

Volume Backup Service

FAQ

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1 What Is Volume Backup Service?

Volume Backup Service (VBS) provides snapshot-based data protection for Elastic Volume Service (EVS) disks.

VBS secures your data, even if an EVS disk is faulty or encounters a logical error (for example, mis-deletion, hacker attacks, and virus infection). It allows you to effortlessly create backups of your data, and these data backups can be used to restore data quickly.

VBS supports both full and incremental backup modes. By default, the system performs a full backup initially, and then performs incremental backups. You can use a data backup generated in either backup mode to restore the source EVS disk to the state the EVS disk was in when the backup was created.

VBS allows one-click backup and restoration for the EVS disks on servers all through its easy-to-use platform. These servers are Elastic Cloud Servers (ECSs) or Bare Metal Servers (BMSs).

2 What Is a Backup Policy?

A backup policy, including the backup period and retention rules, can automate data backup of EVS disks. Backup policies are user specific.

3 What Are the Differences Between Backup and Disaster Recovery?

The following table lists the main differences between backup and disaster recovery (DR).

Table 3-1 Differences between backup and DR

Aspect	Backup	DR
Purpose	To prevent data loss It adopts the snapshot or backup techniques to generate data backups that can be used to restore data when data loss or corruption occurs.	To ensure service continuity It takes the replication techniques (such as application-layer replication, host-based replication at the I/O layer, and storage-layer replication) to construct standby service hosts and data in a remote standby center, so that the standby center can take over services as soon as the active center becomes faulty.
Application scenario	It offers protection against virus attacks, accidental deletions, software and hardware faults.	It enables failover upon software and hardware faults, as well as natural disasters, such as tsunami, fires, and earthquakes, to fast recover services. When the source AZ recovers, you can easily fail back to the source AZ.
Cost	The cost is 1 to 2% of the production system's.	The cost is 20 to 100% of the production system's, varying with the RPO/RTO requirements. For active-active DR, the service system deployed in the standby center is required to be the same as that in the active system. In this case, the cost on infrastructure doubles.

 **NOTE**

RPO is the abbreviation of Recovery Point Objective and specifies the maximum acceptable period in which data might be lost.

RTO is the abbreviation of Recovery Time Objective and specifies the maximum acceptable amount of time for restoring the entire system after a disaster happens.

4 How Do I Purchase and Renew VBS?

Pay per Use

By default, you are charged based on the service duration, which is calculated at the top of every hour, and does not include a minimum fee.

After registering a cloud service account, top up your account and then you can use VBS.

Yearly/Monthly Subscription

VBS can also be billed in yearly/monthly subscription mode. You can purchase a yearly or monthly package based on your resource usage and duration plan.

How Do I Renew the Service?

You can view your account information. You need to top up your account to pay arrears if any.

If the pay-per-use mode is used, top up your account as soon as possible after arrears. If you do not top up your account in time, you will not be able to use VBS and your VBS resources will be cleared.

For the renewal operation, see [Manually Renewing a Resource](#).

5 What Are the Differences Between CSBS and VBS?

Table 5-1 lists the differences between Cloud Server Backup Service (CSBS) and Volume Backup Service (VBS).

Table 5-1 Differences

Item	VBS	CSBS
Backup objects	One or more specified EVS disks (system or data disks)	All EVS disks (including system and data disks) on a single ECS
Recommended scenario	Only data disks need to be backed up, because the system disk does not contain personal data.	An entire ECS needs to be protected.
Advantages	Data is secure while the service is cost-competitive.	All EVS disks on an ECS have consistent data. They are backed up at the same time, eliminating the problem of data inconsistency caused by backups generated at different points in time.

6 Does VBS Support Simultaneous Backup of All EVS Disks on a Server?

Yes. Users can create a backup policy and associate the backup policy with multiple EVS disks. Then the backup policy can be executed to back up the multiple EVS disks at the same time.

7 **Do I Need to Stop the Server Before Backing Up EVS Disks on a Server Using VBS?**

VBS can back up EVS disks that are being used. When a server is running, data is written onto EVS disks on the server, and some newly generated data is stored in the server memory as cached data. During EVS disk backup, the data in the memory will not be automatically written onto the EVS disk, resulting in data inconsistency between the EVS disk and its backup.

