Amazon EBS pricing

Overview

With Amazon Elastic Block Store (EBS), you pay only for what you provision. Volume storage for all EBS volume types is charged by the amount of GB you provision per month until you release the storage. Costs increase for EBS volumes that support additional input/output operations per second (IOPS) and throughput beyond baseline performance.

Pricing Calculator
Calculate your Amazon EBS and architecture cost in a single estimate.

Free Tier
AWS Free Tier includes 30 GB of storage, 2 million I/Os, and 1 GB of snapshot storage with Amazon Elastic Block Store (EBS).

Starting July 15, 2021, new AWS customers will receive up to $200 in AWS Free Tier credits, which can be applied towards eligible AWS services, including Amazon EBS. Under the AWS Free Tier program, you can use EBS General Purpose (SSD) volumes (gp2), and Cold HDD volumes (sc1) are available to free tier users. At account sign-up, you can choose between a free plan and a paid plan. The free plan will be available for 6 months after account creation. If you upgrade to a paid plan, any remaining Free Tier credit balance will be applied to your bill, and you'll stop the 6 month Free Tier period. To learn more about the AWS Free Tier program, refer to AWS Free Tier website and AWS Free Tier documentation.

View AWS Free Tier details

Region:
Europe (London)

Amazon EBS Volumes

With Amazon EBS, you pay only for what you provision. The pricing for Amazon EBS volumes is listed below.

Volume Type	Price
General Purpose SSD (gp3) - Storage	$0.0928/GB-month
General Purpose SSD (gp3) - IOPS	3,000 IOPS free and $0.0058/provisioned IOPS-month over 3,000
General Purpose SSD (gp3) - Throughput	125 MB/s free and $0.046/provisioned MB/s-month over 125
General Purpose SSD (gp2) Volumes	$0.116 per GB-month of provisioned storage
Provisioned IOPS SSD (io2) - Storage	$0.145/GB-month
Provisioned IOPS SSD (io2) - IOPS	$0.076/provisioned IOPS-month up to 32,000 IOPS $0.053/provisioned IOPS-month from 32,001 to 64,000 IOPS $0.037/provisioned IOPS-month for greater than 64,000 IOPS
Provisioned IOPS SSD (io1) Volumes	$0.149 per GB-month of provisioned storage and$0.10/IOPS per provisioned IOPS-month
Throughput Optimized HDD (st1) Volumes	$0.051 per GB-month of storage
Cold HDD (sc1) Volumes	$0.0174 per GB-month of provisioned storage

Recycle Bin for EBS Volumes

Recycle Bin for EBS Volumes safeguards your Amazon EBS Volumes from accidental deletions. EBS Volumes in the Recycle Bin are billed at the same rate as Amazon EBS Volumes.

Amazon EBS Snapshots

Amazon EBS Snapshots are point-in-time copies of your Block Data. EBS Snapshots in the Standard tier are stored incrementally, which means you are billed only for the changed blocks stored. EBS Snapshots in the Archive tier are full copies of your Block Data, which means you are billed for all the blocks stored and not just the changed blocks. Snapshots in the Archive tier are optimized for long-term retention and are suitable for data that is accessed infrequently and can be restored within the 24 to 72 hour retrieval window. You are charged based on the storage space for the remaining days. Additional charges apply for retrievals from the Archive tier.

EBS Snapshots Storage Pricing	
Standard	$0.055/GB-month
Archive	$0.0137/GB-month
EBS Snapshots Restore Pricing	
Standard	Free
Archive	$0.033 per GB of data retrieved

Recycle Bin for EBS Snapshots

Recycle Bin for EBS Snapshots safeguards your Amazon EBS Snapshots from accidental deletions. EBS Snapshots in the Recycle Bin are billed at the same rate as Amazon EBS Snapshots.

