Cloud Storage Services – Volume Backup Service

Foreword

- This chapter describes Volume Backup Service (VBS) on HUAWEI CLOUD.

HUAWEI

Objectives

- On completion of this course, you will be able to:

  - Describe VBS.

  - Know the concepts, functions, application scenarios, and common operations of VBS.

  - Know the VBS advantages and the charging standards.

  - Know the frequently asked questions (FAQs) and some troubleshooting cases of VBS.
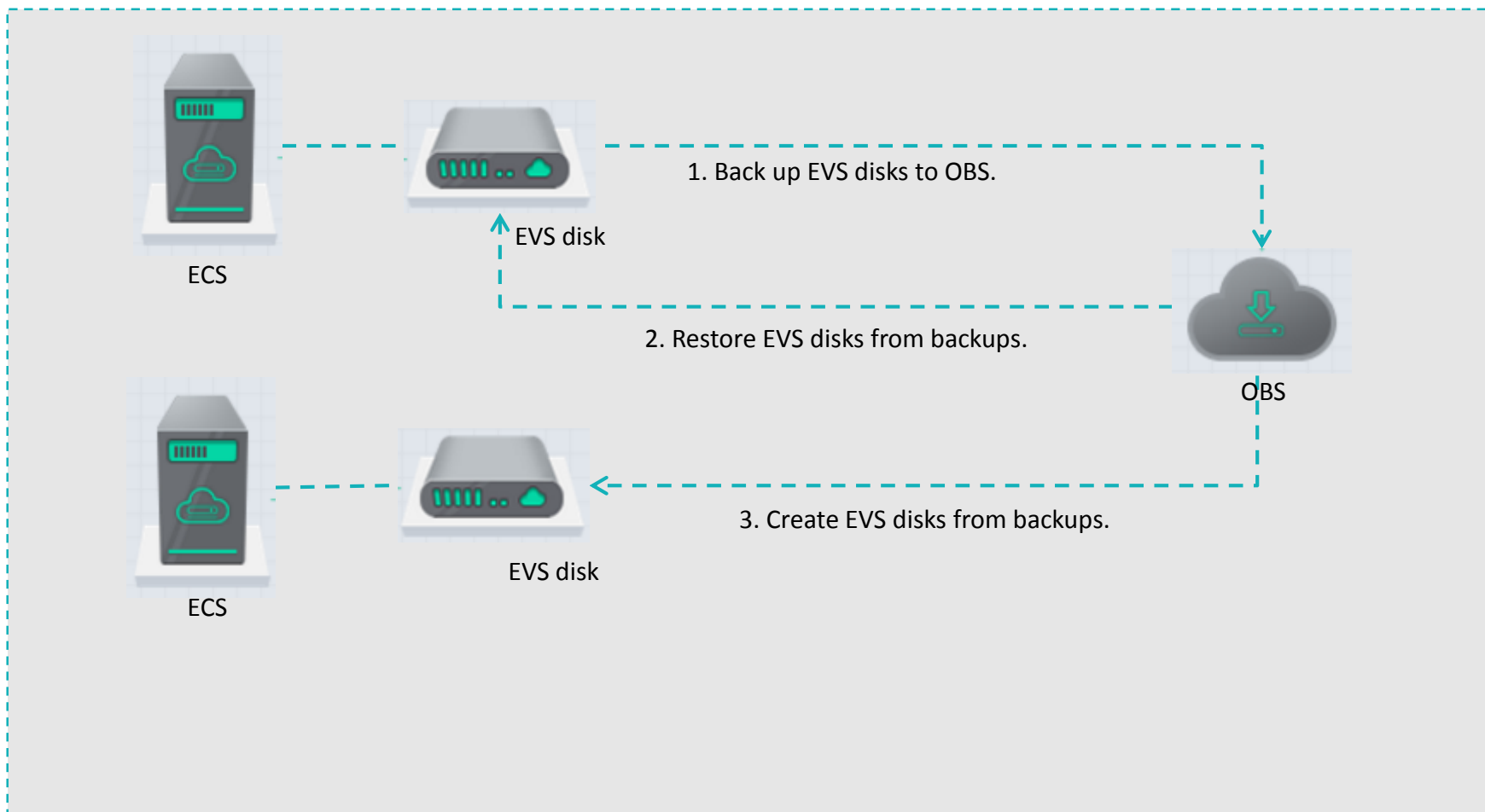
Contents

Introduction to VBS

- HUAWEI CLOUD provides Cloud Server Backup Service (CSBS) and Volume Backup Service (VBS) to protect your data against viruses, unintentional deletions, and software and hardware faults. This course introduces VBS.

