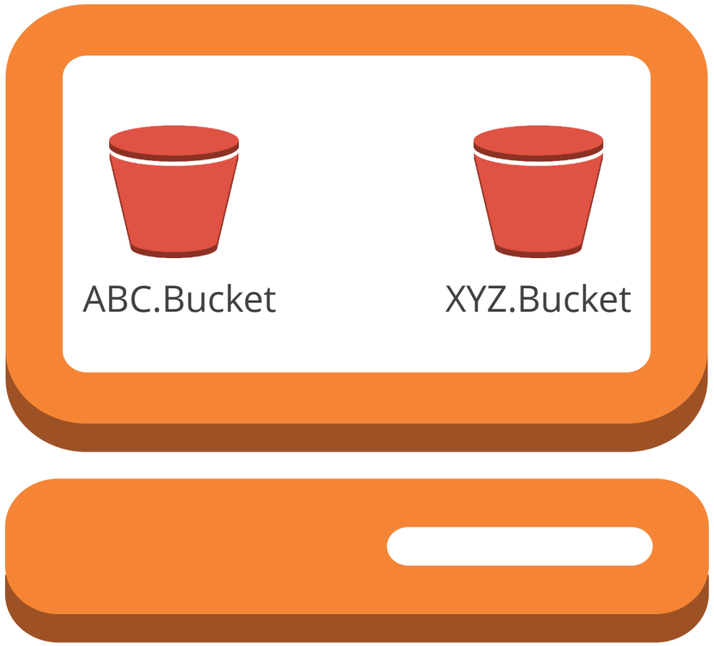
Bucket Security

You can control access to each bucket action: create, delete, and retrieve objects.



Create Bucket

You can create buckets using the web console or AWS CLI.



AWS Console

Bucket Names

Follow the listed bucket-naming conventions to avoid errors.

- Bucket names must be between 3 and 63 characters long.
- Bucket names must be a series of one or more labels.
- AWS recommends separating labels with a single period (.).
- Bucket names can contain lowercase letters, numbers, and hyphens.
- Each label must start and end with a lowercase letter or a number.

Bucket Restrictions

Buckets have the following restrictions attached to them:

- You can create a maximum of 100 buckets in each of your AWS accounts.
- You can’t transfer the ownership of a bucket.
- You can store an unlimited number of objects in a bucket.
- You can’t create a bucket within another bucket.

Amazon S3 Storage Classes

Amazon S3 comes in the following range of storage classes:

- Amazon S3 Standard
- Amazon S3 Standard—Infrequent Access
- Amazon S3 Reduced Redundancy Storage
- Amazon Glacier

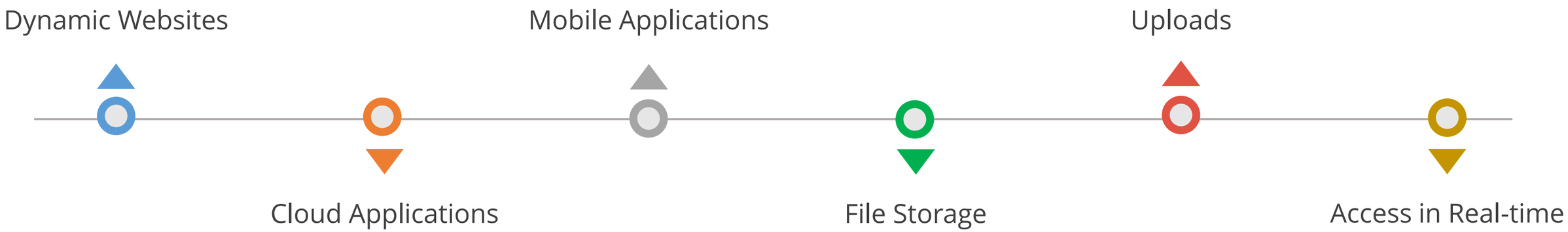
Amazon S3 Standard

Following are the features of Amazon S3 Standard:

01	Designed for high availability and durability
02	Used to store frequently accessed data
03	Designed for 11 9’s of durability
04	Designed for 99.99% availability
05	Low latency and high throughput

Amazon S3 Standard Uses

You can use Amazon S3 for the following:



Amazon S3 Standard—Infrequent Access

Following are the features of Amazon S3 Standard—Infrequent Access:

01	Designed for objects that are accessed less frequently
02	Demands rapid access
03	Designed for 11 9's of durability, high throughput, and low latency
04	Lower cost per GB but has a per GB retrieval fee

Amazon S3 Standard—Infrequent Access Uses

Amazon S3 Standard—Infrequent Access is used for data not required very often, for example, database backups taken earlier in the month but which might be required at a moment's notice.

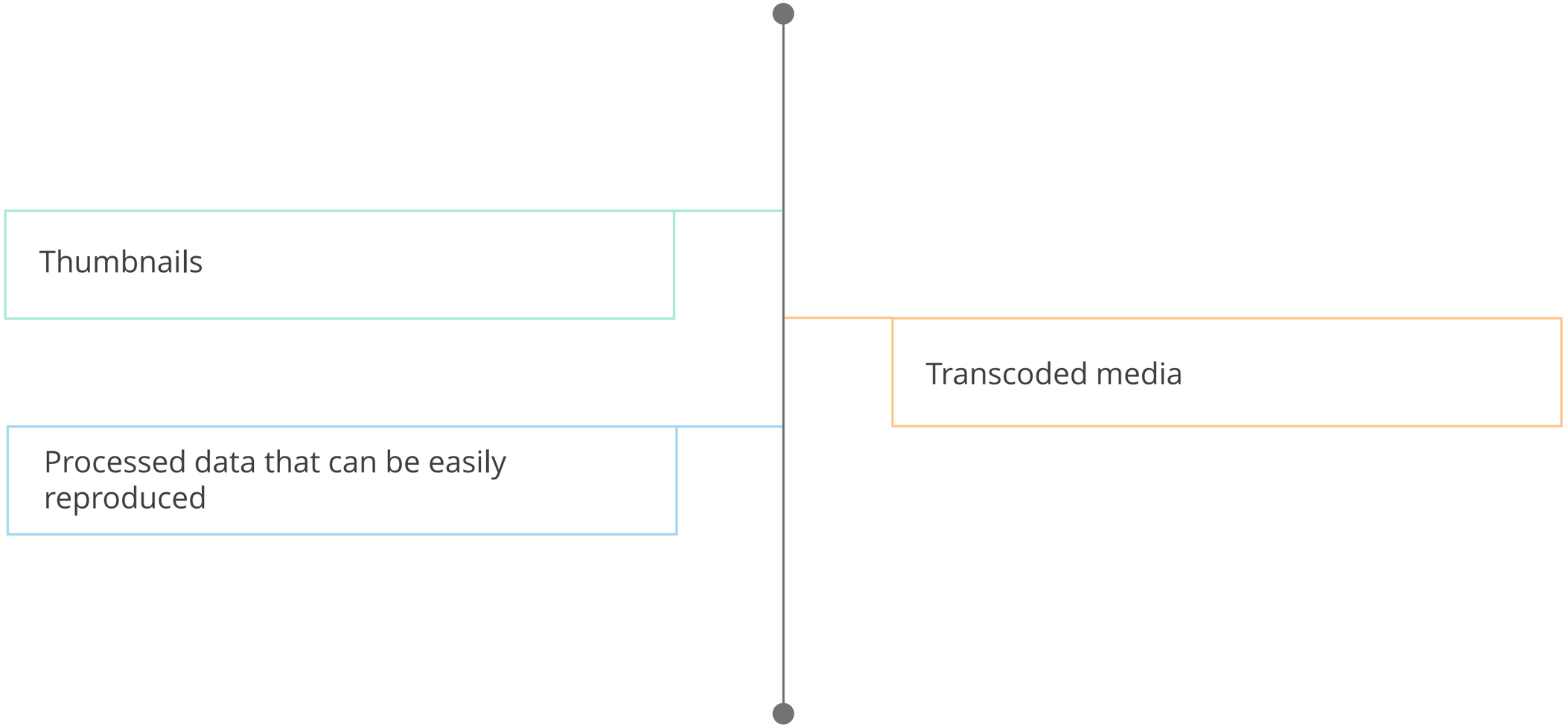
Amazon S3 Reduced Redundancy Storage

Following are the features of Amazon Reduced Redundancy Storage:

01	Designed to store noncritical data at lower costs
02	Designed for noncritical objects
03	Designed for objects that are reproducible
04	Designed for lower durability
05	Designed for lower availability

Amazon S3 Standard Reduced Redundancy Storage Uses

A cost-effective solution for distributing data that is easily reproducible and has been durably stored elsewhere.



Amazon Glacier

Following are the features of Amazon Glacier:

01	Designed for archiving rarely accessed data
02	Provided only longer file retrieval time but now provides a retrieval option to pay more and get files quickly
03	Designed for durability of 11 9’s
04	Provides a secure vault lock feature
05	Provides the lowest cost availability

Amazon Glacier Uses

Amazon Glacier is used for database backups, compliance data, or audit log files that are rarely accessed but need to be available when required.

