

# Hyper Elastic Cloud Server

## Service Overview

**Issue** 03  
**Date** 2024-05-15



**Copyright © Huawei Cloud Computing Technologies Co., Ltd. 2024. All rights reserved.**

No part of this document may be reproduced or transmitted in any form or by any means without prior written consent of Huawei Cloud Computing Technologies Co., Ltd.

## **Trademarks and Permissions**



HUAWEI and other Huawei trademarks are the property of Huawei Technologies Co., Ltd.

All other trademarks and trade names mentioned in this document are the property of their respective holders.

## **Notice**

The purchased products, services and features are stipulated by the contract made between Huawei Cloud and the customer. All or part of the products, services and features described in this document may not be within the purchase scope or the usage scope. Unless otherwise specified in the contract, all statements, information, and recommendations in this document are provided "AS IS" without warranties, guarantees or representations of any kind, either express or implied.

The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied.

## **Huawei Cloud Computing Technologies Co., Ltd.**

Address: Huawei Cloud Data Center Jiaoxinggong Road  
Qianzhong Avenue  
Gui'an New District  
Gui Zhou 550029  
People's Republic of China

Website: <https://www.huaweicloud.com/intl/en-us/>

---

# Contents

---

<b>1 HECS L Instances.....</b>	<b>1</b>
1.1 What Is HECS L?.....	1
1.2 HECS L Advantages.....	4
1.3 Application Scenarios.....	4
1.4 Notes and Constraints on Using HECS L Instances.....	5
1.5 Resource Configuration for L Instances.....	7
1.6 Images Supported by HECS L Instances.....	11
1.7 Comparison Between HECS L and ECS.....	15
1.8 Billing.....	17
<b>2 HECS X Instances.....</b>	<b>21</b>
2.1 What Is HECS X?.....	21
2.2 Notes and Constraints on Using HECS X Instances.....	25
2.3 HECS X Instance Specifications.....	27
2.4 Images Supported by HECS X Instances.....	30
2.5 Billing.....	31
2.6 Region and AZ.....	36
<b>3 HRDS.....</b>	<b>38</b>
3.1 HRDS Overview.....	38
3.2 Permissions.....	40
3.3 Constraints.....	46
3.4 Billing.....	51
<b>4 Change History.....</b>	<b>53</b>

# 1 HECS L Instances

## 1.1 What Is HECS L?

### Overview

Hyper Elastic Cloud Server (HECS) is a next-generation lightweight cloud server designed for small- and medium-sized enterprises (SMEs) and developers. It is secure, cost-effective, and easy-to-use, and suitable for light-load scenarios such as website setup, development and testing environment, enterprise applications, website analysis, and audio and video scenarios.

HECS includes HECS L instances. HECS L provides a range of images for you to choose from and helps you quickly deploy and manage applications such as e-commerce websites, web applications, cloud-based learning or development and testing environments.

### Target Customers

HECS L is suitable for new users of cloud computing services, individual developers, and small and medium-sized enterprises that want to deploy simple applications on cloud servers.

### Resources

HECS L provides compute, network, storage, image installation, and backup capabilities.

Resource	Description
Cloud server	HECS L instance servers use the x86 architecture and the same underlying hardware resources as ECSs. An L instance server delivers the same compute performance as an ECS with the same flavors.
Image	HECS L provides OS images, application images, and private images for you to select.

Resource	Description
Network	After an HECS L instance is created, a fixed elastic IP address (EIP) is assigned and a fixed data package is provided by default.
Elastic Volume Service (EVS) disk	EVS provides storage space. Volume Backup Service (VBS) provides data backup and restoration.
Cloud server backup	You can back up all EVS disks (including system and data disks) and restore server data from backups.
Host Security Service (HSS)	With intrusion detection, vulnerability management, baseline inspection, and asset management functions, HSS makes it easier to control host security risks.

## Billing

HECS L only supports the yearly/monthly billing mode. Any traffic usage in excess of the package is billed by traffic. For details, see [Billing](#).

