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Q: Are Amazon EBS volume and snapshot ID lengths changing in 2018?

Yes, please visit the [EC2 FAQs](#) page for more details.

Q: What happens to my data when an Amazon EC2 instance terminates?

Unlike the data stored on a local instance store (which persists only as long as that instance is alive), data stored on an Amazon EBS volume can persist independently of the life of the instance. Therefore, we recommend that you use the local instance store only for temporary data. For data requiring a higher level of durability, we recommend using Amazon EBS volumes or backing up the data to Amazon S3. If you are using an Amazon EBS volume as a root partition, set the Delete on termination flag to "No" if you want your Amazon EBS volume to persist outside the life of the instance.

Q: What kind of performance can I expect from Amazon EBS volumes?

Amazon EBS provides four current generation volume types: Provisioned IOPS SSD (io1), General Purpose SSD (gp2), Throughput Optimized HDD (st1) and Cold HDD (sc1). These volume types differ in performance characteristics and price, allowing you to tailor your storage performance and cost to the needs of your applications. For more performance information see the [EBS product details page](#).

For more information about Amazon EBS performance guidelines, see [Increasing EBS Performance](#).

Q: Which volume should I choose?



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console clicks. For more information about Elastic volumes, see the [Elastic volumes](#) documentation.

Q: Are EBS Standard Volumes still available?

EBS Standard Volumes have been renamed to EBS Magnetic volumes. Any existing volumes will not have been changed as a result of this and there are no functional differences in the EBS Magnetic offering compared to EBS Standard. The name of this offering was changed to avoid confusion with our General Purpose SSD (gp2) volume type which is our recommended default volume type.

Q: Are Provisioned IOPS SSD (io1) volumes available for all Amazon EC2 instance types?

Yes, Provisioned IOPS SSD (io1) volumes are available for all [Amazon EC2 Instance Types](#). To enable your EC2 instances to use the IOPS provisioned on an EBS volume consistently and predictably, you can launch selected EC2 instance types as EBS-optimized instances. [EBS-optimized instances](#) deliver dedicated throughput between Amazon EC2 and Amazon EBS, with options between 62.5 MB/s and 1,750 MB/s depending on the instance type used.

Performance

Q: What level of performance consistency can I expect to see from my Provisioned IOPS SSD (io1) volumes?

When attached to EBS-optimized instances, Provisioned IOPS SSD (io1) volumes are designed to deliver within 10% of the provisioned IOPS performance 99.9% of the time in a given year. Your exact performance depends on your application's I/O requirements.



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second, or 125 1024KB writes per second, and so on. You can use [Amazon CloudWatch](#) to monitor your throughput and I/O sizes.

Q: What factors can affect the performance consistency I see with Provisioned IOPS SSD (io1) volumes?

Provisioned IOPS SSD (io1) volumes attached to EBS-optimized instances are designed to offer consistent performance, delivering within 10% of the provisioned IOPS performance 99.9% of the time over a given year. For maximum performance consistency with new volumes created from a snapshot, we recommend reading or writing to all of the blocks on your volume before placing it into service.

Another factor that can impact your performance is if your application isn't sending enough I/O requests. This can be monitored by looking at your volume's queue depth. The queue depth is the number of pending I/O requests from your application to your volume. For maximum consistency, a Provisioned IOPS volume must maintain an average queue depth (rounded to the nearest whole number) of one for every 500 provisioned IOPS in a minute. For example, for a volume provisioned with 1500 IOPS, the queue depth average must be 3. For more information about ensuring consistent performance of your volumes, see [Increasing EBS Performance](#).

Q: What level of performance consistency can I expect to see from my HDD-backed volumes?

When attached to EBS-optimized instances, Throughput Optimized HDD (st1) and Cold HDD (sc1) volumes are designed to deliver within 10% of the expected throughput performance 99% of the time in a given year. Your exact performance depends on your application's I/O requirements and the performance of your EC2 instance.



