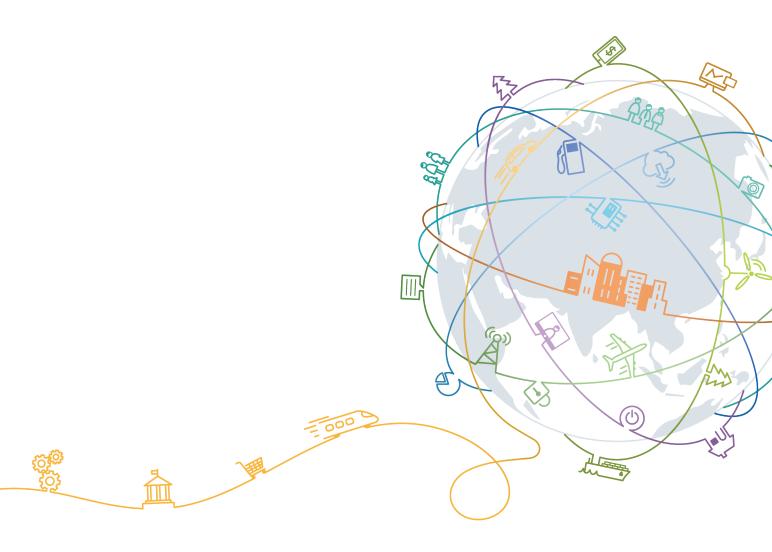
Cloud Server Backup Service

User Guide

Issue 02

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1 CSBS

Cloud Server Backup Service (CSBS) offers backup protection for Elastic Cloud Servers (ECSs). It works based on the consistency snapshot technology for Elastic Volume Service (EVS) disks, meaning you can seamlessly use backup data to restore ECS data.

CSBS enhances data integrity and service continuity. For example, if an ECS is faulty or a misoperation causes data loss, you can use data backups to restore data quickly.

By default, CSBS executes a full backup for an ECS that has not been backed up, and performs incremental backups subsequently. Both full backup and incremental backup can restore an ECS to the state at the backup point in time.

CSBS combines ECS and OBS to back up ECS data to object storage, enhancing backup data security. **Figure 1-1** shows the CSBS product architecture.

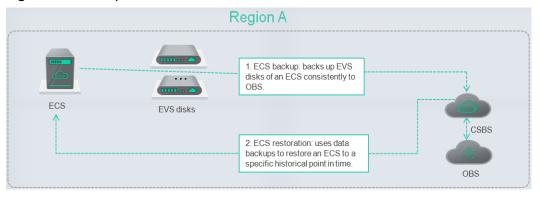


Figure 1-1 CSBS product architecture

Main Functions

CSBS provides the following functions:

- ECS-based backup
- Policy-driven data backup
- Data backup management
- Image creation using backups

2 Application Scenarios

CSBS offers backup protection for ECSs. It supports crash-consistent backup, which enhances data security. CSBS can be used in the following scenarios:

- Hacker attacks and virus infection
 CSBS can restore an ECS to the latest backup point in time when the ECS has not been affected by hacker attacks and viruses.
- Accidental deletion
 CSBS can restore an ECS to the backup point in time prior to accidental deletion.
- Application update errors
 CSBS can restore an ECS to the backup point in time prior to application update.
- System breakdown
 CSBS can restore an ECS to the backup point in time prior to system breakdown.

3 Related Services

Table 3-1 Related services

Interactive Function	Related Service	Reference
CSBS can back up data of the EVS disks on an ECS, and use the backups to restore lost or corrupted data. Generated backups can be used to create images for fast restoring the service running environment.	Elastic Cloud Server (ECS)	Creating a CSBS Backup
CSBS combines ECS and OBS to back up ECS data to object storage, enhancing backup data security.	Object Storage Service (OBS)	CSBS
Cloud Trace Service (CTS) records operations of CSBS resources, facilitating query, audit, and backtracking.	Cloud Trace Service (CTS)	Events

Table 3-2 CSBS and VBS

Item	CSBS	VBS
Backup and restoration objects	All EVS disks (including system and data disks) on a single ECS	One or more specified EVS disks (system or data disks)

Item	CSBS	VBS
Recommended scenarios	An entire ECS needs to be protected.	Only data disks need to be backed up, because the
	Use images created using backups to fast restore the service running environment.	system disk does not contain personal data.
Advantages	Consistency backup is supported. You can back up all EVS disks simultaneously, eliminating data inconsistency caused by backup time difference.	Backup cost is reduced while maintaining data security.

4 Basic Concepts

Backup Policies

A backup policy is a set of rules for backing up data, including the policy name, policy status, execution time of backup jobs, backup period, and retention rules. The retention rules specify the retention duration and number of retained backups. After an ECS is associated with a backup policy, it can be automatically backed up according to the backup policy.

Backup

A backup is a copy of the original data that is backed up. A backup is used to restore the original data. It can be generated in a one-off or periodic method.

CSBS supports one-off backup and periodic backup. A one-off backup job is manually created by users and takes effect for only one time. Periodic backup jobs are automatically driven by a user-defined backup policy.

- The name of a one-off backup is manualbk_xxxx. It can be user- or system-defined.
- The name of a periodic backup is assigned automatically by the system. The name of a periodic backup is **autobk**_xxxx.

