2 - AMAZON S3 PRINCING

STORAGE

- The rate you're charged depends on your objects' size, how long you stored the objects during the
 month, and the storage class—S3 Standard, S3 Intelligent-Tiering, S3 Standard Infrequent Access,
 S3 One Zone Infrequent Access, S3 Glacier, and S3 Glacier Deep Archive, and Reduced Redundancy
 Storage (RRS)
- You pay a monthly monitoring and automation fee per object stored in the S3 Intelligent-Tiering storage class to monitor access patterns and move objects between access tiers in S3 Intelligent-Tiering.
- There are per-request ingest fees when using PUT, COPY, or lifecycle rules to move data into any S3 storage class. Consider the ingest or transition cost before moving objects into any storage class.
 Estimate your costs using the <u>AWS Pricing Calculator</u>.

STORAGE PRICE (IRELAND)

	Storage pricing
S3 Standard - General purpose storage for any type of data, typically used for frequently accessed data	
First 50 TB / Month	\$0.023 per GB
Next 450 TB / Month	\$0.022 per GB
Over 500 TB / Month	\$0.021 per GB
\$3 Intelligent - Tiering * - Automatic cost savings for data with unknown or changing access patterns	
Frequent Access Tier, First 50 TB / Month	\$0.023 per GB
Frequent Access Tier, Next 450 TB / Month	\$0.022 per GB
Frequent Access Tier, Over 500 TB / Month	\$0.021 per GB
Infrequent Access Tier, All Storage / Month	\$0.0125 per GB
Archive Access Tier, All Storage / Month	\$0.004 per GB
Deep Archive Access Tier, All Storage / Month	\$0.00099 per GB
Monitoring and Automation, All Storage / Month	\$0.0025 per 1,000 object
53 Standard - Infrequent Access * - For long lived but infrequently accessed data that needs millisecond access	
All Storage / Month	\$0.0125 per GB
\$3 One Zone - Infrequent Access * - For re-createable infrequently accessed data that needs millisecond access	
All Storage / Month	\$0.01 per GB
S3 Glacier ** - For long-term backups and archives with retrieval option from 1 minute to 12 hours	
All Storage / Month	\$0.004 per GB
53 Glacier Deep Archive ** - For long-term data archiving that is accessed once or twice in a year and can be restored within 12 hours	
All Storage / Month	\$0.00099 per GB

	Storage pricing
\$3 Standard - General purpose storage for any type of data, typically used for frequently accessed data	
First 50 TB / Month	\$0.0405 per GB
Next 450 TB / Month	\$0.039 per GB
Over 500 TB / Month	\$0.037 per GB
53 Intelligent - Tiering * - Automatic cost savings for data with unknown or changing access patterns	
Frequent Access Tier, First 50 TB / Month	\$0.0405 per GB
Frequent Access Tier, Next 450 TB / Month	\$0.039 per GB
Frequent Access Tier, Over 500 TB / Month	\$0.037 per GB
Infrequent Access Tier, All Storage / Month	\$0.026 per GB
Archive Access Tier, All Storage / Month	\$0.0085 per GB
Deep Archive Access Tier, All Storage / Month	\$0.0032 per GB
Monitoring and Automation, All Storage / Month	\$0.0025 per 1,000 objects
53 Standard - Infrequent Access * - For long lived but infrequently accessed data that needs millisecond access	
All Storage / Month	\$0.026 per GB
53 One Zone - Infrequent Access * - For re-createable infrequently accessed data that needs millisecond access	
All Storage / Month	\$0.0208 per GB
53 Glacier ** - For long-term backups and archives with retrieval option from 1 minute to 12 hours	
All Storage / Month	\$0.0085 per GB
53 Glacier Deep Archive ** - For long-term data archiving that is accessed once or twice in a year and can be restored within 12 hours	
All Storage / Month	\$0.0032 per GB