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are designed to offer consistent performance, delivering throughput to the expected throughput performance 99% of the time in a given year. There are several factors that could affect the level of consistency you see. For example, the relative balance between random and sequential I/O operations on the volume can impact your performance. Too many random small I/O operations will quickly deplete your I/O credits and lower your performance down to the baseline rate. Your throughput rate may also be lower depending on the instance selected. Although st1 can drive throughput up to 500 MB/s, performance will be limited by the separate instance-level limit for EBS traffic. Another factor is taking a snapshot which will decrease expected write performance down to the baseline rate, until the snapshot completes. This is specific to st1 and sc1.

Your performance can also be impacted if your application isn't sending enough I/O requests. This can be monitored by looking at your volume's queue depth and I/O size. The queue depth is the number of pending I/O requests from your application to your volume. For maximum consistency, HDD-backed volumes must maintain an average queue depth (rounded to the nearest whole number) of four or more for every 1 MB sequential I/O. For more information about ensuring consistent performance of your volumes, see [Increasing EBS Performance](#).

Q: Can I stripe multiple volumes together to get better performance?

Yes. You can stripe multiple volumes together to achieve up to 75,000 IOPS or 1,750 MiB/s when attached to larger EC2 instances. However, performance for st1 and sc1 scales linearly with volume size so there may not be as much of a benefit to stripe these volumes together.

Snapshots



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volume?

By design, an EBS Snapshot of an entire 16 TB volume should take no longer than the time it takes to snapshot an entire 1 TB volume. However, the actual time taken to create a snapshot depends on several factors including the amount of data that has changed since the last snapshot of the EBS volume.

Q: Are snapshots versioned? Can I read an older snapshot to do a point-in-time recovery?

Each snapshot is given a unique identifier, and customers can create volumes based on any of their existing snapshots.

Q: How can I discover Amazon EBS snapshots that are shared with me?

You can find snapshots that are shared with you by selecting Private Snapshots from the list in the Snapshots section of the AWS Management Console. This section lists both snapshots that you own and snapshots that are shared with you.

Q: How can I find which Amazon EBS snapshots are shared globally?

You can find snapshots that are shared globally by selecting Public Snapshots from the list in the Snapshots section of the AWS Management Console.

Q: How can I find a list of Amazon public datasets stored in Amazon EBS Snapshots?

You can use the AWS Management Console to find public datasets stored as Amazon Snapshots. Log into the console, select the Amazon EC2 Service, select Snapshots and then filter on [Public](#)



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EC2 instances and EBS storage. For more details, see Amazon EBS encryption in the [Amazon EC2 User Guide](#).

Q: What is the AWS Key Management Service (KMS)?

AWS KMS is a managed service that makes it easy for you to create and control the encryption keys used to encrypt your data. AWS Key Management Service is integrated with other AWS services including Amazon EBS, Amazon S3, and Amazon Redshift, to make it simple to encrypt your data with encryption keys that you manage. AWS Key Management Service is also integrated with AWS CloudTrail to provide you with logs of all key usage to help meet your regulatory and compliance needs. To learn more about KMS, visit the [AWS Key Management Service](#) product page.

Q: Why should I use EBS encryption?

You can use Amazon EBS encryption to meet security and encryption compliance requirements for data at rest encryption [in the cloud](#). Pairing encryption with existing IAM access control policies improves your company's defense-in-depth strategy.

Q: How are my Amazon EBS encryption keys managed?

Amazon EBS encryption handles key management for you. Each newly created volume gets a unique 256-bit AES key; Volumes created from the encrypted snapshots share the key. These keys are protected by our own key management infrastructure, which implements strong logical and physical security controls to prevent unauthorized access. Your data and associated keys are encrypted using the industry-standard AES-256 algorithm.

Q: Does EBS encryption support boot volumes?



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Billing and metering

Q: Will I be billed for the IOPS provisioned on a Provisioned IOPS volume when it is disconnected from an instance?

Yes, you will be billed for the IOPS provisioned when it is disconnected from an instance. When a volume is detached, we recommend you consider creating a snapshot and deleting the volume to reduce costs. For more information, see the "Underutilized Amazon EBS Volumes" cost optimization check in [Trusted Advisor](#). This item checks your Amazon Elastic Block Store (Amazon EBS) volume configurations and warns when volumes appear to be underused.

Q: Do your prices include taxes?

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 services is subject to Japanese Consumption Tax. [Learn more](#).

Learn more about Amazon EBS pricing

[Visit the pricing page](#)

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