Amazon EBS Provisioned Rate for Volume Initialization

Amazon EBS Provisioned Rate for Volume Initialization allows you to create fully performant EBS volumes within a predictable amount of time. You can use this feature to speed up the initialization of hundreds of concurrent volumes and instances. You can also use this feature when you need to recover from an existing EBS Snapshot and need your EBS volume to be made available as quickly as possible. You can use this feature to quickly create copies of your EBS volume in a different Availability Zone, AWS Region, or account. Provisioned Rate for Volume Initialization for each volume is charged based on the full snapshot size and the specified volume initialization rate.

Volume Initialization Rate	Price
100 MB/s - 300 MB/s	$0.009/GiB
301 MB/s - 300 MB/s	$0.0045/GiB

Amazon EBS Volume Clones

Amazon EBS Volume Clones allows you to instantly create point-in-time copies of EBS volumes within the same Availability Zone. You can use this feature to rapidly refresh test and development environments with production data, or to create multiple volumes for distributed workloads. You can also use this feature to quickly create volumes with consistent performance delivering single-digit millisecond latency without impacting the source volume's performance.

When creating a clone of a source volume you are charged for the clone operation. The cloning copy operation is charged based on the size of the written blocks of the source volume at the time of clone creation. The newly created volume is also charged as a standard EBS volume.

Amazon EBS Volume Clones	$0.009/GB

Amazon EBS Fast Snapshot Restore

Fast Snapshot Restore (FSR) allows you to create new provisioned EBS volumes from snapshots, regardless of the size of the snapshot. You can enable FSR on snapshots you own or those shared with you. FSR is charged in Data Services Unit-Hours (DSU-Hours) for each snapshot and each Availability Zone in which it is enabled. DSUs mean that you are billed per minute with a one-hour minimum. You will not be charged for new volumes you create or for FSR enabled on your behalf.

Fast Snapshot Restore	$0.97 per 1 DSU-Hour or each snapshot and in each AZ it is enabled

Amazon EBS direct APIs for Snapshots

ListChangedBlocks and ListSnapshotBlocks	$0.0060 per thousand requests
GetSnapshotBlock	$0.0030 per thousand SnapshotAPIUnits
PutSnapshotBlock	$0.007 per thousand SnapshotAPIUnits

Amazon EBS Time Based Snapshot Copy

Time-based Snapshot Copy helps you meet compliance and business requirements by ensuring that your EBS Snapshots are copied within and across AWS Regions within a specified timeframe. Time-based snapshot copy operations are charged at a rate that is based on the requested completion duration, per GB of snapshot data copied. Note that you can only specify completion durations in 15 minute increments. The fixed rate are as follows:

Completion duration	Price
15 minutes	$0.035/GB
30 minutes and 45 minutes	$0.015/GB
1 hour to 1 hour 45 minutes	$0.010/GB
2 hours to 3 hours 45 minutes	$0.015/GB
4 hours to 7 hours 45 minutes	$0.011/GB
8 hours to 15 hours 45 minutes	$0.010/GB
16 hours to 48 hours	$0.005/GB

Except as otherwise noted, our prices are exclusive of applicable taxes and duties, including VAT and applicable sales tax. For customers with a Japanese billing address, use of AWS is subject to Japanese Consumption Tax. Learn more »

Pricing examples

Example 1 – General Purpose SSD (gp3) Volumes

Volume storage for General Purpose SSD (gp3) volumes is charged by the amount you provision in GB per month until you release the storage. All gp3 volumes include a free baseline performance of 3,000 IOPS and 125 MB/s included in the price of storage. You can provision additional IOPS and throughput for an additional charge. Provisioned storage and provisioned IOPS and throughput for gp3 volumes are billed on a per-second increment, with a 1-minute minimum. Provisioned storage, provisioned IOPS, and provisioned throughput for gp3 volumes will be billed on per-second increments, with a 60-second minimum.

For example, let's say that you provision a 2,000 GB volume for 12 hours (43,200 seconds) in a 30-day month. Additionally, you provision 10,000 IOPS and 500 MB/s for your volume.

