

Alibaba Cloud Hybrid Backup

Product Introduction

Issue: 20190801

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Generic conventions

Table -1: Style conventions

Style	Description	Example
	This warning information indicates a situation that will cause major system changes, faults, physical injuries, and other adverse results.	 Danger: Resetting will result in the loss of user configuration data.
	This warning information indicates a situation that may cause major system changes, faults, physical injuries, and other adverse results.	 Warning: Restarting will cause business interruption. About 10 minutes are required to restore business.
	This indicates warning information, supplementary instructions, and other content that the user must understand.	 Notice: Take the necessary precautions to save exported data containing sensitive information.
	This indicates supplemental instructions, best practices, tips, and other content that is good to know for the user.	 Note: You can use Ctrl + A to select all files.
>	Multi-level menu cascade.	Settings > Network > Set network type
Bold	It is used for buttons, menus, page names, and other UI elements.	Click OK.
Courier font	It is used for commands.	Run the <code>cd / d C :/ windows</code> command to enter the Windows system folder.
<i>Italics</i>	It is used for parameters and variables.	<code>bae log list --instanceid Instance_ID</code>
[] or [a b]	It indicates that it is an optional value, and only one item can be selected.	<code>ipconfig [-all -t]</code>

Style	Description	Example
<code>{}</code> or <code>{a b}</code>	It indicates that it is a required value, and only one item can be selected.	<code>swich {stand slave}</code>

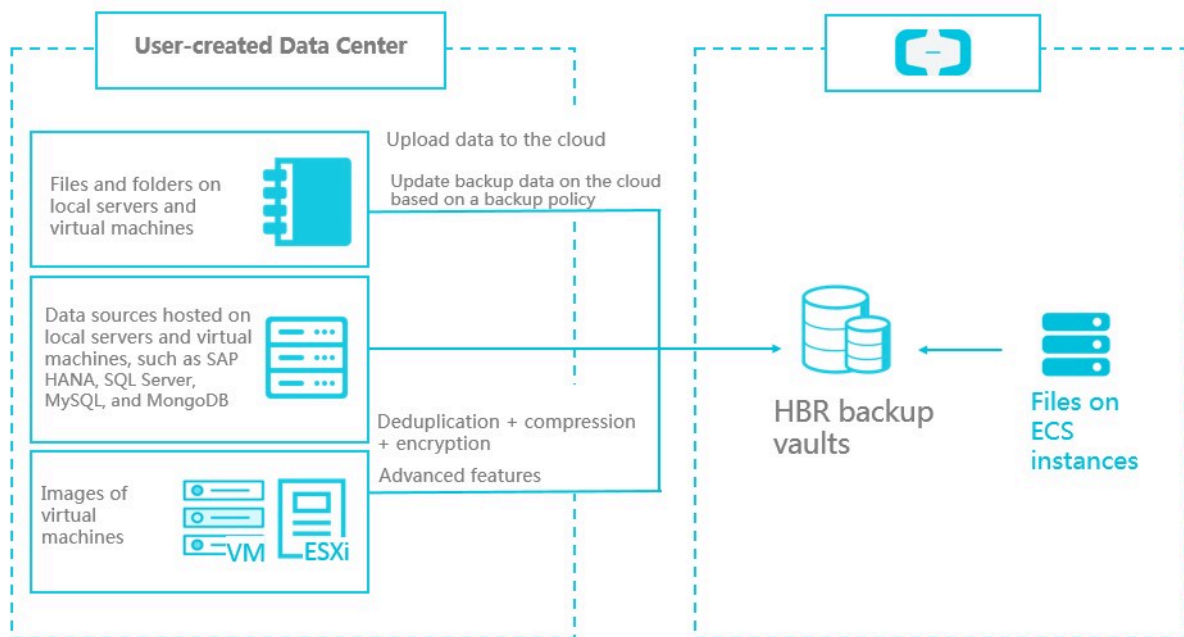
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1 What is Hybrid Backup Recovery?

Hybrid Backup Recovery (HBR) is an efficient, secure, cost-effective, and fully managed backup and storage service. You can use HBR to back up data from local data centers, branches, or cloud resources to a cloud vault.

Architecture



Benefits

Compared with the setup of a user-created local backup system, Hybrid Backup Recovery has the following advantages:

Item	User-created backup system	Hybrid Backup Recovery
Permission management	<p>Not supported</p> <p>No strict permission management is available to performing a manual backup. Improper operations such as accidental file deletion are prone to occur.</p>	<p>Supported</p> <p>With Resource Access Management, HBR users are categorized multiple permission groups. This is designed to reduce data security risks.</p>

Item	User-created backup system	Hybrid Backup Recovery
Deduplication and compression	<p>Not supported</p> <p>Repeated backups increase a large number of storage costs and reduce backup speed.</p>	<p>Supported</p> <p>HBR supports deduplication and compression technologies that are developed by Alibaba Cloud . These technologies help you to reduce the amount of transmitted data and occupied storage. This is designed to reduce costs and increase the backup speed.</p>
Backup alerts	<p>Not supported</p> <p>You need to manually track backup processes to identify whether backup failures occur . Several backup failures are only found when you attempt to restore data from the backups.</p>	<p>Supported</p> <p>HBR provides users with notifications, such as when a backup fails or when a client is disconnected from a server.</p>
Lifecycle of data backups	Manual management	Automatic management
Data restoration	You must manually restore data from multiple data copies.	You only need to select a backup version from which data is restored. You can also set restore rules.
Management cost	<p>High</p> <p>Manual backups require custom scripts to run backups and dedicated backup engineers to manage backups. This brings difficulties for backup management and administration , reduces resource utilization, and increases management costs .</p>	<p>Low</p> <p>With HBR, you do not need to be concerned with issues, such as hardware procurement, configuration, cluster expanding , and security. Instead, you only need to upload backups onto cloud vaults.</p>