- VBS secures your data. If an Elastic Volume Service (EVS) disk is faulty or encounters a logical error (for example, mis-deletion, hacker attack, and virus infection), you can use data backups to restore data quickly.

Product Architecture

Region A

1. Back up EVS disks to OBS.

EVS disk

ECS

2. Restore EVS disks from backups.

OBS

3. Create EVS disks from backups.

EVS disk

ECS

HUAWEI

Comparison with CSBS

Aspect	CSBS	VBS
Backup and restoration objects	All or part of EVS disks (including system and data disks) on a single Elastic Cloud Server (ECS)	One or more specified EVS disks (system or data disks)
Recommended scenarios	An entire ECS needs to be protected.	Only data disks need to be backed up, because the system disk does not contain personal data.
Advantages	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.	Backup cost is reduced while maintaining data security.

HUAWEI

Main Functions

- EVS disk backup

- Policy-driven data backup

- Data backup management

- Restoration of EVS disk data from backups

- EVS disk creation from backups

Application Scenarios

Hacker Attack or Virus Infection

VBS immediately restores data to the latest snapshot point in time.

Data Mis-deletion

VBS immediately restores data to the latest snapshot point in time.

Application Update Error

VBS immediately restores data to the latest snapshot point in time.

ECS Breakdown

VBS immediately restores data to the latest snapshot point in time to ensure normal ECS running.

HUAWEI

Advantages

Traditional disk backup

VBS 👍

- **Stores data to backup storage media, with low reliability.**

- **Uses dedicated backup software, needing extra expertise.**

- **Requires dedicated backup storage devices, with high cost on procurement and configuration.**

Secure

Easy to use

Cost-effective

- **Provides 99.999999999% durability for OBS data, ensuring your backup data security.**

- **Provides a simple GUI for you to back up or restore your data with a few clicks.**

- **Performs incremental backups after the initial full backup to reduce storage space occupied.**
- **Pays for backup storage space on a per-use basis, reducing costs.**

HUAWEI

Charging Standards

- **VBS itself is currently <mark>free of charge.</mark>**

- **Because VBS backups are stored on Object Storage Service (OBS), you are <mark>charged</mark> for the OBS service you use by <mark>storage capacity and storage duration.</mark>**

HUAWEI

Contents

Key Features

- **Online backup**

- **Permanent incremental backup**

- **OBS for backup storage**

- **Policy-driven automatic backup**

Online Backup

- **Backs up EVS disks based on snapshots.**

- **Supports on-demand online backup at any time.**

- **Does not interrupt services.**

- **Does not require uninstallation of EVS disks.**

- **Requires no agents to be deployed in the service system.**

- **Minimizes impacts on customers' service systems.**

- **Requires no agents to be deployed on VMs.**

Permanent Incremental Backup

- **Offers permanent incremental backup.**

- **Improves backup efficiency.**

- **Cuts down the backup window by 95%.**

- **Reduces backup data storage space.**

- **Performs full backup upon the initial backup operation.**

- **Performs incremental backup for subsequent backup operations.**

- **Restores data to any backup point in time, independent from single backups.**

       HUAWEI

OBS for Backup Storage

- <mark>VBS stores backup data on OBS</mark>, improving data availability.

- Backup data can be remotely replicated to other storage devices, improving reliability.

- <mark>OBS is inexpensive,</mark> reducing customers' costs.

- An EVS disk only occupies one snapshot no matter how many times it is backed up, relieving the burden on local storage performance and reducing local storage space.

HUAWEI

Policy-Driven Automatic Backup

- A backup policy can be associated with multiple EVS disks to implement automatic backup for them, greatly reducing manual works.

- You can set execution times for periodic backup to ensure data is backed up in every critical point in time.

- You can also set the number of backups, so that expired backups are deleted automatically, avoiding unnecessary backups being retained.

Contents

HUAWEI

Common Operations (1)