Gp3 volume charge:
In a region that charges $0.08 per GB-month, you would be charged:
($0.08 per GB-month / 2,592,000 seconds) * 2,000 GB * 43,200 seconds/day * 30 day-month) = $1.667

Gp3 IOPS charge:
In a region that charges $0.005 per provisioned IOPS-month, you would be charged:
($0.005 per provisioned IOPS-month / 2,592,000 seconds) * 2,000 IOPS in the free baseline performance* * 43,200 seconds_DSE_460 seconds_DSU * 30 day-month) = $0.100

Gp3 baseline performance charge:
In a region that charges $0.04 per provisioned MB/s-month, you would be charged:
($0.04 per provisioned MB/s-month / 2,592,000 seconds) * 125 MB/s in the free baseline performance* * 43,200 seconds_DSE_460 seconds_DSU * 30 day-month) = $0.020

Total charges for example 1:
Gp3 volume charge = $2.667
Gp3 IOPS charge = $0.100
Gp3 baseline performance charge = $0.375

Total: $3.025 per 30-day month

Example 2 – EBS General Purpose SSD (gp2) Volumes

Volume storage for General Purpose SSD (gp2) volumes is charged by the amount you provision in GB per month until you release the storage. With Provisioned IOPS SSD (io2 Block Express) volumes, you are charged by the amount you provision in IOPS (input/output operations per second) per month. Provisioned storage and provisioned IOPS for io2 volumes will be billed in per-second increments, with a 60-second minimum. For information about I/O operations that are smaller or larger than 16 KiB, refer to I/O characteristics and monitoring. Data transfer is free for all volumes.

For example, let's say that you provision a 2,000 GB volume for 12 hours (43,200 seconds) in a 30-day month.

Gp2 volume charge:
For example, let's say that you provision a 2,000 GB volume for 12 hours (43,200 seconds) in a 30-day month. In a region that charges $0.10 per GB-month, you would be charged ($0.10 per GB-month * 2,000 GB * 43,200 seconds / 2,592,000 seconds per month) = Total: $3.33 per 30-day month.

Example 3 – EBS Provisioned IOPS SSD io2 Volumes

Volume storage for EBS Provisioned IOPS SSD io2 volumes is charged by the amount you provision in GB per month until you release the storage. With Provisioned IOPS SSD io2 volumes, you are also charged by the amount you provision in IOPS (input/output operations per second) per month. Provisioned storage charges are tiered. Therefore, as you provision additional GB, portions of your storage are charged at different rates. Provisioned storage is more economical for volumes with IOPS at a ratio of 500 IOPS per GB or greater. Provisioned storage and provisioned IOPS for io2 volumes will be billed in per-second increments, with a 60-second minimum.

For example, let's say that you provision a 2,000 GB and 1,000 IOPS volume for 12 hours (43,200 seconds) in a 30-day month.

Initial storage charge:
In a region that charges $0.125 per GB-month, you would be charged $4.167 for the storage ($0.125 per GB-month * 2,000 GB * 43,200 seconds / 2,592,000 seconds per month).

Initial IOPS charge:
In a region that charges $0.065 per provisioned IOPS-month for the first 32,000 IOPS, you would be charged $1.083 for the IOPS ($0.065 per provisioned IOPS-month * 1,000 IOPS provisioned * 43,200 seconds / 2,592,000 seconds per month).

Now, let's say you provision another 1,000 IOPS and 600 GB IOPS for 12 hours in a 30-day month.

Additional storage charge:
In a region that charges $0.125 per GB-month, you would be charged $1.167 for storage.

Additional IOPS charge:
In a region that charges $0.065 per provisioned IOPS-month for the first 32,000 IOPS and $0.046 per provisioned IOPS from 32,001 to 64,000 IOPS, you would be charged $36.133 for the provisioned IOPS ($0.065 per provisioned IOPS-month * 32,000 IOPS provisioned * 43,200 seconds / 2,592,000 seconds per month) + ($0.046 per provisioned IOPS-month * 32,000 IOPS provisioned * 43,200 seconds / 2,592,000 seconds per month).

High-volume IOPS charge:
Similarly, if you provision a volume greater than 64,000 IOPS or an account enabled for io2 Block Express, IOPS above 64,000 will be charged at the rate of the third tier of provisioned IOPS.