An HECS L instance is actually a package of resources. Resources in the package are unsubscribed or renewed together. After an HECS L instance is created, the data disk, backup vault, and HSS included in the instance package cannot be unsubscribed separately.

## Functions

HECS L functions are listed as follows.

Function	Description	Reference
Cloud server management	After an HECS L instance is created, you can manage the server in the HECS L instance, including setting the login password and managing the domain name and security group.	<ul style="list-style-type: none"> <li>• <a href="#">Resetting the Password</a></li> <li>• <a href="#">Reinstalling an OS</a></li> <li>• <a href="#">Changing an OS</a></li> <li>• <a href="#">Upgrading an HECS L Instance</a></li> <li>• <a href="#">Managing Domain Names</a></li> <li>• <a href="#">Managing Security Groups</a></li> </ul>
EVS disk management	After an HECS L instance is created, you can view the details and monitoring metrics of the EVS disk attached to it.	<a href="#">Managing Disks</a>
Cloud backup management	After an HECS L instance is created, you can modify the applied backup policy and view the monitoring data.	<a href="#">Managing Backups</a>
Host security management	HSS checks the security of HECS L in real time and generates reports for you to handle risks (if any) in a timely manner.	<a href="#">Managing Server Security</a>
Image management	<p>HECS L provides featured OS images, application images, and private images for you to select.</p> <ul style="list-style-type: none"> <li>• OS images: only include the necessary OSs to launch servers.</li> <li>• Application images: include applications or preset configurations.</li> <li>• Private images: You can use a private image to quickly create HECS L instances with the same configurations.</li> </ul>	<ul style="list-style-type: none"> <li>• <a href="#">Logging In to the Image Application Dashboard</a></li> <li>• <a href="#">Managing Private Images</a></li> </ul>

## 1.2 HECS L Advantages

### No Freezing

- Huawei Cloud QingTian architecture (hardware-software synergy) and top-flight AI algorithms provide superb compute performance.
- Huawei Cloud KooVerse delivers ultra-low data transmission latency.

### Cost-Effective

- Service packages give you great performance at a price you can afford.
- There are multiple instance specifications, so you can always find a good match for your performance needs without breaking the bank.
- You can benefit from the upgraded technology to reduce your costs.

### Easy to Use

- You can purchase a bundle of images and resources with just a few clicks.
- Multiple types of high-quality images come preconfigured with templates and have been tested by Huawei Cloud.
- Automatic orchestration and one-click resource provisioning let you roll out services within minutes.
- A convenient setup wizard makes it easy to get started.

### Easy to Manage

- Visual management of topology, resources, and images enable transparent management of the service architecture.
- Service status notifications and one-click resource renewal or unsubscription simplify service management.
- Real-time monitoring of resource loads, security, and usage ensure always-on services.
- There are various security services, including backup and host security services.

## 1.3 Application Scenarios

HECS L is designed for lightweight and light-load scenarios, such as small websites, web applications, blogs, forums, and cloud development environments.

- E-commerce store management: quickly setting up and managing e-commerce stores and providing stable, high-quality services for customers around the globe
- Website setup: using application templates to quickly build websites, such as enterprise official websites, news, blogs, forums, and e-commerce websites
- Mini game development: quickly rolling out standalone PC games and casual games with stable performance

- Development and testing: running development and testing projects and scheduled and automatic tasks on the cloud
- Cloud-based learning: conducting experiments, writing papers, and studying on the cloud
- Blog and forum setup: creating blogs and forums for individual developers easily and cost-effectively

## 1.4 Notes and Constraints on Using HECS L Instances

This section describes the notes and constraints on using HECS L.