Supported backup sources

Backup source		Operating system	Backup client
Local data center	File directory	Windows, Windows Server, and Linux	File client
	Images of VMware vSphere virtual machines	Windows, Windows Server, and Linux	Virtual machine client
	SAP HANA	Linux	File client
	SQL Server	Windows Server	File client
	MySQL	Windows Server and Linux	File client
	MongoDB	Windows Server and Linux	File client
Alibaba Cloud ECS	File directories of an ECS instance	Windows Server and Linux	ECS backup client
	SAP HANA databases that are located in an ECS instance	Windows Server and Linux	ECS backup client
	SQL Server databases that are located in an ECS instance	Windows Server	ECS backup client

Concepts

Name	Description
Backup source	The hosts where the data to be backed up is located, such as servers, virtual machines, and ECS instances.
Client	A client is installed on a backup source. You can use the client to back up and restore data. You must install corresponding clients for different backup sources.
Region	Regions are Alibaba Cloud on-premises data centers. After a resource is created, you cannot change the region of the resource. For more information, see Regions and zones .

Name	Description
Backup vaults	<p>A backup vault is an HBR cloud backup warehouse used to store backup data in the cloud. Backup data from multiple clients can be stored in the same vault. This helps you to manage the backup of data and reduce management time and costs.</p> <p>You must specify a region for each backup vault. An appropriate region for a backup vault helps improve backup performance and facilitate disaster recovery. After a backup vault is created, you cannot change the region of the backup vault. A backup vault is the basic unit that you can use to eliminate duplicate copies of repeated data or compress data.</p>
Mirror vaults	<p>A mirror vault is the mirror of a backup vault. However, the two vaults are located in different regions. You can use a mirror vault for geo-disaster recovery or cross-region data restoration.</p>
Intermediate hosts	<p>If you attempt to back up data from a Linux system without a desktop environment, you must download an HBR client on an intermediate host with a desktop environment. Then, you need to deploy the HBR client on a host where a data source is located. You can log on to the client on the intermediate host.</p>

2 Limits

Back up files

- Windows clients support Volume Shadow Copy Service (VSS). You can only create a single VSS snapshot at a time.
- An incomplete backup occurs if one or more files are changed by other applications during the backup job. The status of the backup job is displayed as partially completed when the backup job is complete. You must ensure the integrity of data in each backup job.
- During a backup job, if one or more files are locked by processes or cannot be read by the backup job, this results in an incomplete backup of data. The status of the backup job is displayed as partially completed when the backup job is complete.

Back up virtual machines

- You must install a VCenter Web Client (5.5, 6.0, or 6.5) on each virtual machine for which a backup is to be created.
- A VCenter client and ESXi hypervisor must allow access from a backup gateway by using a fully qualified domain name (FQDN) or an IP address.
- Snapshots cannot exist if you want to back up a virtual machine. Otherwise, you will be prompted a message when selecting a virtual machine: You cannot back up the virtual machine because you have already created a snapshot of the virtual machine. If a snapshot exists, you can delete it.
- You cannot back up virtual machines that have SCSI devices because vSphere virtual machines do not support shared SCSI devices.
- The name of a virtual machine to be backed up cannot contain the following characters.

` ^ ~ = ; ! / ([] { } @ \$ \ & # % +

- When you attempt to use Changed Block Tracking (CBT) to perform an incremental backup for a virtual machine, the backup cannot be performed in the following scenarios:
 - The hardware version of the virtual machine is earlier than version 7.
 - CBT is disabled on the virtual machine.
 - The disk of the virtual machine uses raw device mapping (RDM) in physical compatibility mode.
 - The disk mode of the virtual machine is independent_persistent or independent_nonpersistent.

3 Supported resources

Hybrid Backup Recovery (HBR) supports backup for mainstream infrastructure and operating systems.

Infrastructure

Facility	Supported backup sources
PC or server	File backups: supported
Virtual machine	<ul style="list-style-type: none">• File backup: supported• Image backup: vSphere 5.5, 6.0, and 6.5• Workflow-based data sources, such as SAP HANA, SQL Server, MySQL, and MongoDB
ECS instance	<ul style="list-style-type: none">• File backup: supported• SAP HANA: 1.0 and 2.0• SQL Server: SQL Server 2008 R2, SQL Server 2012, SQL Server 2014, SQL Server 2016, and SQL Server 2017

Operating systems

System	Supported version
Windows	7, 8, and 10
Windows Server	2008 R2, 2012, 2012 R2, and 2016
RHEL	7.0, 7.2, and 7.4
CentOS	6.5, 6.9, 7.2, 7.3, and 7.4
Ubuntu	14.04 and 16.04
SUSE Linux Enterprise Server	11, 12, and 15