To ensure data consistency and integrity, back up EVS disks during off-peak hours when no data write operations are being performed on the EVS disks, or stop all data write operations on the EVS disks before backup. For a strict requirement for data integrity, stop the server (cached data is written to EVS disks) and start an offline backup job.

8 How Long Does VBS Take to Back Up an EVS Disk?

The initial backup of an EVS disk is a full backup and subsequent backup operations are all incremental backups. The initial backup takes a long time whereas subsequent incremental operations are much shorter. For example, a full backup of a 50 GB EVS disk with an increment of 10 GB takes approximately 35 minutes, whereas an incremental backup takes approximately 6 minutes.

9 Does VBS Support Cross-Region Backup and Restoration?

No. Currently VBS supports only backup and restoration within a region but not across regions.

10 **Do I Need to Stop the Server Before Restoring EVS Disk Data with a VBS Backup?**

Yes. Before restoring the EVS disk data using a VBS backup, you must stop the server to which the EVS disk is attached, and detach the EVS disk from the server. After the EVS disk data is restored, attach the EVS disk to the server and start the server.

11

What Is the Charging Mode of EVS Disks Created with a VBS Backup?

EVS disks created using a VBS backup are billed in pay per use or yearly/monthly mode.

12 Why Are CSBS Backups Displayed on the VBS Backup Page?

CSBS backups of ECSs are also displayed on the VBS backup page and can be distinguished from VBS backups by **Source** in the backup details.

To use CSBS to back up a server is to back up every disk of the server. These disk backups are displayed on the VBS backup list and can be directly used to restore disks.

Backups whose **Source** is **CSBS** can be deleted only on the CSBS page.

13 Can a VBS Backup of a System Disk Be Used to Restore the System Disk of an ECS?

Yes. You can restore the system disk using a VBS backup. Before restoring the system disk, you must detach it from the ECS.

You can also use a VBS backup of the system disk to create new EVS disks. However, newly created EVS disks cannot be used as system disks.

14 Can I Use a VBS Backup to Restore an EVS Disk Whose Capacity Has Been Expanded?

Yes. After restoration, the capacity of the expanded EVS disk goes back to the original capacity before expansion. If you want to use the capacity added to the disk, you need to attach the restored disk to an ECS, log in to the ECS, and then manually modify the file system configuration. For detailed operations, see sections about post-expansion operations on EVS disks in the *Elastic Volume Service User Guide*.

15 Is There a Quota Limit on the Number of Backups?

Yes. By default, you can create 360 backups at the maximum.

This quota exists to prevent resource overuse. If you need to create more VBS backups, submit a service ticket to apply for a higher quota.

16 What Can I Do In Case of Exceptions in VBS?

Exceptions in VBS mainly include abnormal states of VBS backups and backup jobs. Take the following measures to handle these exceptions.

Table 16-1 Measures in case of abnormal VBS backup states

State	Handling Suggestion
Error	Delete the VBS backups in the Error state and re-create them.
Deletion failed	Contact customer service and do not perform any operation on the backup data before related personnel respond. If you want a quick response, contact customer service immediately upon discovering the problem.

Table 16-2 Measures in case of abnormal VBS backup job states

State	Handling Suggestion
Timed out	<ol style="list-style-type: none"> In the Backup Name column of the backup job list, check whether the backup name is displayed. <ul style="list-style-type: none"> If yes, locate the backup on the VBS backup list according to the backup name. Check whether the backup is in the Available state. If it is in the Available state, the backup job is successful and no further actions are required. If no, click Back Up Again in the Operation column to perform a manual backup operation. If no, click Back Up Again in the Operation column to perform a manual backup operation. If the problem persists, contact customer service and do not perform any operation on the backup data before related personnel respond. If you want a quick response, contact customer service immediately upon discovering the problem.