Item	Description
Quota	<ul style="list-style-type: none"><li>• By default, you can create a maximum of five HECS L instances in total in a region.</li><li>• You can apply for up to five ICP filings for an HECS L instance.</li></ul> <b>NOTE</b> To increase the quota, <a href="#">submit a service ticket</a> .
Package management	<ul style="list-style-type: none"><li>• An HECS L instance package can have only one data disk, one backup vault, and one HSS.</li><li>• An HECS L instance is actually a package of resources. Resources in the package are created, unsubscribed, and renewed together. The data disk, backup vault, HSS, and EIP included in the package cannot be unsubscribed separately.</li></ul>
Package expansion	<ul style="list-style-type: none"><li>• If a resource of a certain service type has been added to the instance package, no more resources of such service type can be added. For example, if an HECS L instance has a data disk attached already, no more data disks can be attached to it.</li><li>• Currently, only data disks can be added on the HECS L console. To add backup vaults and HSS, you need to go to the CBR and HSS consoles separately. For details, see <a href="#">Purchasing a Server Backup Vault</a> and <a href="#">Accessing HSS</a>.</li></ul> <b>NOTE</b> Data disks can be added only on the HECS L console. You cannot add and attach data disks to L instances on the EVS console or attach existing data disks. <ul style="list-style-type: none"><li>• Data packages cannot be purchased separately.</li><li>• The added resources have the same expiration time as the HECS L instance. They cannot be removed or unsubscribed separately.</li><li>• Resources can be added only when the HECS L instance is running or stopped.</li></ul>



Item	Description
Data disk/ backup vault expansion	<ul style="list-style-type: none"><li>• Expanding the disk capacity does not affect the existing data on the cloud server, but incorrect operations may lead to data loss or exceptions. You are advised to back up the disk data using CBR before expansion.</li><li>• Only data disks can be expanded separately. System disks cannot be expanded separately. You can expand the system disk capacity by upgrading the instance specifications. For details, see <a href="#">Upgrading an HECS L Instance</a>.</li><li>• The disk capacity can only be expanded, not reduced.</li><li>• The additional capacity has the same expiration time as the HECS L instance and cannot be unsubscribed from separately.</li><li>• The disk can only be expanded when the server is <b>Running</b> or <b>Stopped</b>.</li></ul>
Image	<ul style="list-style-type: none"><li>• If an HECS L instance is created using an application image, <b>ensure that the application has been installed from the image and running properly on the instance</b> before you reset the instance password, or restart, start, or stop the instance. Otherwise, you may fail to log in to the image application dashboard.</li><li>• For details about the restrictions on using a private image to create an HECS L instance or change the OS, see <a href="#">Managing Private Images</a>.</li></ul>
Server login	<ul style="list-style-type: none"><li>• Only a running cloud server can be logged in to.</li><li>• HECS L instance servers do not have login passwords by default. When you log in to the server for the first time, <b>set a password</b> and keep it secure.</li><li>• You can reset the password only when the server is in <b>Stopped</b> or <b>Running</b> state. If you reset the password when the server is in <b>Running</b> state, the password change will be applied only after the server is restarted.</li></ul>
Networki ng	<ul style="list-style-type: none"><li>• Public network<ul style="list-style-type: none"><li>– By default, an EIP is assigned for an HECS L instance. It cannot be changed and will not be retained after the instance is released.</li><li>– IPv6 addresses cannot be configured for HECS L.</li></ul></li><li>• Private network<ul style="list-style-type: none"><li>– The VPC cannot be changed.</li><li>– By default, a private IP address is assigned for an HECS L instance. The assigned private IP address cannot be changed and will not be retained after the instance is released.</li></ul></li></ul>

## 1.5 Resource Configuration for L Instances

This section describes the resources contained in an HECS L service package.

### Instance Specifications

 NOTE

HECS L instance servers use the x86 architecture and the same underlying hardware resources as ECSs. An L instance server delivers the same compute performance as an ECS with the same flavors.

You can choose from a range of instance specifications (including vCPUs and memory, system disk, and data package) and associate EVS disks, HSS, or cloud backup vaults with your L instance as needed.