High-volume IOPS charge:
Note that IOPS tiering is applied at a volume level. Thus, if you provision 10 io2 volumes, 1,000 IOPS for 12 hours in a 30-day month, each that cumulatively you have provisioned 100,000 IOPS, your total IOPS charge will be 10 times that in example 3: $36.133 * 10 times = $361.33. This is because each volume is provisioned with less than 32,000 IOPS; therefore, for each volume the IOPS are charged at $0.065 per provisioned IOPS.

Example 4 – EBS Provisioned IOPS SSD (io1) Volumes

Volume storage for EBS Provisioned IOPS SSD (io1) and io2 volumes is charged by the amount you provision in GB per month until you release the storage. With Provisioned IOPS SSD (io1 and io2) volumes, you are also charged by the amount you provision in IOPS (input/output operations per second) per month. Provisioned storage and provisioned IOPS for io1 and io2 volumes will be billed in per-second increments, with a 60-second minimum.

For example, let's say that you provision a 2,000 GB volume for 12 hours (43,200 seconds) in a 30-day month. In a region that charges $0.125 per GB-month, you would be charged $2.767 for the volume ($0.125 per GB-month * 2,000 GB * 43,200 seconds / 2,592,000 seconds per month).

Additionally, you provision 1,000 IOPS for your volume. In a region that charges $0.065 per provisioned IOPS-month, you would be charged $1.083 for the IOPS that you provisioned ($0.065 per provisioned IOPS-month * 1,000 IOPS provisioned * 43,200 seconds /2,592,000 seconds per month).

For this example, the charges would be:
$3.25 ($2.767 + $1.083).

Example 5 – EBS Throughput Optimized HDD (st1) Volumes

Volume storage for Throughput Optimized HDD (st1) volumes is charged by the amount you provision in GB per month until you release the storage. Provisioned storage for st1 volumes will be billed in per-second increments, with a 60-second minimum. st1 is included in the price of the volumes, so you only pay for each GB of storage you provision.

For example, let's say that you provision a 2,000 GB volume for 12 hours in a 30-day month. In a region that charges $0.045 per GB-month, you would be charged $1.50 for the volume ($0.045 per GB-month * 2,000 GB * 43,200 seconds / 2,592,000 seconds per month).

Example 6 – EBS Cold HDD (sc1) Volumes

Volume storage for Cold HDD (sc1) volumes is charged by the amount you provision in GB per month until you release the storage. Provisioned storage for sc1 volumes will be billed in per-second increments, with a 60-second minimum. sc1 is included in the price of the volumes, so you only pay for each GB of storage you provision.

For example, let's say that you provision a 2,000 GB volume for 12 hours (43,200 seconds) in a 30-day month. In a region that charges $0.015 per GB-month, you would be charged $0.50 for the volume ($0.015 per GB-month * 2,000 GB * 43,200 seconds / 2,592,000 seconds per month).

Example 7 – EBS Snapshots

Snapshot storage is based on the amount of space your data consumes in Amazon Simple Storage Service (Amazon S3). Because Amazon EBS does not save empty blocks, it is likely that the snapshot size will be considerably less than your volume size. For the first snapshot of a volume, Amazon EBS saves a complete copy of the data. For subsequent snapshots, only the changed part of your Amazon EBS volume is saved. Copying EBS snapshots is charged for the data transferred across regions. When the snapshot is copied, standard EBS snapshot charges apply for storage in the destination region.

Example 8 – EBS Fast Snapshot Restore

Example pricing is based on the US East (N. Virginia) region. Fast Snapshot Restore (FSR) is charged in Data Service Unit-Hours (DSU-Hours) for each snapshot and each Availability Zone in which it is enabled. DSUs are billed per minute with a one-hour minimum. You will continue to incur charges until you disable FSR on a snapshot. The price of 1 DSU-Hour is $0.75.