Instant Restore

Instant Restore restores ECS data and creating images for backups, which is much faster than normal restoration.

Backups generated before Instant Restore is enabled do not support instant restoration. To use the feature, perform a full backup and select **Enable** next to **Full Backup** when creating the backup. For details, see . After Instant Restore is enabled, manual backups for ECSs that have not been backed up automatically support instant restoration, without requiring the selection of **Enable** next to **Full Backup**.

No matter whether an ECS has been backed up or not, its automatic backups generated after Instant Restore is enabled do not support instant restoration, unless you manually perform a full backup on it.

Application-Consistent Backup

There are three types of backup consistency:

- Inconsistent backup: Files and disks are backed up at different points in time.
- Crash-consistent backup captures data existing on disks upon backup and backs up files and disks at the same point in time, without backing up memory data and quieting application systems. Backup consistency of application systems is not ensured. Though the application consistency is not ensured, disks, such as **chkdsk**, will be checked upon operating system restartup to restore damaged data and log rollback will be performed on databases to keep data consistent.
- Application-consistent backup backs up files and disks at the same point in time, including memory data, to ensure application system consistency.

Project

Projects are used to group and isolate OpenStack resources (computing, storage, and network resources). A project can be a department or a project team. Multiple projects can be created for one account.

5 Region and AZ

Concept

A region and availability zone (AZ) identify the location of a data center. You can create resources in a specific region and AZ.

- Regions are divided based on geographical location and network latency. Public services, such as Elastic Cloud Server (ECS), Elastic Volume Service (EVS), Object Storage Service (OBS), Virtual Private Cloud (VPC), Elastic IP (EIP), and Image Management Service (IMS), are shared within the same region. Regions are classified into universal regions and dedicated regions. A universal region provides universal cloud services for common tenants. A dedicated region provides specific services for specific tenants.
- An AZ contains one or more physical data centers. Each AZ has independent cooling, fire extinguishing, moisture-proof, and electricity facilities. Within an AZ, computing, network, storage, and other resources are logically divided into multiple clusters. AZs within a region are interconnected using highspeed optical fibers to support cross-AZ high-availability systems.

Figure 5-1 shows the relationship between regions and AZs.

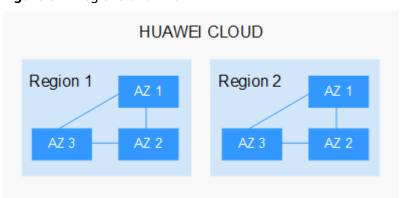


Figure 5-1 Regions and AZs

HUAWEI CLOUD provides services in many regions around the world. Select a region and AZ based on requirements. For more information, see **HUAWEI CLOUD Global Regions**.

Selecting a Region

When selecting a region, consider the following factors:

Location

It is recommended that you select the closest region for low network latency and quick access. Regions within the Chinese mainland provide the same infrastructure, BGP network quality, as well as resource operations and configurations. Therefore, if your target users are on the Chinese mainland, you do not need to consider the network latency differences when selecting a region.

- If your target users are in Asia Pacific (excluding the Chinese mainland), select the AP-Hong Kong, AP-Bangkok, or AP-Singapore region.
- If your target users are in Africa, select the **AF-Johannesburg** region.
- If your target users are in Europe, select the EU-Paris region.
- If your target users are in Latin America, select the **LA-Santiago** region.

□ NOTE

The LA-Santiago region is located in Chile.

Resource price

Resource prices may vary in different regions. For details, see **Product Pricing Details**.

Selecting an AZ

When deploying resources, consider your applications' requirements on disaster recovery (DR) and network latency.

- For high DR capability, deploy resources in different AZs within the same region.
- For low network latency, deploy resources in the same AZ.

Regions and Endpoints

Before you use an API to call resources, specify its region and endpoint. For more details, see **Regions and Endpoints**.

6 Accessing and Using CSBS

6.1 How to Access CSBS

Web-based service management platforms, including HTTPS-based application programming interfaces (APIs) and the management console, are provided for you to access the CSBS service.

- APIs
 - Use this access method if you are required to integrate the ECSs on the cloud service platform into a third-party system for secondary development. For detailed operations, see the *Cloud Server Backup Service API Reference*.
- Management console

Use this access method if you do not need secondary development. If you already have a cloud service account, log in to the management console and click **Cloud Server Backup Service** on the homepage.

User Permissions

The public cloud system provides two types of user permissions by default: user management and resource management. User management refers to the management of users and user groups. Resource management refers to the control operations that can be performed by users on cloud service resources.

For details, see **System Permissions**.

6.2 Constraints and Limitations

Note the following constraints and limitations about CSBS:

- An ECS can be associated with only one backup policy.
- An ECS with shared EVS disks cannot be backed up using CSBS.
- CSBS supports crash-consistent backup of EVS disks on an ECS but not application-consistent backup of them.
- CSBS does not support consistent backup of multiple ECSs.

• CSBS supports backup and restoration of all EVS disks as a whole instead of part of the EVS disks on an ECS. In addition, CSBS does not support file- or directory-level restoration.

7 Change History

Release Date	What's New
2019-02-23	This issue is the second official release. Modified the following content: Added content related to application-consistent backup.
2018-11-19	This issue is the first official release.