**Table 1-1** Instance specifications

vCPU   Memory	System Disk Capacity   Type	Peak Bandwidth   Data Package	(Optional) Associated Service Resources
2vCPUs   1GiB	40 GiB   General Purpose SSD	30 Mbps   2084 GB	The following service resources can be purchased together with L instances: <ul style="list-style-type: none"><li>• Data disk: General Purpose SSD V2   Custom capacity</li><li>• HSS: Basic edition</li><li>• CBR: Server backup   Custom vault capacity</li></ul>
2vCPUs   2GiB	60 GiB   General Purpose SSD	30 Mbps   3072 GB	
2vCPUs   4GiB	80 GiB   General Purpose SSD	30 Mbps   4096 GB	
2vCPUs   8GiB	160 GiB   General Purpose SSD	30 Mbps   5120 GB	
4vCPUs   8GiB	240 GiB   General Purpose SSD	30 Mbps   6144 GB	
4vCPUs   16GiB	320 GiB   General Purpose SSD	30 Mbps   7168 GB	

### EVS Disk

In a service package, an EVS disk is attached to an HECS L instance and is detached, renewed, or unsubscribed together with the instance.

EVS Disk	Type	Constraints
System disk	General Purpose SSD	<ul style="list-style-type: none"><li>• Each HECS L instance can only have one system disk attached.</li><li>• The system disk cannot be expanded or detached, and no more system disks can be attached.</li></ul>
Data disk	General Purpose SSD V2	<ul style="list-style-type: none"><li>• Each HECS L instance can only have one data disk attached.</li><li>• Data disks can only be attached or expanded on the HECS L console. Existing data disks cannot be attached to HECS L instances.</li><li>• Data disks cannot be detached.</li></ul>

For details about General Purpose SSD and General Purpose SSD V2 EVS disks, see [Disk Types and Performance](#).

## Network

Network Setting	Description
Private network	<ul style="list-style-type: none"><li>• After an L instance is created, a fixed VPC is configured for it by default. You cannot customize the VPC.</li><li>• By default, HECS L instances created by the same account in the same region are located in the same VPC. They can communicate with each other over a private network. When cloud resources (such as ECSs and cloud databases) created by the same account in the same region are located in the same VPC (vpc-default-smb) as L instances, they can communicate with each other over a private network. If they are not in the same VPC, they can communicate with each other through peering connection. For details, see <a href="#">VPC Peering Connection Usage Examples</a>.</li><li>• L instances that are created by different accounts or located in different regions are located in different VPCs and they cannot communicate with each other over a private network. To access L instances and cloud resources in other VPCs, you can use the following methods:<ul style="list-style-type: none"><li>– Cloud Connect: enables cross-account or cross-region access with other L instances or cloud resources (such as ECSs and cloud databases). For details, see <a href="#">Cloud Connect</a>.</li><li>– Peering connection: enables intra-account or cross-account access with other L instances or cloud resources in the same region. For details, see <a href="#">VPC Peering Connection Usage Examples</a>.</li></ul></li><li>• The private IP address of an L instance cannot be changed.</li></ul>
EIP	<p>After an HECS L instance is created, a fixed elastic IP address (EIP) is assigned by default.</p> <ul style="list-style-type: none"><li>• The EIP of the L instance cannot be unbound or changed.</li><li>• The EIP will not be retained after the HECS L instance is released.</li><li>• IPv6 addresses cannot be configured for HECS L instances.</li></ul>