Amazon Retrieval Options

The following table presents the retrieval options:

	EXPEDITED	STANDARD	BULK
Retrieval Time	1-5 minutes	3-5 hours	5-8 hours
Retrieval Requests	Charge per request	Charge per 1000 requests	Lowest charge per 1000 requests +
Data Retrieval	Charge per GB	Lower charge per GB	Lowest charge per GB

Amazon S3 Storage Comparison

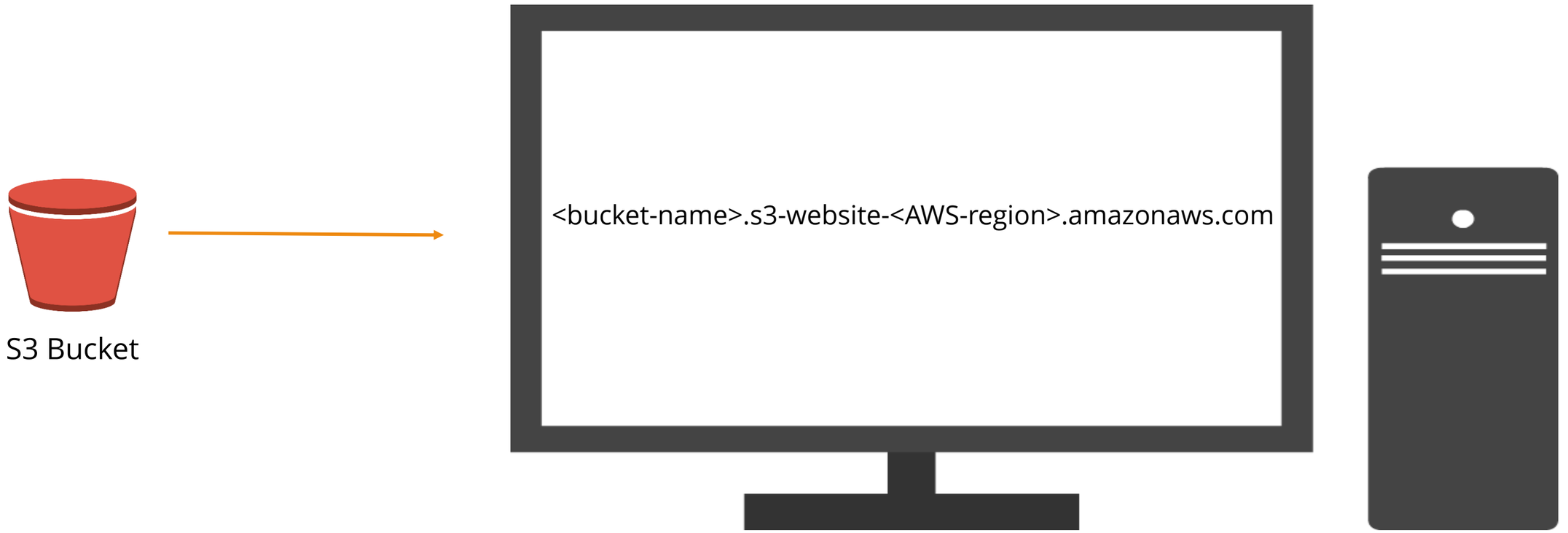
The following table presents the comparisons between the four storage options:

	STANDARD	STANDARD - IA	GLACIER	RRS
Durability	99.999999999%	99.999999999%	99.999999999%	99.99%
Availability	99.99%	99.99%	N/A	99.99%
Min Storage Duration	N/A	30 days	90 days	N/A
Retrieval Fee	N/A	Per GB retrieved	Per GB retrieved	N/A
First Byte Latency	milliseconds	milliseconds	Minutes-hours	Milliseconds

Access Amazon S3 from the Internet

You can easily host static websites from Amazon S3. You can configure buckets for static website hosting and then upload your website code to your bucket. It will become accessible from the URLs.

The naming convention is: <bucket-name>.s3-website-<AWS-region>.amazonaws.com



URL Access from Amazon S3

You can provide URL access to the objects stored in your bucket by enabling website hosting. For example, the following URL will request the photo.jpg object, which is stored at the root level in a bucket.

http://<bucket-name>.s3-website-<AWS-region>.amazonaws.com /photo.jpg

You can also provide URL access to the objects without enabling website hosting as long as you set up appropriate information in the URL. The following URL requests access to the healthcheck.html file that is stored in a bucket named “simplilearn.”

https://s3.amazonaws.com/simplilearn/health_check.html

Demo 1: Create and access an Amazon S3 Bucket

Demonstrate how to create and access an Amazon S3 Bucket.

Knowledge Check

KNOWLEDGE CHECK	Amazon S3 bucket names have to be _____.

a. unique in each region

b. unique in each Availability Zone

c. unique across all regions

d. more than 63 characters long

KNOWLEDGE CHECK	Amazon S3 bucket names have to be _____.

a. unique in each region

b. unique in each Availability Zone

c. unique across all regions

d. more than 63 characters long

The correct answer is **c**.

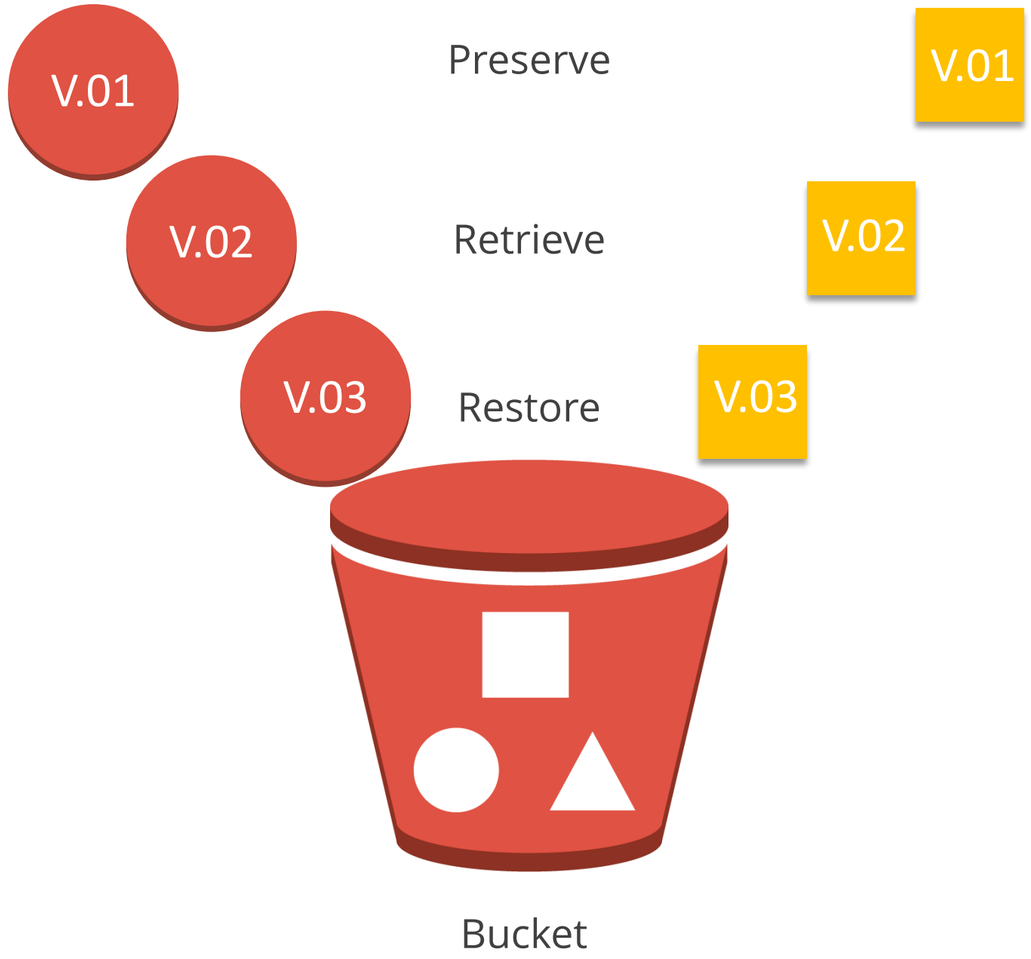
Amazon S3 bucket names have to be unique globally and between 3 and 63 characters in length.

Version Control

Details of Amazon S3 Version Control

Version Control

Versioning is used to preserve, retrieve, and restore earlier versions of every object you store in your S3 buckets.