MORE DATA -> LAST COST

REQUEST AND DATA RETRIEVALS

- You pay for requests made against your S3 buckets and objects. S3 request costs are based on the request type, and are charged on the quantity of requests as listed in the table below.
- When you use the Amazon S3 console to browse your storage, you incur charges for GET, LIST, and other requests that are made to facilitate browsing.
- Charges are accrued at the same rate as requests that are made using the API/SDK. Reference the S3 developer guide for technical details on the following request types: <u>PUT</u>, <u>COPY</u>, <u>POST</u>, <u>LIST</u>, <u>GET</u>, <u>SELECT</u>, <u>Lifecycle Transition</u>, and <u>Data Retrievals</u>. DELETE and CANCEL requests are free.
- LIST requests for any storage class are charged at the same rate as S3 Standard PUT, COPY, and POST requests.
- You pay for retrieving objects that are stored in S3 Standard Infrequent Access, S3 One Zone –
 Infrequent Access, S3 Glacier, and S3 Glacier Deep Archive storage. Reference the S3 developer
 guide for technical details on *Data Retrievals*.

	PUT, COPY, POST, LIST requests (per 1,000 requests)	GET, SELECT, and all other requests (per 1,000 requests)	Lifecycle Transition requests (per 1,000 requests)	Data Retrieval requests (per 1,000 requests)	Data retrievals (per GB)
53 Standard	\$0.005	\$0.0004	n/a	n/a	n/a
S3 Intelligent - Tiering	\$0.005	\$0.0004	\$0.01	n/a	n/a
Archive Access, Standard	n/a	n/a	n/a	n/a	n/a
Archive Access, Bulk	n/a	n/a	n/a	n/a	n/a
Archive Access, Expedited	n/a	n/a	n/a	\$11.00	\$0.03
Deep Archive Access, Standard	n/a	n/a	n/a	n/a	n/a
Deep Archive Access, Bulk	n/a	n/a	r/a	n/a	n/a
S3 Standard - Infrequent Access*	\$0.01	\$0.001	\$0.01	n/a	\$0.01
S3 One Zone - Infrequent Access*	\$0.01	\$0.001	\$0.01	n/a	\$0.01
S3 Glacier **	\$0.033	\$0.0004	\$0.033	See below	See below
Expedited	n/a	n/a	n/a	\$11.00	\$0.03
Standard	n/a	n/a	n/a	\$0.033	\$0.01
Bulk	n/a	n/a	n/a	\$0.0275	\$0.0025
Provisioned Capacity Unit ***	n/a	n/a	n/a	n/a	\$100.00 per unit
S3 Glacier Deep Archive **	\$0.055	\$0.0004	\$0.055	See below	See below
Standard	n/a	n/a	n/a	\$0.11	\$0.02
Bulk	n/a	n/a	n/a	\$0.025	\$0.003

DATA TRANSFER

You pay for all bandwidth into and out of Amazon S3, except for the following:

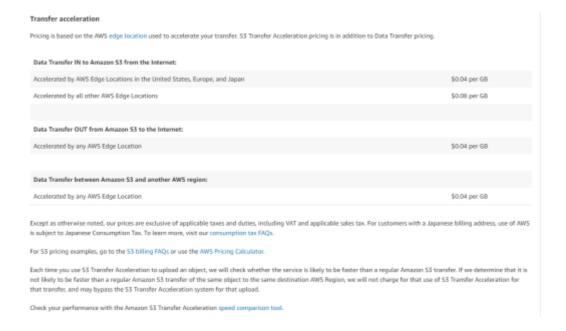
- Data transferred in from the internet.
- Data transferred between S3 buckets.
- Data transferred from an Amazon S3 bucket to any AWS service(s) within the same AWS Region as the S3 bucket (including to a different account in the same AWS region).
- Data transferred out to Amazon CloudFront (CloudFront).

The pricing below is based on data transferred "in" and "out" of Amazon S3 (over the public Internet)†††. You also pay a fee for any data transferred using Amazon S3 Transfer Acceleration. Learn more about <u>AWS</u> <u>Direct Connect pricing</u>.