- Creating backups

1. On the VBS page, click **Create VBS Backup**.
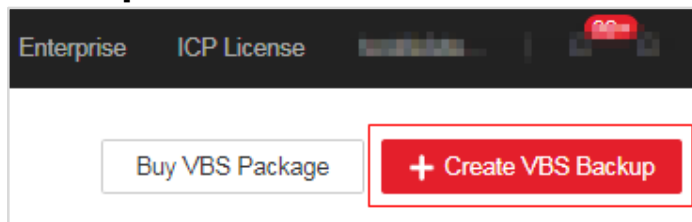
2. Select EVS disks you want to back up.
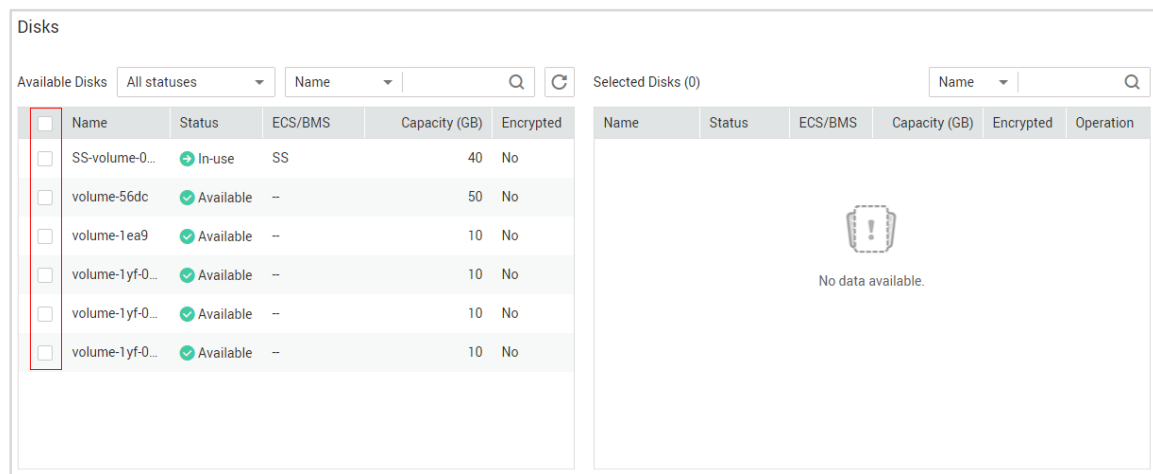
3. Set the backup name and select the backup methods.
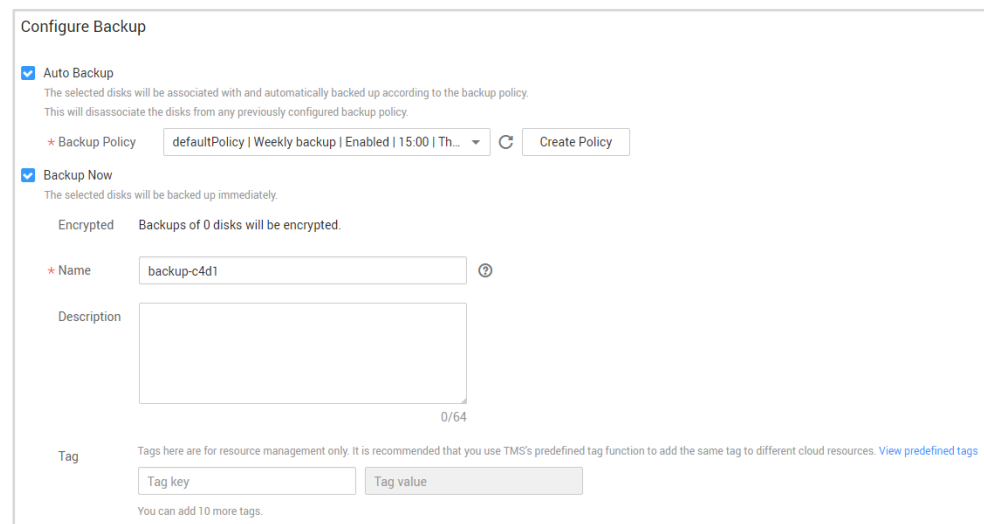
Common Operations (2)

- Creating EVS disks from backups

1. Click Create Disk.

2. Configure the disk specifications.

3. Confirm the disk information and click Submit.

Common Operations (3)

- Deleting a single backup

  1. In the row of the disk, choose **More** > **Delete**.

  2. Confirm the deletion information and click **OK**.

- Deleting backups in a batch

  1. Select the backups you want to delete and click **Delete** in the upper left corner.

  2. Confirm the deletion information and click **OK**.

Common Operations (4)

- Viewing backup details

1. Click the expansion arrow at the left of the backup name.

2. View the backup details.

- Searching for backups

Specify the filter criteria to search for backups.