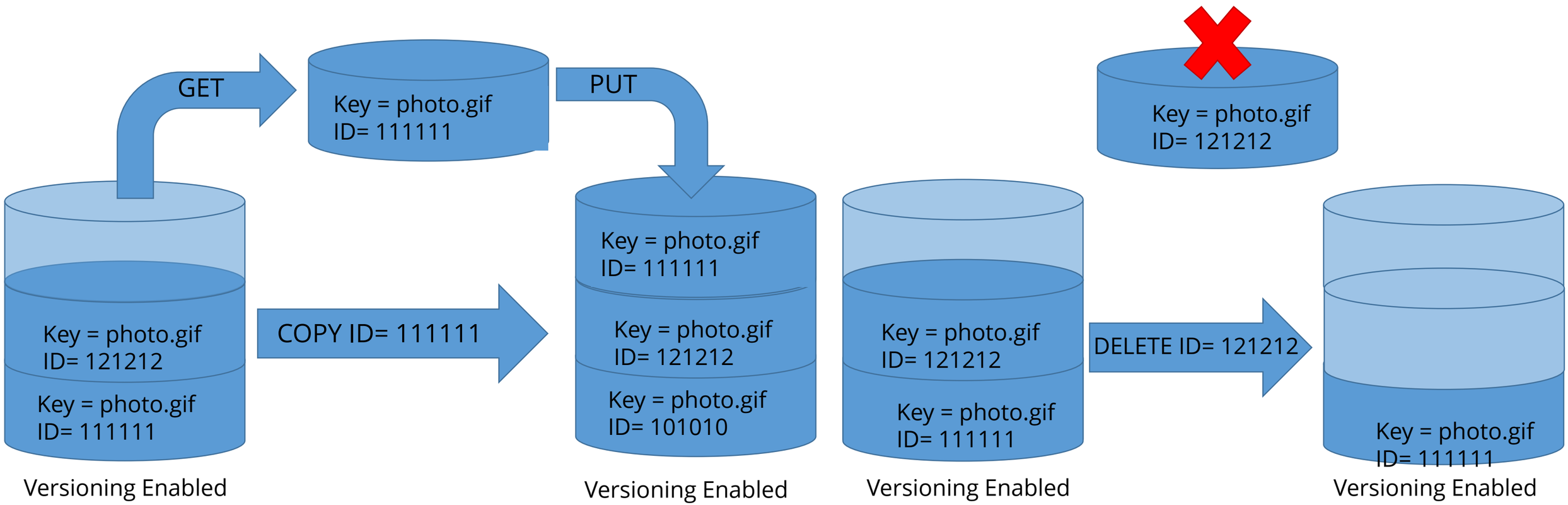
Version Control (contd.)

Versioning helps you recover your files from accidental deletion or overwrite.

Restoring a Previous Version

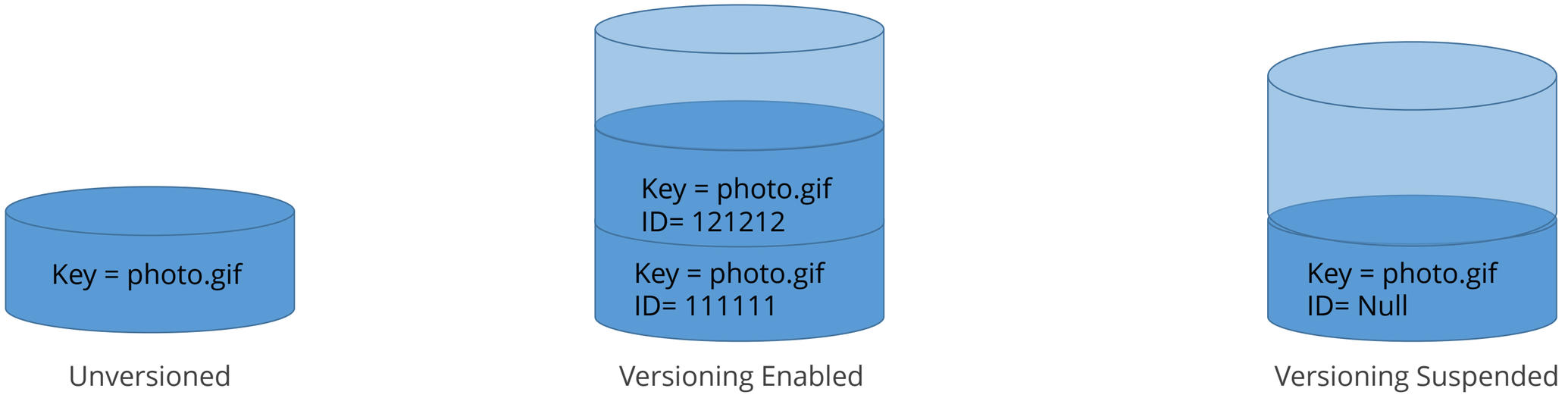
There are two approaches to restore a previous version:

1. Copy the previous version of the object into the bucket
2. Delete the current version of the object



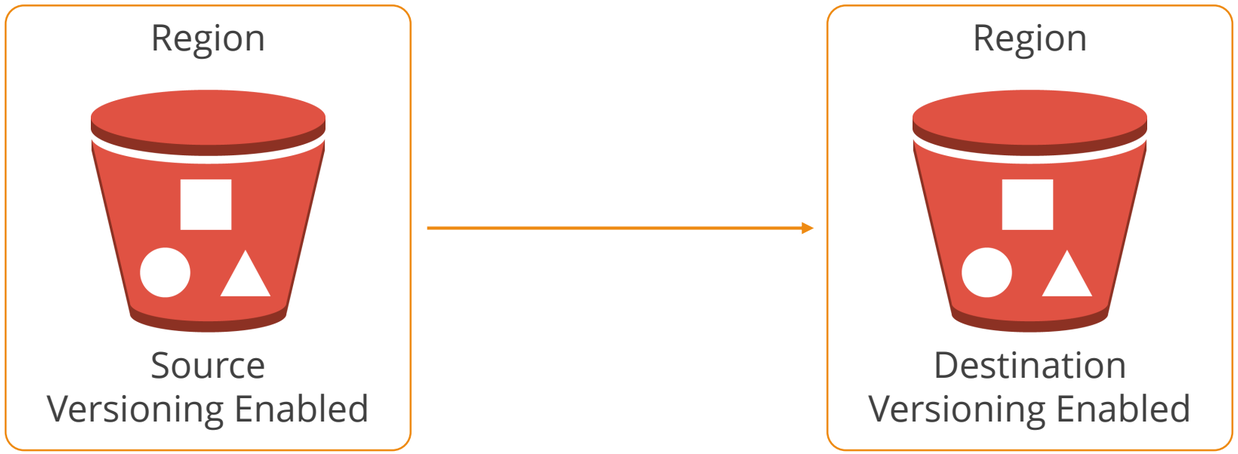
Version Control States

Buckets can be in one of the three states: unversioned (the default), versioning-enabled, or versioning-suspended.



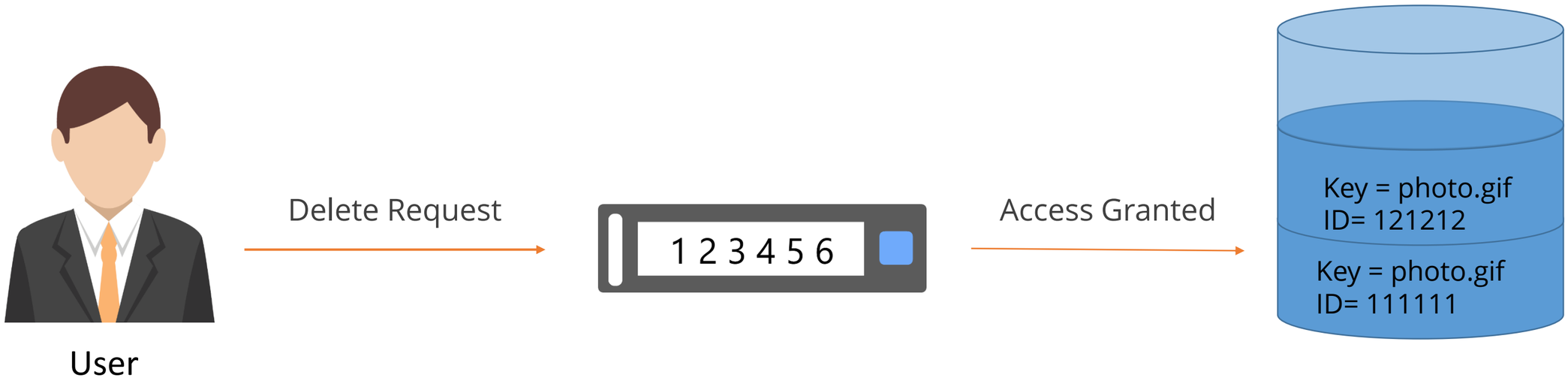
Cross-Region Replication

Cross-region replication is a bucket-level feature that enables automatic, asynchronous copying of objects across buckets in different AWS regions. You need to enable versioning on both the source and destination buckets.