Data Transfer IN To Amazon \$3 From Internet	
All data transfer in	\$0.00 per GB
Data Transfer OUT From Amazon S3 To Internet	
Up to 1 GB / Month	\$0.00 per GB
Next 9.999 TB / Month	\$0.09 per GB
Next 40 TB / Month	\$0.085 per GB
Next 100 TB / Month	\$0.07 per GB
Greater than 150 TB / Month	\$0.05 per GB

Data Transfer OUT From Amazon S3 To

Amazon CloudFront	\$0.00 per G8
AWS GovCloud (US-West)	\$0.02 per GB
AWS GovCloud (US-East)	\$0.02 per GB
Africa (Cape Town)	\$0.02 per GB
Asia Pacific (Hong Kong)	\$0.02 per GB
Asia Pacific (Mumbai)	\$0.02 per GB
Asia Pacific (Osaka)	\$0.02 per GB
Asia Pacific (Seoul)	\$0.02 per GB
Asia Pacific (Singapore)	\$0.02 per GB
Asia Pacific (Sydney)	\$0.02 per GB
Asia Pacific (Tokyo)	\$0.02 per GB
Canada (Central)	\$0.02 per GB
Europe (Frankfurt)	\$0.02 per GB
Europe (London)	\$0.02 per GB
Europe (Milan)	\$0.02 per GB
Europe (Paris)	\$0.02 per GB
Europe (Stockholm)	\$0.02 per GB
Middle East (Bahrain)	\$0.02 per G8
South America (Sao Paulo)	\$0.02 per GB
US East (N. Virginia)	\$0.02 per GB
US East (Ohio)	\$0.02 per GB



MANAGEMENT AND ANALYTICS

 You pay for the storage management features and analytics (Amazon S3 Inventory, S3 Storage Class Analysis, S3 Storage Lens, and S3 Object Tagging) that are enabled on your account's buckets. S3 Storage management and analytics is priced per feature as detailed in the table below. For pricing on Amazon CloudWatch Metrics, visit the <u>Amazon CloudWatch pricing page</u>. For pricing on S3 Data Events in AWS CloudTrail, visit the <u>AWS CloudTrail pricing page</u>.

S3 Inventory††	\$0.0025 per million objects listed
\$3 Analytics Storage Class Analysis††	\$0.10 per million objects monitored per month
\$3 Object Tagging	\$0.01 per 10,000 tags per month

†† The files produced by S3 Inventory and S3 Storage Class Analysis exports are stored in your specified S3 bucket, and are subject to S3 Standard storage charges.

S3 Storage Lens pricing Region: Europe (Ireland) # 53 Storage Lens free metricst 53 Storage Lens advanced metrics and recommendations† \$0.20 per million objects monitored per month † For S3 Storage Lens advanced metrics and recommendations, you will be charged object monitoring fees for each Storage Lens dashboard used. The Storage Lens advan ndations pricing includes 15-months data retention, activity metrics, and prefix-level aggreg S3 Batch Operations pricing S3 Batch Operations \$0.25 per job Jobstt \$1.00 per million object operations performed †† You are charged for S3 Batch Operations jobs, objects, and requests in addition to any charges associated with the operation that S3 Batch Operations performs on your behalf, cluding data transfer, requests, and other charges 53 Select & 53 Glacier Select pricing Region: Europe (Ireland) + Data scanned (price per GB) Data returned (price per GB) S3 Intelligent - Tiering \$0.002 \$0.0007 S3 Standard - Infrequent Access \$0.002 \$0.01 53 One Zone - Infrequent Access \$0.002 \$0.01 \$0.021 \$0.0084 \$0.01

S3 REPLICATION

53 Glacier Deep Archive

• For S3 Replication (Cross-Region Replication and Same Region Replication), you pay the S3 charges for storage in the selected destination S3 storage classes, the storage charges for the primary copy, replication PUT requests, and applicable infrequent access storage retrieval fees.