Network Setting	Description
Data package	<p>A monthly data package is included in the L instance. Any traffic usage in excess of the package is billed on a pay-per-use basis. Data packages cannot be purchased or upgraded separately.</p> <ul style="list-style-type: none"><li>• EIPs are billed by traffic. You cannot change the EIP billing mode.</li><li>• Only outbound traffic (originating from your server) will be billed.</li><li>• The data package included in the HECS L service package is a monthly package. A monthly data package starts on the date of purchase and ends at 23:59:59 on the same day of the next month. For example, if you purchase an HECS L instance at 10:00:00 on June 5, the expiration time of the package is at 23:59:59 (the last second of the day) on July 5. The package for the next month starts from 23:59:59 on July 5 to 23:59:59 on August 5.</li><li>• Service traffic is preferentially deducted from the data package. Any traffic usage in excess of the package is billed by traffic. The excess traffic is billed based on a tiered pricing model, and the unit price varies in different regions.</li><li>• The traffic quota is reset each month. Any unused portion of the data package cannot be rolled over to the next month.</li><li>• After you unsubscribe from or stop an HECS L instance, the excess traffic will no longer generate costs.</li></ul>
Peak EIP bandwidth	<ul style="list-style-type: none"><li>• Outbound peak bandwidth<ul style="list-style-type: none"><li>– The peak bandwidth in the HECS L service package refers to the outbound peak bandwidth, that is, the maximum bandwidth for the HECS L instance to access the Internet.</li><li>– The peak bandwidth cannot be changed separately.</li></ul></li></ul> <p><b>NOTE</b> The peak bandwidth is not used as a service commitment and is only used as a reference for the bandwidth upper limit. If resource contention occurs, the peak bandwidth may be limited.</p> <ul style="list-style-type: none"><li>• Inbound peak bandwidth<ul style="list-style-type: none"><li>– If the outbound peak bandwidth of a package is not greater than 10 Mbit/s, the inbound peak bandwidth is 10 Mbit/s.</li><li>– If the outbound peak bandwidth of a package is greater than 10 Mbit/s, the inbound peak bandwidth is the same as the outbound peak bandwidth.</li></ul></li></ul>

## HSS

HSS basic edition provides intrusion detection, vulnerability management, and baseline inspection. For details, see [HSS Editions and Features](#).

## CBR

You can back up all EVS disks (including system and data disks) and restore data from backups.

- You can automatically back up data based on the backup policy or manually back up data at any time. For details, see [Backing Up an L Instance](#).
- You can restore data from backups when necessary. For details, see [Restoring from a Cloud Server Backup](#).

## 1.6 Images Supported by HECS L Instances

### Image Types

HECS L provides OS images, application images, and private images for you to choose from.

Image Type	Description
<a href="#">OS Images</a>	<p>OS images only include the necessary OSs to launch servers, without any application data or environment configurations. After a server is created from an OS image, the server runs on an OS without any applications installed. You can install applications based on your service requirements.</p> <p>For details about how to create an HECS L instance from an OS image, see <a href="#">Creating an Nginx Server Using the CentOS Image</a>.</p>
<a href="#">Application Images</a>	<p>Application images use Ubuntu 22.04 and contain applications as well as the related initialization data, runtime environment, and OS required by the applications.</p> <p>After creating a server from an application image, you do not need to upload or install applications. Instead, you can directly use the preset applications or customize the application configurations based on your service requirements.</p> <p>For details about how to create an HECS L instance from an application image, see <a href="#">Setting Up a Website Using the WordPress Application Image</a>.</p>
<a href="#">Private Images</a>	<p>You can use a private image to quickly create an HECS L instance with the same configuration as the image, or use a private image to change the OS.</p> <p>Private images are created from servers on cloud platforms or downloaded from third party platforms. They can be used by HECS L only after being created or imported using <a href="#">Image Management Service (IMS)</a>.</p> <p>For details, see <a href="#">Managing Private Images</a>.</p>

## OS Images

The following table lists the OS images supported by HECS L.

Image Name	Description
Huawei Cloud EulerOS	Huawei Cloud EulerOS (HCE OS) is a Linux distribution based on the open-source community openEuler developed by Huawei. It provides a cloud-native, high-performance, secure, and stable execution environment for developing and running applications.
CentOS	CentOS is a popular open-source Linux distribution based on Red Hat Enterprise Linux (RHEL) source code.
Ubuntu	Ubuntu is a popular Linux distribution based on Debian. It is free, stable, easy to use, and has a vast array of community resources available.
Debian	Debian is a stable, convenient Linux distribution. It provides a more powerful software package management tool than most Linux distributions and is one of the preferred OSs for website building.

## Application Images

The following table lists the application images supported by HECS L.