MFA Delete

Amazon S3 allows you to protect your data by enabling Multi-Factor Authentication, or MFA, delete.



Demo 2: Amazon S3 Version Control

Demonstrate the Version Control functionality.

Knowledge Check

KNOWLEDGE CHECK

Which of the following is NOT an Amazon S3 version control state?

a. Unversioned

b. Versioning-enabled

c. Versioning-disabled

d. Versioning-suspended

KNOWLEDGE CHECK

Which of the following is NOT an Amazon S3 version control state?

a. Unversioned

b. Versioning-enabled

c. Versioning-disabled

d. Versioning-suspended

The correct answer is **c**.

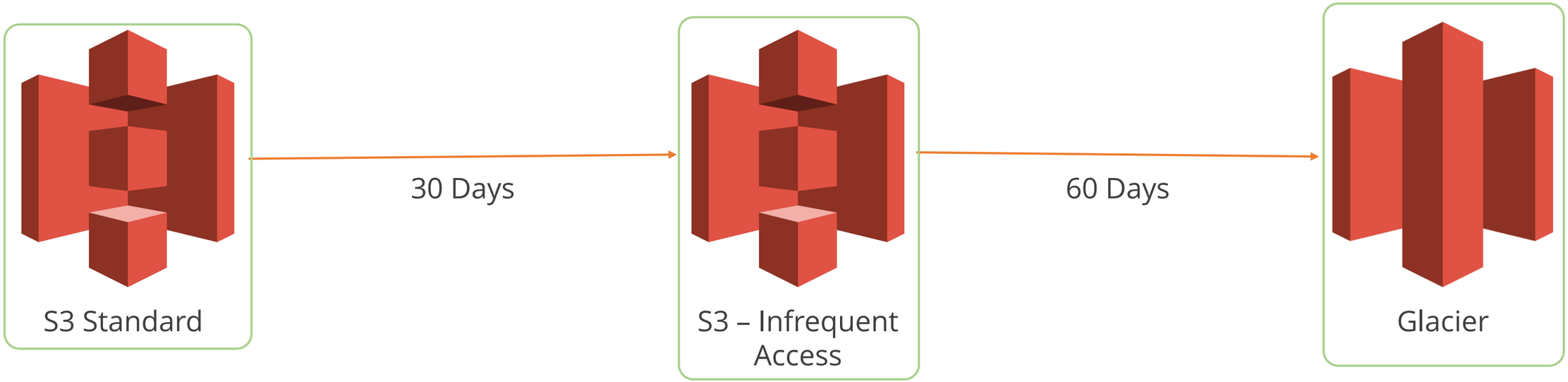
Versioning cannot be disabled; it can only be enabled or suspended.

Amazon S3 Lifecycle Management

Details of Amazon S3 Lifecycle Management

Lifecycle Management

S3 allows you to define how Amazon manages objects during their lifetime. You can configure S3 to move your data between the various storage classes on a defined schedule.



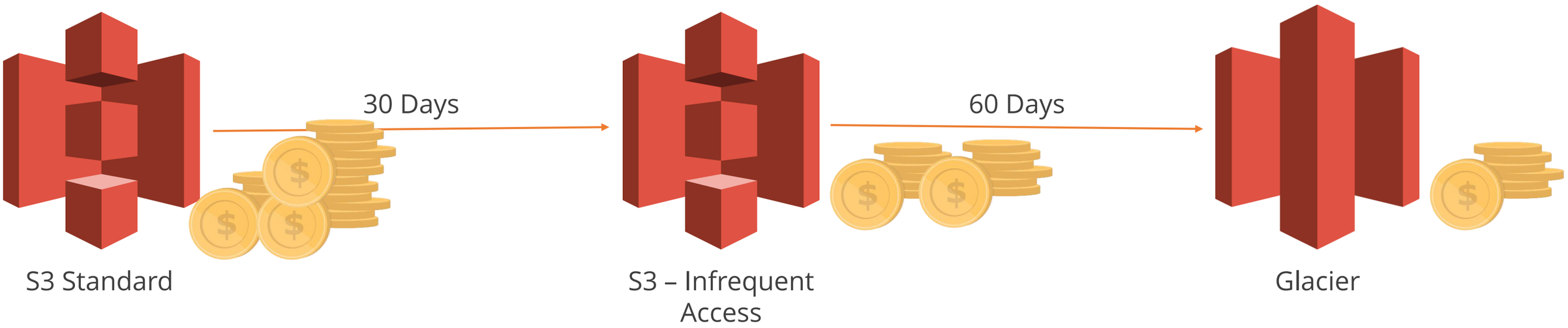
Lifecycle Management (contd.)

You can configure Lifecycle configuration rules such as:

- Automatically delete files after a certain period of time, for example, log files that you might only need for a week.
- Certain files might only need to be accessed for a limited period of time and then they can be archived.
- Files kept only for regulatory or compliance reasons can be archived and stored for longer terms.

Lifecycle Management Benefits

Lifecycle Management allows you to move your objects to cheaper storage platforms as the files get older and are less frequently required.



Lifecycle Management Rules

Following are the Lifecycle management rules:

You can configure as many as 1000 lifecycle rules per bucket.

You can define a rule for all objects or a subset of objects in the bucket.

You can disable a rule temporarily.

Standard/RRS to Standard—IA

The listed rules required to be followed while moving objects from Standard/RRS to Standard—IA are as follows:

- Objects must be larger than 128KB.
- Objects must be stored at least 30 days in Standard/RRS.
- Versioned objects must also be at least 30 days old.

Standard/RRS/Standard—IA to GLACIER

The listed rules required to be followed while moving objects from Standard/RRS/Standard—IA to Glacier are as follows:

- Glacier stored objects are not available in real time.
- To access an archived object in Glacier, you first need to restore a temporary copy of it.
- The restored object is only available for the duration you specify during the restore request.
- Glacier requests can take up to 5 hours.

Other Restrictions

The following restrictions are associated with the movement of objects between the different storage options:

- You cannot transition from Standard—IA to Standard or Reduced Redundancy.
- You cannot transition from Glacier to any other storage class.
- You cannot transition from any storage class to Reduced Redundancy.

Demo 3: Amazon S3 Lifecycle Management

Demonstrate how to configure and use Lifecycle Management.

Knowledge Check

KNOWLEDGE CHECK

Which of the following Lifecycle Management rules is possible?

a. Glacier to Standard

b. Standard IA to Standard

c. Glacier to RRS

d. Standard to Standard IA

KNOWLEDGE CHECK

Which of the following Lifecycle Management rules is possible?

a. Glacier to Standard

b. Standard IA to Standard

c. Glacier to RRS

d. Standard to Standard IA

The correct answer is **d.**

Standard to Standard IA is a supported Lifecycle Management rule, as is RRS to Standard IA, RRS to Glacier, and Standard IA to Glacier.

CloudFront and CDNs

Details of how Amazon S3 integrates with CloudFront

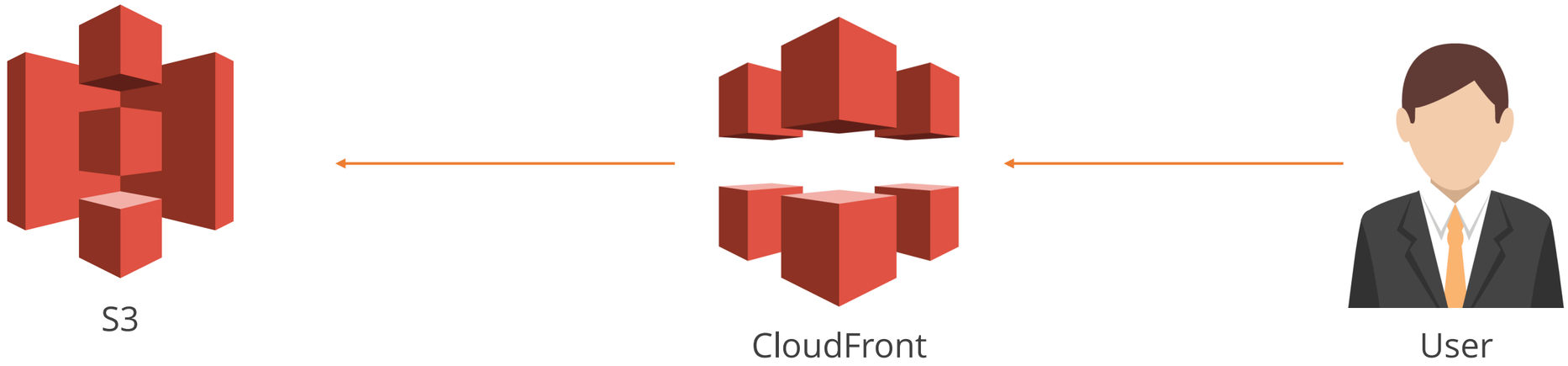
Amazon CloudFront

Amazon CloudFront is a global Content Delivery Network (CDN) service which provides a way to distribute content to end users with low latency, high data transfer speeds, and no minimum usage commitments.