Common Operations (5)

- Sharing backups with other projects

1. Click the expansion arrow at the left of the name of the backup.

2. On the **Shares** panel, click **Share Backup**.

3. Enter the project ID which can be obtained from the **My Credential** page.

4. Specify the search criteria to **Backups shared with me**, and you can view the backup.

Common Operations (6)

- Creating a backup policy

1. On the **Policies** tab page, click **Create Policy**.

2. Configure the backup policy.

- Editing backup policies

1. In the row of the policy, click **Edit**.

2. Modify the configuration parameters of the backup policy.

Common Operations (7)

- Executing a backup policy

  1. In the row of the policy, click **Execute**.

- Deleting a backup policy

  1. In the row of the policy, choose **More** > **Delete.**

2. Confirm the policy information and click **OK**.

2. Confirm the deletion information and click **OK**.

Common Operations (8)

- Associating EVS disks

1. In the row of the policy, click **Associate Disk**.

Name/ID	Enable	Execution Time	Backup Period	Retention Rule	Associated Disks	Operation
∨ policy-2084 d132520a-21c5-48...	⊙ Enabled	10:00	Sun	90 Days	0	Edit Associate Disk More ∨

2. Select the disks you want to associate with the policy and click **OK**.

Common Operations (9)

- Disassociating EVS disks

1. Expand the list of associated disks.

2. Confirm the disk information and click **OK**.

Copyright © 2019 Huawei Technologies Co., Ltd. All rights reserved.

Contents

1. Service Overview

2. Key Features

3. Common Operations

4. Limitations and Restrictions

5. FAQs and Troubleshooting Cases

6. Related Services

Limitations and Restrictions

- VBS does <mark>not support concurrent multiple backups for one EVS disk,</mark> because backup creation in such scenarios may fail and the time sequence of backups may be incorrect.

- <mark>Multiple EVS disks cannot be restored using one backup</mark> at the same time.

- EVS disks created from backups cannot be used as system disks.

- <mark>The default backup policy cannot be deleted.</mark>

HUAWEI

Contents

1. Service Overview

2. Key Features

3. Common Operations

4. Limitations and Restrictions

5. FAQs and Troubleshooting Cases

6. Related Services

FAQs (1)

- Does VBS Support Cross-Region Backup and Restoration?

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

- Does VBS Support Simultaneous Backup of All EVS Disks on an ECS?

  - Yes. You 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.

- 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.

FAQs (2)

- Do I Need to Stop the ECS Before Backing Up EVS Disks on an ECS Using VBS?

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

  - To ensure data consistency and integrity, back up EVS disks during off-peak hours without data writing to the EVS disks, or stop writing data to 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.

- Do I Need to Stop the ECS Before Restoring EVS Disk Data with a VBS Backup?

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

HUAWEI

FAQs (3)

- Can a VBS Backup of a System Disk Be Used to Restore 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 the system disk to create new EVS disks. However, newly created EVS disks cannot be used as system disks.

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

  - Yes. A quota is used to prevent resource abuse. You can submit an application to increase your quota if necessary.

- Are My VBS Backups Retained After ECS Subscription Expires or EVS Disks Are Deleted?

  - Yes, VBS backups created for EVS disks are retained when your ECS subscription expires or is canceled. VBS backups are also retained when you delete EVS disks. You can continue to use these VBS backups to create EVS disks.

HUAWEI

FAQs (4)

- <mark>Does Backup Can Be Performed Several Times a Day</mark>?

  - <mark>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.</mark>

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

  - CSBS backups of ECSs are also displayed on the VBS Backups tab 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.

HUAWEI

Troubleshooting Cases

- When a backup is being created, its status changes to Error.

  - Delete the VBS backups in the Error state and re-create them.

- When an EVS disk is being restored, the status of the EVS changed to Failed.

  - Delete the failed EVS disk and create a new EVS disk using the backup.

- VBS backups cannot be deleted, and the status of the backups is Deletion failed.

  - Contact technical support.

Contents

1. Service Overview

2. Key Features

3. Common Operations

4. Limitations and Restrictions

5. FAQs and Troubleshooting Cases

6. Related Services

HUAWEI

Related Services

- EVS

  - VBS provides the data backup function for EVS disks. The created data backups can be used to create EVS disks.

- CSBS

  - CSBS and VBS both provide data backup protection.

- Simple Message Notification (SMN)

  - VBS adopts SMN to notify users of VBS backup information.

- Tag Management Service (TMS)

  - Working with TMS, VBS supports tag presetting and backup filtering and management.

Summary

- Describes VBS provided on HUAWEI CLOUD.

- Introduces the concepts, functions, application scenarios, common operations, and restrictions and limitations of VBS.

- Introduces the advantages and the charging standards of VBS.

- Introduces FAQs, troubleshooting cases, and related services of VBS.

More Information

- Huawei E-Learning website:

  - http://support.huawei.com/learning/Index!toTrainIndex

- Huawei support case library:

  - http://support.huawei.com/enterprise/servicecenter?lang=en

Thank You

www.huawei.com