State	Handling Suggestion
Failed	<ol style="list-style-type: none"> 1. Above the VBS backup list, you can see messages indicating the backup usage. If the backup quantity quota is not sufficient to support your new backups, submit a service ticket to apply for a higher quota. Then click Back Up Again in the Operation column of the Backup Jobs list to perform a manual backup operation. 2. In the EVS list, check whether the EVS disk to be backed up is in the Available or In-use state. If no, after the EVS disk restores to the Available or In-use state, click Back Up Again in the Operation column of the Backup Jobs list to perform a manual backup operation. 3. In the VBS backup list, check whether the EVS disk is in the Disk Name column and the backup state is Creating. If yes, after the backup restores to the Available state, click Back Up Again in the Operation column of the Backup Jobs list to perform a manual backup operation. 4. For other circumstances, click Back Up Again in the Operation column of the Backup Jobs list to perform a manual backup operation. If the backup job state is still abnormal, contact customer service, and do not perform any operation on the backup data before related personnel respond. If you want a quick response, contact customer service immediately upon discovering the problem.

17 Why Add Tags to a VBS Backup or Backup Policy?

Tags are used to identify and classify backups that are automatically or manually generated with VBS. Tags are used to filter and manage backup resources only. All backups with tags are centrally managed in TMS. They can be filtered by search criteria. When a tag is added to a backup policy, the tag applies to all backups generated by the backup policy.

A tag is described using a key-value pair. A backup or backup policy can have a maximum of 10 tags by default. Each tag has only one key and one value. The key and value can exist in either sequence in a tag. Each key is unique among all tags of a VBS backup or backup policy, whereas values can be repetitive or blank.

18 Does Backup Can Be Performed Several Times a Day?

Yes. Up to 24 automatic backup jobs can be executed per day. Manual backup jobs have no such restriction.

The minimum frequency for policy-driven backup is once per integral hour. Manual backup can be performed at any frequency.

19 Can a Disk Only Be Associated With One Policy?

Yes. If an EVS disk you select to be associated with the target policy has been associated with another one, the system will disassociate it from the original policy and then associate it with the target one.

20 What Are Full Backup and Incremental Backup?

After an initial full backup, an ECS continues to be backed up incrementally by default.

- The initial full backup covers data on every disk of the ECS. If a 100 GB disk contains 40 GB data, the initial backup consumes 40 GB backup space.
- Subsequent incremental backup backs up data changed since the last backup. If 5 GB data is changed since the last backup, only the 5 GB changed data will be backed up.

VBS allows you to use any backup (no matter it is a full or incremental one) to restore the data of the entire EVS disk. By virtue of this, manual or automatic deletion of a backup will not affect the restoration function.

Suppose EVS disk **X** has backups **A**, **B**, and **C** (in time sequence) and every backup involves data changes. If backup **B** is deleted, you can still use backup **A** or **C** to restore data.

21 What Are the Differences Between Backups and Snapshots?

Both backups and snapshots provide data redundancy for EVS disks to improve data reliability. [Table 21-1](#) lists the differences between them.

Table 21-1 Differences between backups and snapshots

Technology	Saved In	Synchronization	DR Range	Service Recovery
Backup	Backup data is stored in OBS, instead of EVS disks. This realizes data restoration upon EVS disk data loss or corruption.	A backup is the data copy of an EVS disk at a given point in time. VBS provides automatic backup by configuring backup policies. Deleting an EVS disk will not clear its backups.	A snapshot and its source EVS disk reside in the same AZ.	Data can be recovered and services can be restored by restoring the backup data to original disks or creating new disks from backups, ensuring superb data reliability.

Technology	Saved In	Synchronizati on	DR Range	Service Recovery
Snapshot	Snapshot data is stored with EVS disk data. NOTE Creation of and rollback to snapshots are faster than creation of and restoration from backups, because the latter requires data migration that consumes extra time.	A snapshot is the state of an EVS disk at a specific point in time. When you delete an EVS disk, the snapshots of the EVS disk are also deleted.	A snapshot and its source EVS disk reside in the same AZ.	You can use a snapshot to roll back its original EVS disk or create an EVS disk for data restoration and service recovery.

22 Why Is the Remaining Space Not Changed After a Backup Is Deleted?

This situation appears because the deletion operations are asynchronous. After a backup is deleted, no fee will be generated. The underlying backup data will be deleted gradually based on the backup size within three days. After the underlying backup data is deleted, the remaining space will change accordingly.