- Regions and Availability Zones
- New regions coming soon

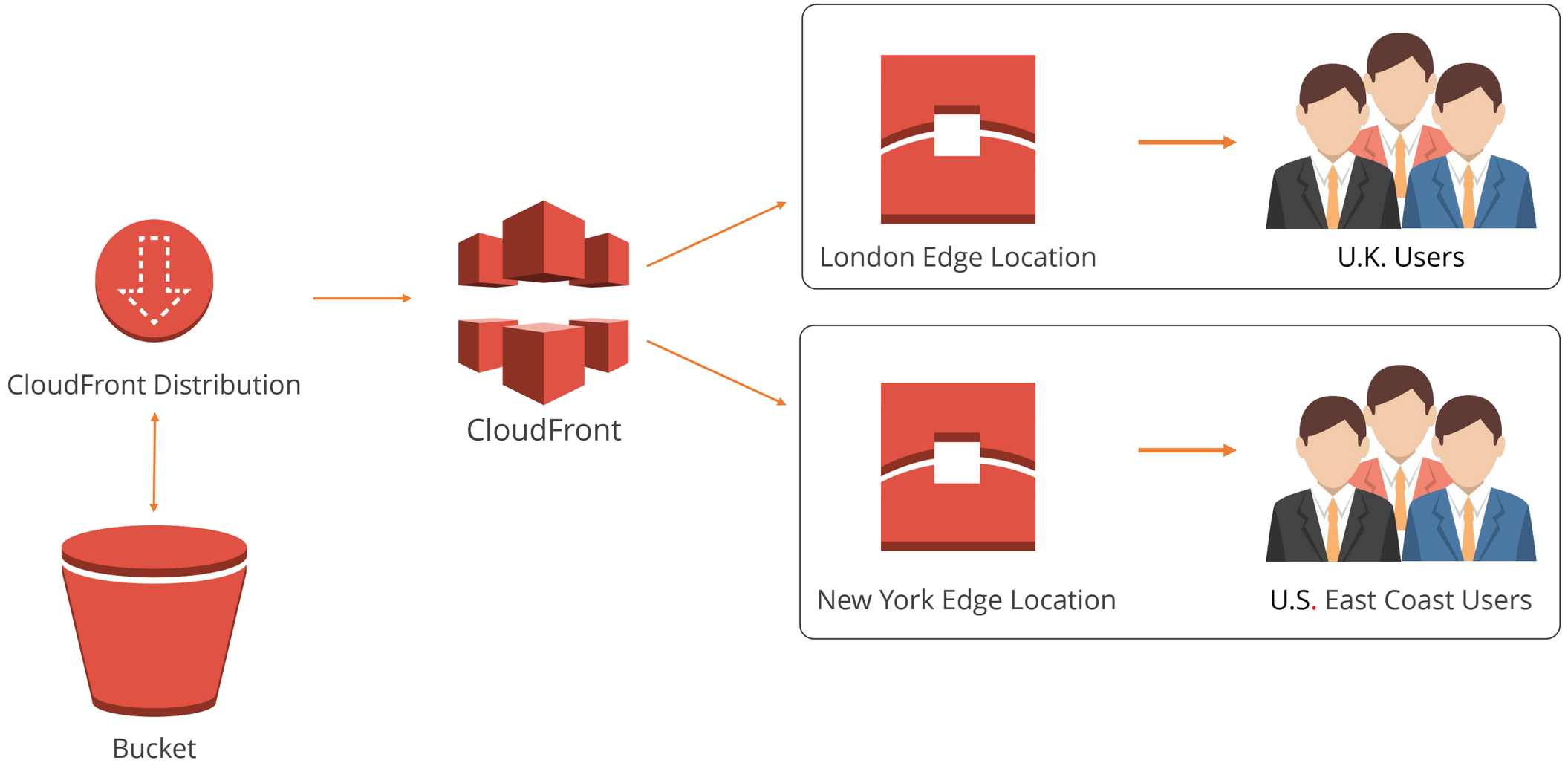
CloudFront and S3

Amazon S3 can be used as an “origin” server to store original versions of your files. An origin server is the location of the definitive version of an object.



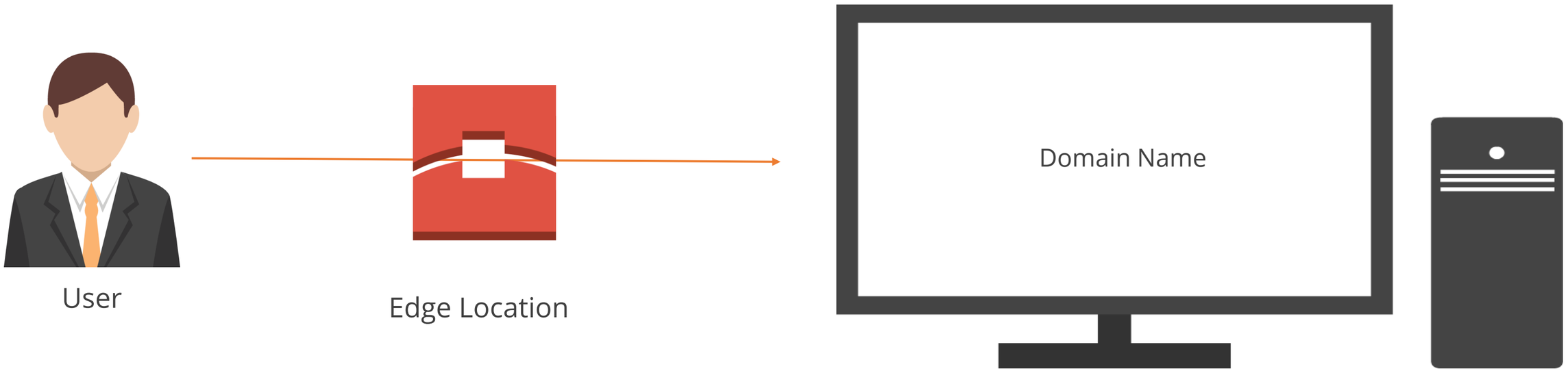
CloudFront Origin Servers

When users request for particular files, "CloudFront distributions" notify CloudFront about the origin servers from which to retrieve the files.



CloudFront Distributions

CloudFront gives you a domain name which you can use in your web pages or application. When end users request an object using this domain name, they are automatically routed to the nearest edge location so that your content is delivered with low latency.



Web Distribution vs. RTMP

Following is the difference between Web distribution and RTMP:

Web Distribution is used to deliver content such as html, CSS, image files over HTTP or HTTPS

RTMP is used for media streaming using Adobe Media server and Adobe Real-Time Messaging Protocol

CloudFront Rules

Following are the CloudFront rules:

- Edge locations are not just read-only; you can also write to them.
- Objects are cached for the life of the TTL (time to live).
- You can clear cached objects, but you'll be charged for them.

Demo 4: Amazon CloudFront

Demonstrate how to use Amazon CloudFront and Amazon S3.

Knowledge Check

KNOWLEDGE CHECK

What is the purpose of Amazon CloudFront?

a. To provide disaster recovery for objects stored in your S3 buckets

b. To distribute content to end users with low latency

c. To reduce the costs of running a web site or media streaming service

d. To host your web site source code

KNOWLEDGE CHECK

What is the purpose of Amazon CloudFront?

a. To provide disaster recovery for objects stored in your S3 buckets

b. To distribute content to end users with low latency

c. To reduce the costs of running a web site or media streaming service

d. To host your web site source code

The correct answer is **b**.

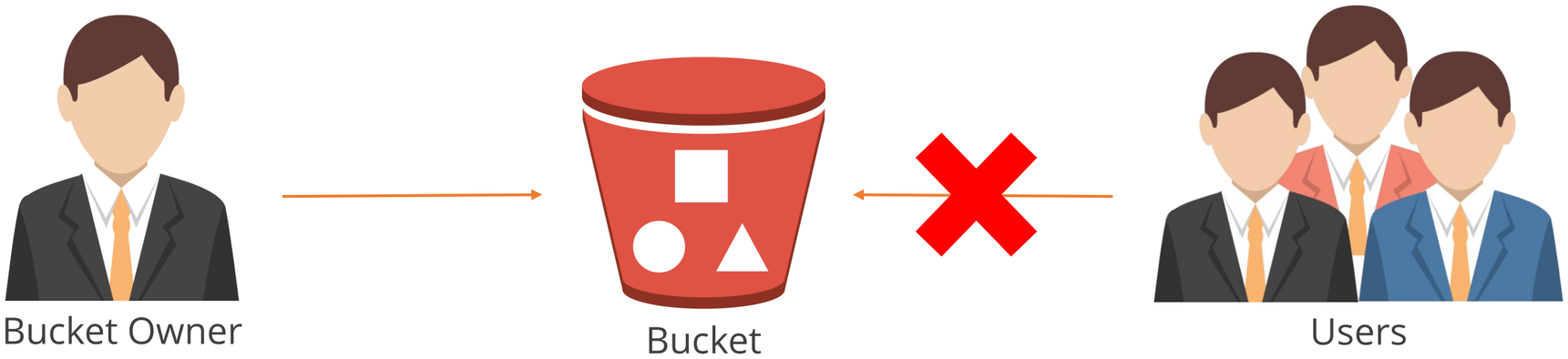
Amazon CloudFront is a way to distribute content to end users with low latency and high data transfer speeds.