For example, you enable FSR on an EBS Snapshot in three Availability Zones (AZs) and you disable it after 90 minutes. The price of one DSU-Hour is $0.75. Since FSR was enabled on one snapshot for 90 minutes in three AZs, you will be billed as if 3 snapshots * 2 hours = 6 DSU-Hours. 6 DSU-Hours * $0.75 per DSU-Hour = $4.50.

As another example, you enable FSR on an EBS Snapshot in one Availability Zone, and you disable it after 45 minutes. The price of 1 FSX DSU-Hour is $0.75. Since there is a one-hour minimum, you will be billed as 1 snapshot * 1 AZ * one DSU-Hour at $0.75 = one hour at $0.75.

Let's consider another example where you create FSR on three snapshots in two Availability Zones, and you disable it after 2.5 hours. Since FSR was enabled for 2.5 hours (150 minutes) on 6 snapshots and in 2 AZs, you will be billed as 3 snapshots * 2 AZ * 2.5 DSU-Hours at $0.75 per FSX DSU-Hour or $11.25.

Example 9 – EBS direct APIs for Snapshots

EBS direct APIs for Snapshots provide the ability to create EBS snapshots from data regardless of where it resides—for example, data on premises. These APIs also provide the ability to directly read EBS snapshots data and identify differences between two snapshots. The following charges apply for these APIs:

ListChangedBlocks and ListSnapshotBlocks APIs are charged per request. If you make one million ListSnapshotBlocks API calls in a region that charges $0.0006 per thousand requests, you will be charged $0.60 ($0.0006 per thousand requests * 1 million requests).

GetSnapshotBlock API is charged per SnapshotAPIUnit. One GetSnapshotBlock API request uses a block size of 512 KiB and consumes one SnapshotAPIUnit. Note that 512 KiB is the only block size supported today, so each GetSnapshotBlock request consumes one SnapshotAPIUnit. For example, if you make 100,000 GetSnapshotBlock API calls using a block size of 512 KiB in a region that charges $0.006 per thousand SnapshotAPIUnits, you will be charged $0.60 ($0.006 per thousand SnapshotAPIUnits * 100,000 SnapshotAPIUnits).

PutSnapshotBlock API is charged per SnapshotAPIUnit. One PutSnapshotBlock API request uses a block size of 512 KiB and consumes one SnapshotAPIUnit. Note that 512 KiB is the only block size supported today, so each PutSnapshotBlock request consumes one SnapshotAPIUnit. For example, if you make 100,000 PutSnapshotBlock API calls using a block size of 512 KiB in a region that charges $0.006 per thousand SnapshotAPIUnits, you will be charged $0.60 ($0.006 per thousand SnapshotAPIUnits * 100,000 SnapshotAPIUnits).

Note: If you use external or cross-region data transfers, additional EC2 data transfer charges will apply. If you delete any snapshots after initiation, you will still need to pay for the data that has already been copied.

Example 10 – EBS Snapshots Archive

When you archive an EBS snapshot, a full copy of the snapshot is stored in the EBS Snapshots Archive tier. Let's say that you take an EBS snapshot of an EBS volume that is 1,000 GB in size and you archive this snapshot. Assuming that 100 GB of data is changed on the volume and you archive the snapshot, an archived snapshot that is 1,000 GB in size is stored and in the EBS Snapshots Archive tier. In a Region that charges $0.0125 per GB-month for the EBS Snapshots Archive storage, you are charged $12.50 in storage charges for the archived snapshot (1,000 GB-month * $0.0125 per GB-month = 12.50).

Let's say that you subsequently restore the 100 GB snapshot from the archive for a period of 10 days. In a Region that charges $0.03 per GB for restoring data, you are charged $3.00 (100 GB * $0.03 per GB). For this Region, with a $0.05 per GB-month for EBS Snapshots Standard storage, the restored snapshot incurs charges of $2 for the period of 10 days ($0.05 per GB-month * 100 GB * 10 days / 30 days in a month). Additionally, you are charged $0.10 for the 100 GB of data that you restored ($0.001 per GB * 100 GB). Note that the EBS Snapshots Archive tier is a Region-free charge ($0.01 per GB-month for the EBS Snapshots Archive storage, you are charged $2.50 in storage charges for the snapshot (250 GB-month * $0.01 per GB-month = 2.50).