\$0.0025

• For CRR, you also pay for inter-region Data Transfer OUT from S3 to each destination region.

\$0.001

When you use S3 Replication Time Control, you also pay a Replication Time Control Data Transfer
fee and S3 Replication Metrics charges that are billed at the same rate as <u>Amazon CloudWatch custom</u>
<u>metrics</u>.

Storage and PUT request pricing for the replicated copy is based on the selected destination AWS
Regions, while pricing for inter-region data transfers is based on the source AWS Region. For more
details on replication pricing, read the *pricing FAQs*.

53 Replication Time Control data transfer†	\$0.015 per GB
† Amazon S3 Replication Time Control Data Transfer pricing is the same in all AWS Regions. Replication Time Control is available in all commercial	I AWS Regions excluding AWS

S3 OBJECT LAMBDA

- With S3 Object Lambda you can add your own code to S3 GET requests to modify and process data as it is returned to an application.
- For the first time, you can use custom code to modify the data returned by standard S3 GET requests to filter rows, dynamically resize images, redact confidential data, and much more.
- Powered by AWS Lambda functions, your code runs on infrastructure that is fully managed by AWS, eliminating the need to create and store derivative copies of your data or to run expensive proxies, all with no changes required to applications.
- When you use S3 Object Lambda, your S3 GET request invokes an AWS Lambda function that you define.
- This function will process your data and return a processed object back to your application.
- In the US East (N. Virginia) Region you pay \$0.0000167 per GB-second for the duration of your AWS Lambda function, and \$0.20 per 1M AWS Lambda requests.
- You also pay \$0.0004 per 1,000 requests for all S3 GET requests that are invoked by your Lambda function, and a \$0.005 per-GB fee for the data S3 Object Lambda returns to your application.
- S3 request and Lambda prices depend on the AWS Region, and the duration and memory allocated to your Lambda function. All regional prices are on the AWS Lambda and Amazon S3 pricing pages.

S3 Object Lambda pricing example

You have 1,000,000 objects that contain historical log data, generated by many applications. Confidential log entries make up 50% of the data. These logs are stored in the S3 Standard storage class, and the average object size is 1000 KB. You are building an application that analyzes this data, but should not have access to confidential log entries.

You can use S3 Object Lambda to filter out confidential log entries. This filtering occurs as your logs are retrieved from S3 with standard S3 GET requests. The Lambda function to filter your data is allocated 512MB of memory, has a 1 second runtime, and returns filtered objects that are 500 KB in size (on average) back to your application. This example assumes one retrieval per month for each object. This example uses the US East (N. Virginia) Region.

Your charges would be calculated as follows:

Amazon S3 GET request charge

S3 GET requests from the S3 Standard storage class cost \$0.0004 per 1,000 requests.

S3 GET Request cost: 1,000,000 requests * \$0.0004/1K requests = **\$0.40**

AWS Lambda Charges

The Lambda compute cost is \$0.0000167 per GB-second. GB-seconds are calculated based on the number of seconds that a Lambda function runs, adjusted by the amount of memory allocated to it.

The Lambda request price is \$0.20 per 1 million requests.

Lambda compute charge: 1,000,000 requests * 1 second * 0.5 GB (512 MB/1024) memory allocated * \$0.0000167 per GB-second = \$8.35

Lambda request charge = 1,000,000 requests * \$0.20 per 1 million requests = \$0.20

Total Lambda cost = \$8.35 + \$0.20 = \$8.55

S3 Object Lambda Charge

After the Lambda function filters the object, 500KB is returned to the application at a cost of \$0.005/GB of data returned.

Data Return Charge: 1,000,000 * 500KB * \$0.005/GB = **\$2.50**

Total Charges:

Amazon S3 GET request charges = \$0.40

AWS Lambda charges = \$8.55

Amazon S3 Object Lambda charges = \$2.50

Total = \$11.45