23 Why Is the Disk Space Usage Displayed in the File System Different from the Backup Size?

Symptoms

- Files are stored and backed up on a server. After a file is added or deleted, the size of the original backup does not change.
- The ECS backup size is larger than the used disk space displayed in the file system.

Possible Causes

The possible causes are as follows:

- The metadata of the file system occupies disk space.
- The disk is formatted. For example, after the Windows operating system is formatted, if writes have been performed to all data on the disk, then the entire disk needs to be backed up. In this case, the backup software compresses all-zero data.
- The backup software monitors the I/O writes to determine which data is changed and needs to be backed up. After a file is deleted from the file system, the file is recorded as changed data and will be backed up.

24 Why Does the Retention Rule Not Take Effect After Being Modified?

A retention rule does not take effect immediately after being modified in the following scenarios:

- The retention rule remains to be by backup quantity, with only the configured quantity changed:

The new retention rule takes effect when the backup policy is executed next time, and the new retention rule still takes effect for the backups generated by the original backup policy.

For example: At 10:00 a.m. on Monday, a user sets the backup execution time of policy A to 02:00 a.m. every day, sets the rule to retaining three backups, and associates a disk. At 10:00 a.m. on Thursday, three backups are retained. Then the user modifies the retention rule to retaining one backup. However, this retention rule does not take effect immediately. Instead, it retains only the generated backup at 02:00 a.m. on Friday. At then, the three backups generated by the original policy have been deleted.

- The retention rule is changed from by quantity to by time:

The new retention rule does not take effect on the backups generated by the original backup policy. The backups generated by the original backup policy will not be automatically deleted.

For example: At 10:00 a.m. on Monday, a user sets the backup execution time of policy A to 02:00 a.m. every day, sets the rule to retaining three backups, and associates a disk. At 10:00 a.m. on Thursday, three backups are retained. Then the user modifies the retention rule to deleting the backup generated one month ago. At 02:00 a.m. on Friday, the backup generated by the new backup policy is retained and the three backups generated by the original policy still exist.

- The retention rule remains to be by time period, with only the configured time period changed:

The new retention rule does not take effect on the backups generated by the original backup policy, but only on the new backups. The backups generated by the original backup policy still follow the original retention rule.

For example: At 10:00 a.m. on August 5, a user sets the backup execution time of policy A to 02:00 a.m. every day, sets the retention rule to deleting the

backup generated one month ago, and associates a disk. At 10:00 a.m. on August 8, three backups are retained. Then the user modifies the retention rule to deleting the backup generated three months ago. At 02:00 on September 6, the backup generated by the original backup policy on August 6 is deleted, and the backup generated on August 9 will be deleted two months later.

- The retention rule is changed from by time to by quantity.

The new retention rule does not take effect on the backups generated by the original backup policy, but only on the new backups. The backups generated by the original backup policy still follow the original retention rule.

For example: At 10:00 a.m. on August 5, a user sets the backup execution time of policy A to 02:00 a.m. every day, sets the retention rule to deleting the backup generated one month ago, and associates a disk. At 10:00 a.m. on August 8, three backups are retained. Then the user modifies the retention rule to retaining one backup. At 10:00 on August 10, the backup generated on August 9 has been deleted and the backup generated on August 10 is retained. However, the backups generated on August 6, 7, and 8 still exist. At 02:00 on September 6, the backup generated on August 6 is deleted.

25 How Do I Disable Automatic Backup?

Once a disk is associated with a backup policy and the policy is enabled, the disk is automatically backed up. To disable automatic backup, disassociate the disk from the backup policy and disable the policy.

1. Log in to VBS Console. On the **Policies** tab page, click drop-down arrow next to the target policy.
2. In the list of associated EVS disks, select one or more EVS disks to be disassociated from the backup policy and click **Disassociate** above the list.
The **Disassociate Disk** dialog box is displayed.
3. Confirm the EVS disk information and click **OK**.
The **Associated Disks** panel does not display the EVS disks that are disassociated from this backup policy.
4. Locate the target backup policy. Click **More > Disable** in the **Operation** column to disable the backup policy.