There is a 90-day minimum retention period for snapshots stored in EBS Snapshots Archive. If you delete the 250 GB snapshot or permanently restore it from archive earlier than 90 days, you are billed for the storage charges for the remaining retention time. For example, if you delete the archived snapshot after 70 days, 11 hours and 5 minutes, you are charged $12.50 for the remaining minimum period of 10 days, 12 hours and 55 minutes, rounded down to the nearest hour, i.e., 10 days and 12 hours ($0.01 GB-month * 250 GB * 10 days * 24 hours = 12 hours) [10 hours(s) = 10 day month].

Looking for information about EBS Magnetic volumes? See Amazon EBS Previous-Generation Volumes.

Example 11 – EBS Time-based Snapshot Copy

Time-based Copy for EBS Snapshots provides the ability to copy EBS Snapshots within a predictable and consistent timeframe that is specified by you in the Copy request. When you copy an EBS Snapshot using the Time-based Copy feature, you are charged based on the amount of data copied and the specified completion duration.

For example, you transfer 1000 GB of snapshot data in a given day and you specify a completion duration of 4 hours for the entire copy job. The per-copy rate for the Time-based Copy data transfer per GB is $0.010 for the completion duration of 8 hours. You will be billed as 1000 GB * $0.010 per GB or $10.

As another example, if you copy snapshots of our 1000 GB of snapshot volume database within 1 hour, and additional data of our 3000 GB within 3 hours, you will be billed 1000 GB * $0.016 per GB or $16 for the first database and 3000 GB * $0.014 per GB or $42 for the second database.

Note: If you use external or cross-region data transfers, additional EC2 data transfer charges will apply. If you delete any snapshots after initiation, you will still need to pay for the data that has already been copied.

Example 12 – Provisioned Rate for Volume Initialization

Amazon EBS Provisioned Rate for Volume Initialization allows you to create fully performant EBS volumes within a predictable amount of time. You can use this feature to speed up the initialization of hundreds of concurrent volumes and instances. You can also use this feature when you need to recover from an existing EBS Snapshot and need your EBS volume to be made available as quickly as possible. You can use this feature to quickly create copies of your EBS volume in a different Availability Zone, AWS Region, or account. Provisioned Rate for Volume Initialization for each volume is charged based on the full snapshot size and the specified volume initialization rate.

For example, let's assume you have an EBS Snapshot that is created from an EBS volume that is provisioned for 20 GB and has a full snapshot size of 10 GB (represents the size of all the blocks that were written to the source volume at the time the snapshot was created). If you create a volume from an EBS snapshot and provision a volume rate of 300 MB/s to create 100 volumes from this snapshot in a region that charges $0.009 per GB for 300 MB/s, then you will be billed a total of $14.1328 volumes x 10 GB per volume x $0.009 per GB).

Please note the cost for Provisioned Rate for Volume Initialization is independent of your EBS volume costs.

1 MB (Megabyte) = 1,000,000 Bytes
1 GB (Gigabyte) = 1,000,000,000 Bytes

Example 13 – Amazon EBS Volumes Clones

Amazon EBS Volume Clones allows you to instantly create copies of your EBS volumes within the same Availability Zone. When you create a copy using Volume Clones, you are charged based on the size of the written blocks of the source volume at the time of clone creation.

For example, let's assume you have a source EBS volume that is provisioned for 1000 GB, and has an allocated size of 600 GB (represents the size of all the blocks that were written to the source volume at the time the clone was initiated). If you create a clone of this volume in a region that charges $0.0090 per GB, you will be billed $5.400 GB x $0.0090 per GB. Please note that the cost for Volume Clones is independent of your EBS volume costs. The resulting copied volume will be charged separately as a standard EBS volume.

Additional pricing resources

AWS Pricing Calculator
Easily calculate your monthly costs with AWS.

Get pricing assistance
Contact AWS specialists to get a personalized quote.

Next steps

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