Security and Encryption

Details about Amazon S3 security and encryption features

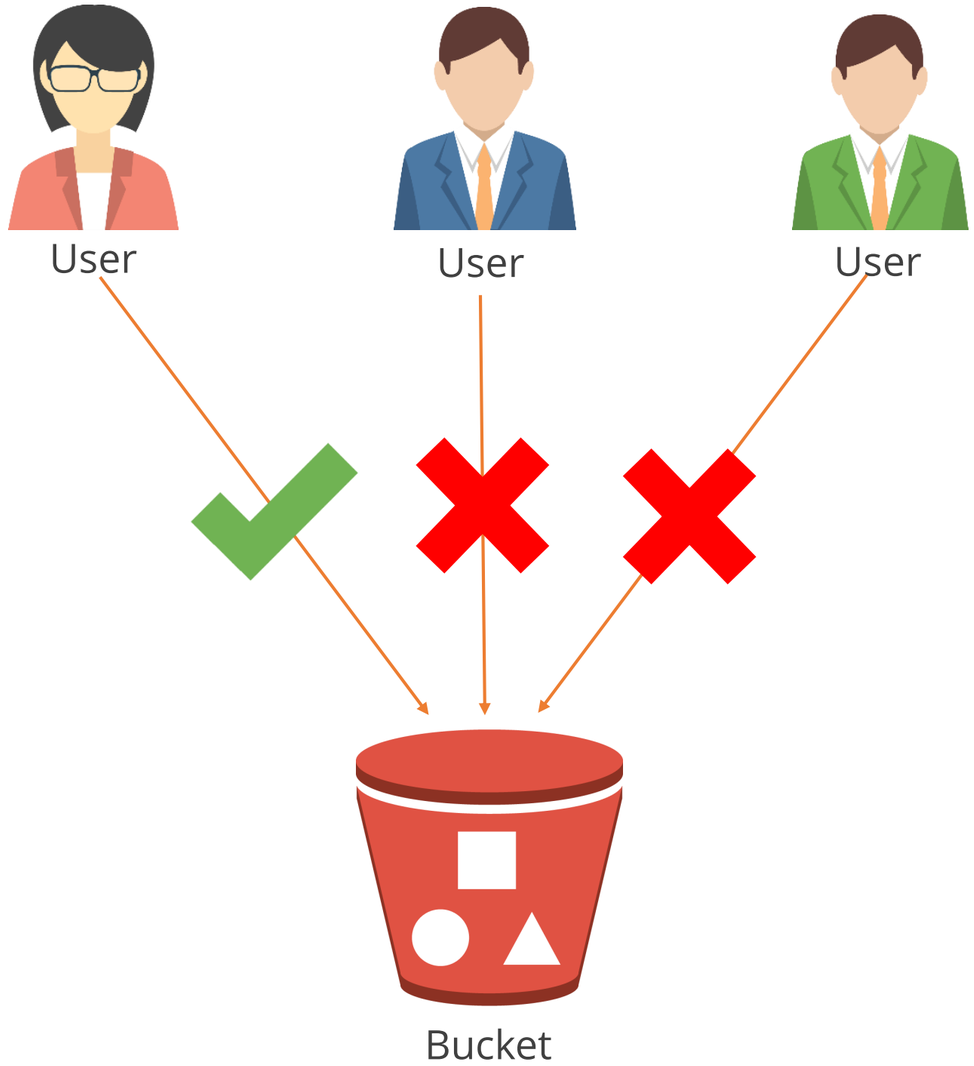
Security Methods

All data stored in Amazon S3 is secure by default as only bucket and object owners have access to the Amazon S3 resources they create.



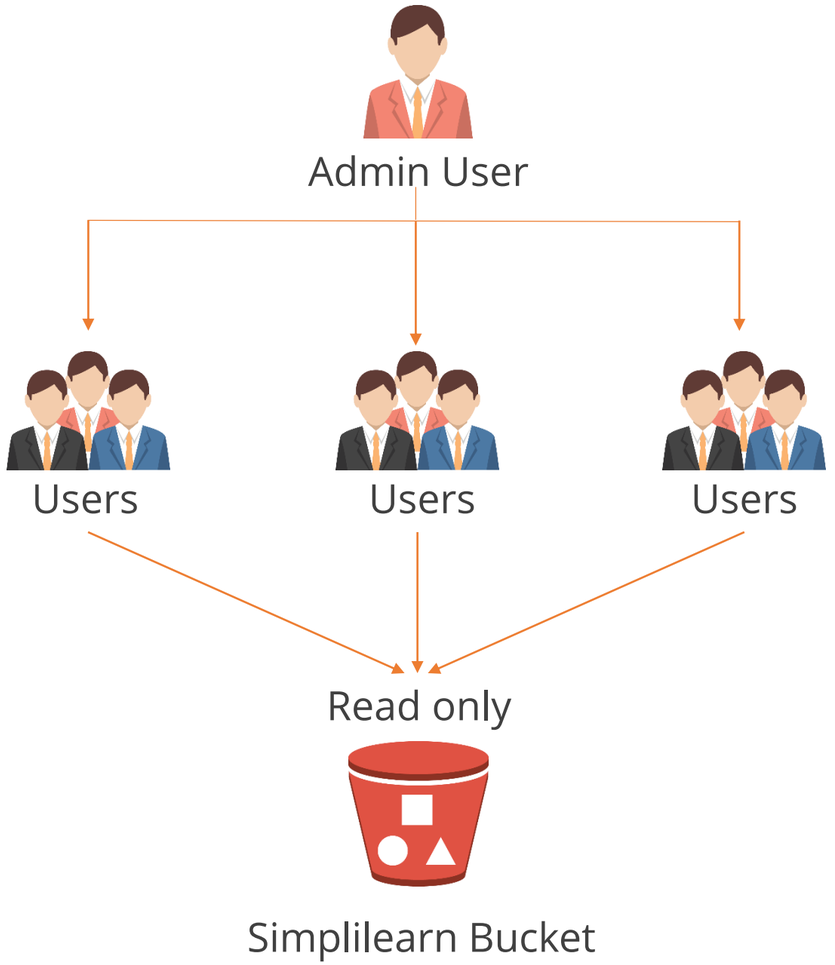
Bucket Policies

Bucket policies are created to add or deny permissions across some or all of the objects within an S3 bucket. You can define access by creating and keeping Access Control Lists up-to-date.



IAM Policies

IAM policies can be created to allow roles to inherit specific permissions to access S3 buckets or objects.



Query String Authentication

You can use Query string authentication to share Amazon S3 objects through URLs that are valid for a specified period of time.

Encryption—Data Transfer

Using Amazon S3 SSL-encrypted endpoints that use the HTTPS protocol you can securely upload or download your data.

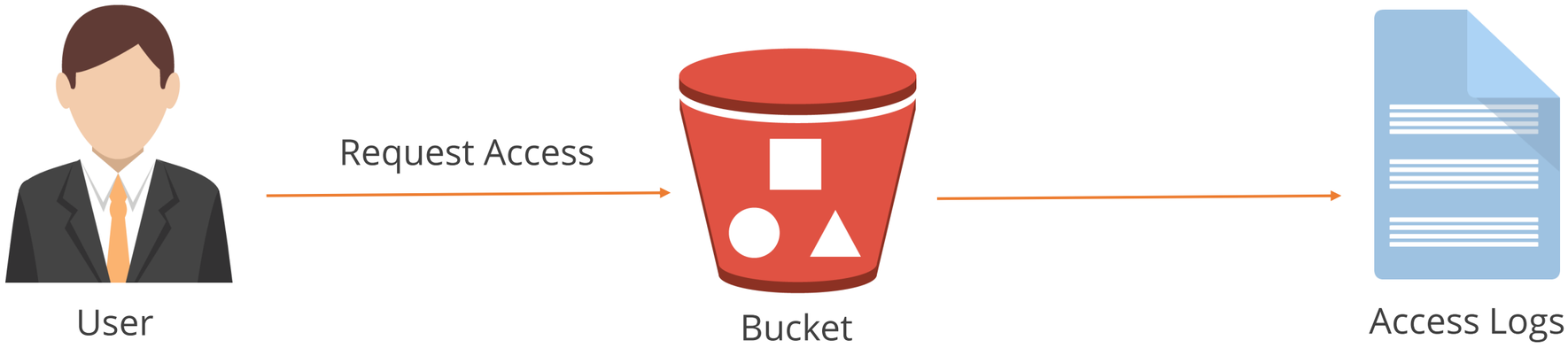
Encryption—Data at Rest

Amazon S3 can automatically encrypt your data using the following key management options:

01	Server-Side Encryption with Amazon S3-Managed Keys (SSE-S3)
02	Server-Side Encryption with AWS KMS-Managed Keys (SSE-KMS)
03	Server-Side Encryption with Customer-Provided Keys (SSE-C)

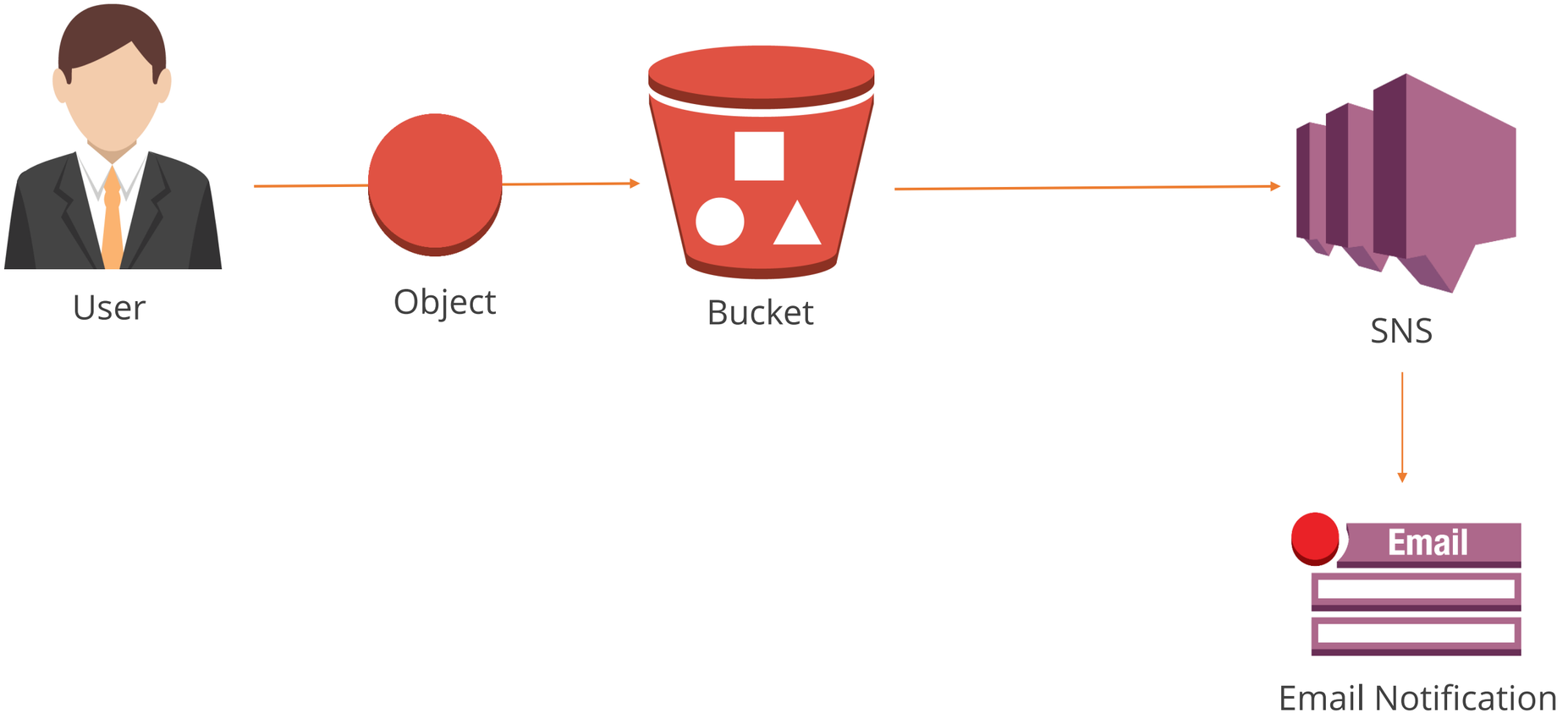
Logging

You can log requests made against your Amazon S3 resources by configuring your Amazon S3 bucket to create access log records.



Events

Event notifications can be configured to be sent via SNS or SQS whenever objects are uploaded or stored in Amazon S3.



Demo 5: Security and Encryption

Demonstrate how to configure the Security and Encryption features of Amazon S3.

Knowledge Check

KNOWLEDGE CHECK

Which of the following is NOT a method of securing access to Amazon S3 buckets?

a. Query String Authentication

b. IAM policies

c. Bucket Policies

d. Encryption

KNOWLEDGE CHECK

Which of the following is NOT a method of securing access to Amazon S3 buckets?

a. Query String Authentication

b. IAM policies

c. Bucket Policies

d. Encryption

The correct answer is **d**.

Encryption protects the objects stored in Amazon S3, but it doesn't provide secured access to the objects.

Amazon Import/Export Snowball

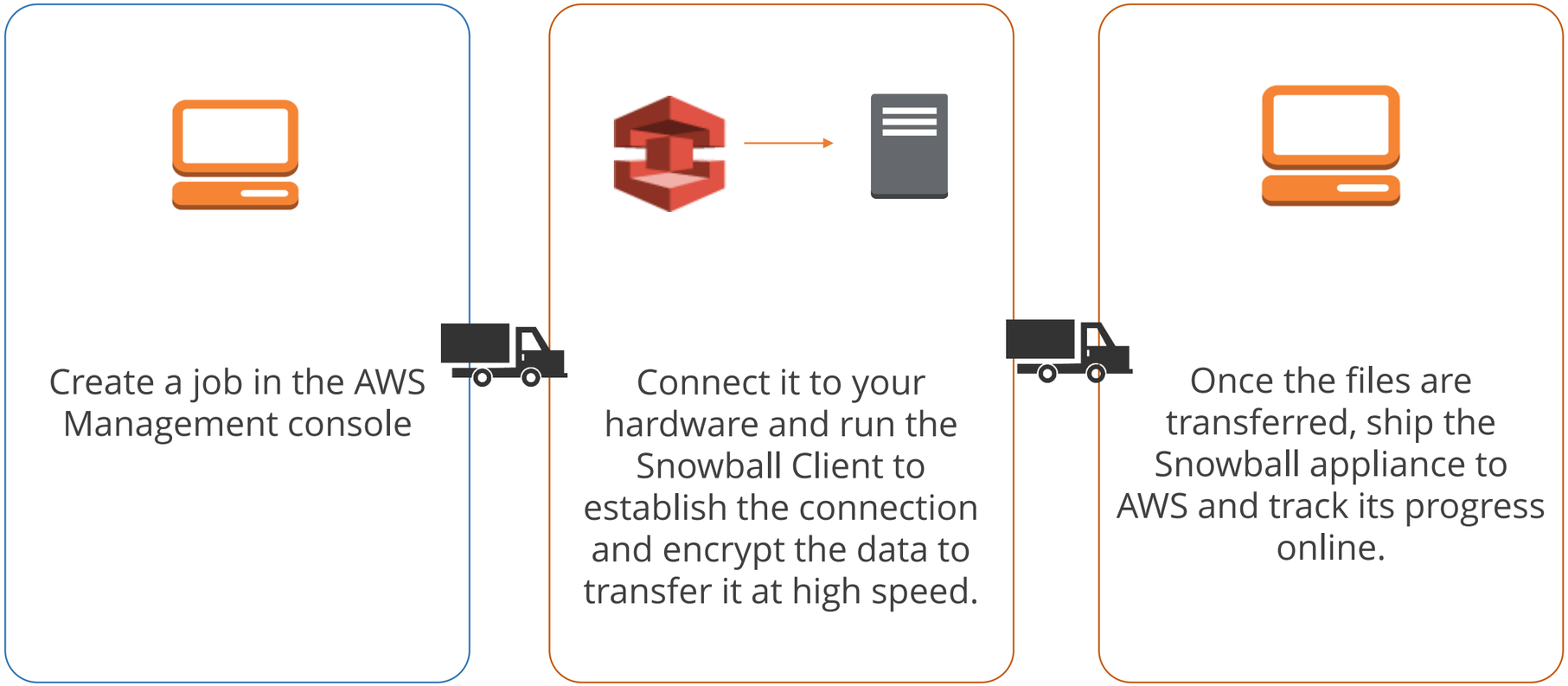
Details about Amazon Import/Export Snowball

Import/Export Snowball

Snowball is a petabyte-scale data transport solution that uses secure appliances to transfer large amounts of data into and out of the AWS Cloud. Snowball removes the need to transfer large amounts of data over the Internet.

Import/Export Snowball (contd.)

Snowball is a TB appliance that AWS ships to you to transfer your data.



AWS Snowball Edge

01	It is an updated version of Snowball with on-board storage and compute power for select AWS capabilities.
02	It is a 100 TB device.
03	In addition to transferring day-to-day data, it can also undertake local processing and Edge computing workloads.

AWS Snowball Edge

AWS Snowmobile

01	It is an Exabyte scale data transfer service used to move extremely large amounts of data to AWS.
02	It can be used to transfer up to 100PB.
03	It is semi-trailer truck that can used to move entire data centers to AWS.

AWS Snowmobile

Import/Export Snowball Uses

Following are the uses of Import/Export Snowball:

- Cloud Migration
- Disaster Recovery
- Datacenter Decommission
- Content Distribution

Amazon S3 Transfer Acceleration

Amazon S3 Transfer Acceleration enables fast, easy, and secure transfers of files over long distances between your client and your Amazon S3 bucket.

Knowledge Check

KNOWLEDGE CHECK

What is the capacity of AWS Snowball?

a. 70 Terabytes

b. 50 Petabytes

c. 80 Terabytes and 50 Terabytes

d. 80 Terabytes and 40 Terabytes

KNOWLEDGE CHECK

What is the capacity of AWS Snowball?

a. 70 Terabytes

b. 50 Petabytes

c. 80 Terabytes and 50 Terabytes

d. 80 Terabytes and 40 Terabytes

The correct answer is **d**.

AWS Snowball is now available in 80 Terabytes and 50 terabytes. It was earlier available in only 80 Terabytes. To Achieve Petabyte scale transfers, you need to send multiple snowball appliances.

Amazon S3 Best Practices

Overview of AWS S3 Best Practices

AWS S3 Best Practices

- Versioning and Lifecycle Management
- Encryption
- Detailed Billing Reports
- Restrict Deletes
- Maximize Performance

1. Enable versioning to protect your data and configure lifecycle policies to move your old versions to Glacier to save storage costs.
2. Configure old versions to be deleted at a suitable time in the future.

AWS S3 Best Practices (contd.)

- Versioning and Lifecycle Management
- Encryption
- Detailed Billing Reports
- Restrict Deletes
- Maximize Performance

1. SSE with Amazon S3 managed keys—check the box to encrypt your data at rest.
2. SSE with customer provided keys—you manage keys and provide them for PUTS and GETS.
3. SSE with AWS KMS—the keys are managed centrally by AWS KMS.

AWS S3 Best Practices (contd.)

- Versioning and Lifecycle Management
- Encryption
- Detailed Billing Reports
- Restrict Deletes
- Maximize Performance

1. They provide objects counts, storage GB, requests, and data transfer usage down to the bucket level.
2. You can turn the reports on via the preferences page in the Billing and Costs Management console.
3. They can be delivered to an S3 bucket of your choice.

AWS S3 Best Practices (contd.)

- Versioning and Lifecycle Management
- Encryption
- Detailed Billing Reports
- Restrict Deletes
- Maximize Performance

1. Remove delete permissions from the bucket policy.
2. Enable MFA for deletes.

AWS S3 Best Practices (contd.)

- Versioning and Lifecycle Management
- Encryption
- Detailed Billing Reports
- Restrict Deletes
- Maximize Performance

1. Multipart upload provides parallelism; it is encouraged for objects larger than 100MB.
2. Transfer acceleration enables fast, easy, and secure transfers of files over long distances.

Amazon S3 Costs

Details about costs associated with Amazon S3

Amazon S3 Costs

The following costs are associated with Amazon S3:

01	Storage costs per storage type
02	Discounts per GB as the amount of storage you use increases
03	Cost per 1000 requests for PUT, COPY, POST, LIST, and lifecycle transitions into Standard—IA
04	Cost per 10000 GET requests
05	Data transfer out to Internet
06	Data transfer between AWS regions

Amazon S3 Costs (contd.)

The following cost is associated with AWS Transfer Acceleration:

	Data in/out to Internet and between AWS Regions

Amazon S3 Costs (contd.)

The following costs are associated with AWS CloudFront:

01	Data transfer out to Internet/Origin
02	Cost per 10000 requests

Key Takeaways

Key Takeaways

- Amazon S3, provides developers and IT teams with secure, durable, highly-scalable cloud storage.
- All Amazon S3 data is stored in “buckets.”
- Amazon S3 provides different storage options with various features.
- There are two ways you can access Amazon S3 from the Internet:
  - Enabling static website hosting
  - Giving permission to files to be open to the Internet
- Buckets can be in one of the three states: unversioned (the default), versioning-enabled, or versioning-suspended.
- S3 allows you define how Amazon manages objects during their lifetime.

Key Takeaways (contd.)

- Amazon CloudFront is a global content delivery network (CDN) service which provides a way to distribute content to end users with low latency, high data transfer speeds, and no minimum usage commitments.
- All data stored in Amazon S3 is secure by default as only bucket and object owners have access to the Amazon S3 resources they create.
- Snowball is a petabyte-scale data transport solution that uses secure appliances to transfer large amounts of data into and out of the AWS cloud.

Practice Assignment: Create an Amazon S3 bucket

Set up an S3 bucket to use versioning and be cost efficient using Lifecycle Management

Create an Amazon S3 Bucket

Your client wants to move all its data to Amazon S3. The company has categorized its data into the following:

1. Frequently accessed critical data – This data needs to be always available and needs to be protected against accidental deletes.
2. Limited period critical data – This data is critical only for the first 30 days, then it is only accessed periodically for another 60 days. After that, it is rarely accessed.
3. Archive data – This data is older and needs to be archived for auditing purposes.

Create three buckets for each of the data categories and configure Versioning and Lifecycle Management where appropriate.

Quiz

QUIZ 1	Which object encryption is NOT available in Amazon S3?

a. Server-side encryption using customer keys

b. Server-side encryption using Amazon keys

c. Client-side encryption using customer keys

d. Cloud HSM

QUIZ

1

Which object encryption is NOT available in Amazon S3?

a. Server-side encryption using customer keys

b. Server-side encryption using Amazon keys

c. Client-side encryption using customer keys

d. Cloud HSM

The correct answer is **d**

Explanations: CloudHSM is not a valid encryption method for Amazon S3.

QUIZ

2

What could be the cause of an error while creating a bucket called "productionbucket"?

a. You need to try creating it in a different region.

b. The bucket name needs to contain a "."

c. The bucket name needs to contain a number.

d. The bucket name is being used by someone else.

QUIZ

2

What could be the cause of an error while creating a bucket called "productionbucket"?

a. You need to try creating it in a different region.

b. The bucket name needs to contain a "."

c. The bucket name needs to contain a number.

d. The bucket name is being used by someone else.

The correct answer is **d**

Explanations: Bucket names need to be unique; this bucket name is probably already taken.

QUIZ 3	Which of the following will be the URL for a bucket called "simplilearn" that was created in the US-EAST-1 region?

a. https://s3-us-east-1.amazonaws.com/simplilearn

b. https://s3-us-west-1.amazonaws.com/simplilearn

c. https://s3-simplilearn-us-west-1.amazonaws.com

d. https://s3-simplilearn.amazonaws.com/us-east-1

QUIZ

3

Which of the following will be the URL for a bucket called "simplilearn" that was created in the US-EAST-1 region?

a. https://s3-us-east-1.amazonaws.com/simplilearn

b. https://s3-us-west-1.amazonaws.com/simplilearn

c. https://s3-simplilearn-us-west-1.amazonaws.com

d. https://s3-simplilearn.amazonaws.com/us-east-1

The correct answer is **a**

Explanations: The correct format is s3-.amazonaws.com/

QUIZ

4

Your company needs to migrate 60TB of data to AWS. What is the quickest way to do this?

a. Transfer over your existing 10Mbps Internet connection.

b. Transfer the data using AWS import/export Snowball.

c. Transfer the data to tapes and send them to AWS.

d. Make use of Cross Region Replication between S3 and your data center.

QUIZ

4

Your company needs to migrate 60TB of data to AWS. What is the quickest way to do this?

a. Transfer over your existing 10Mbps Internet connection.

b. Transfer the data using AWS import/export Snowball.

c. Transfer the data to tapes and send them to AWS.

d. Make use of Cross Region Replication between S3 and your data center.

The correct answer is **b**

Explanations: AWS import/export Snowball is the fastest and most cost-effective way to transfer data to AWS.

QUIZ 5	Which Amazon S3 storage type is most suitable to store audit data cost effectively for compliance purposes?

a. Glacier

b. Standard

c. Standard - IA

d. RRS

QUIZ

5

Which Amazon S3 storage type is most suitable to store audit data cost effectively for compliance purposes?

a. Glacier

b. Standard

c. Standard - IA

d. RRS

The correct answer is **a**

Explanations: Amazon Glacier is the lowest cost-storage solution, but it has a recovery period of 5 hours.

This concludes “Amazon S3.”

The next lesson is “Route 53.”