Image Name	Description
WordPress, an enterprise website setup system	WordPress was initially a blogging platform, but it gradually evolved into a free content management system (CMS) and website setup platform. It has earned a reputation for ease of use, scalability (plug-ins, templates, and secondary development), powerful functions, and friendly search engines.
Odoo, an enterprise ERP system	Odoo is a global open-source ERP/CRM software developed using Python and PostgreSQL and has more than 730 partners and 2 million users. It has a powerful, flexible system architecture that enables fast iteration. The version difference lies in the user interface and functional modules. You can modify, upgrade, and add functions in modules without modifying the core code. Common modules include procurement management, sales management, inventory management, financial management, goods management, marketing management, customer relationship management, production management, personnel management, service support, e-commerce, and website building. Odoo is great for industries like manufacturing, retail chain, e-commerce, and international trade.

Image Name	Description
PrestaShop, an e-commerce system	PrestaShop is an open source e-commerce platform written in the PHP programming language with support for the MySQL database management system. More than 40,000 online stores around the world have been deployed using Prestashop. Prestashop uses Smarty for programming and is highly scalable. It supports multiple languages, currencies, and payment methods. Prestashop is a good choice for international trade websites.
Superset, a data exploration and visualization platform	Apache Superset (formerly known as Panoramix and Caravel) is an open-source data analysis and visualization platform. This tool provides a quick way to intuitively visualize datasets by allowing you to create and share interactive dashboards. It is also an enterprise-level intelligent business web application.
Portainer, a Docker visual runtime environment	Portainer is a graphical management tool for Docker. It is compiled using GO and offers a range of functions such as status display, quick deployment of application templates, basic operations on Docker (containers, images, networks, and database logical volumes), log display, and a container console.
Nextcloud, an enterprise cloud disk	Nextcloud is an open-source cloud storage software for self-built private web disks. It was developed using PHP and MySQL and provides multiple clients to support access from different devices. You can easily synchronize data with and share data stored on servers. You can also synchronize data from other sources such as Dropbox, FTP, OpenStack Object Storage, SMB, WebDAV, and SFTP.
GitLab, a one-stop DevOps platform	GitLab was initially an open source code repository management project designed to help teams collaborate on software development. Now it is a DevOps platform that provides a complete solution for software development and operations. GitLab delivers a range of functions, including project management, planning, creation, validation, packaging, release, configuration, monitoring, and protection of applications.
Matomo, a network statistics and analysis platform	Matomo is a powerful open-source network analysis platform that has full data ownership, while also helping ensure compliance with General Data Protection Regulation (GDPR) and California Consumer Privacy Act (CCPA). Matomo's advanced search engine optimization and conversion optimization significantly improve your digital marketing capabilities, particularly for commercial software.



Image Name	Description
SRS, a real-time video server	SRS is a simple and efficient real-time video server that supports various real-time streaming media protocols, such as RTMP, WebRTC, HLS, HTTP-FLV, and SRT. Based on coroutine technology without async callback problem, SRS is also cloud native (docker image, k8s deploy, telemetry, metrics, etc). It is focused on real-time streaming gateways and supports streaming protocols such as RTMP, HLS, WebRTC, HTTP-FLV and SRT.

## Private Images

- You can use a private image to quickly create HECS L instances with the same configurations or change the OS.

Operation	Description	Reference
Creating a server from a private image	You can use a private image to quickly create HECS L instances that have the same configurations as the image.	<a href="#">Managing Private Images</a>
Changing the OS to a private image	You can use a private image to change the OS of your HECS L instance. <b>NOTE</b> Only private images of the system disk can be used for the OS change.	

- You can also create a private image from an HECS L instance.

Operation	Description	Reference
Creating a private image	You can use an HECS L instance to create a private image. After the image is created, you can use it to create multiple HECS L instances with the same configurations or create other servers.	<ul style="list-style-type: none"> <li><a href="#">Creating a System Disk Image</a></li> <li><a href="#">Creating a Data Disk Image from an ECS</a></li> <li><a href="#">Creating a Full-Server Image</a></li> </ul>
Sharing a private image	After creating a private image from an HECS L instance, you can share the image with other accounts in the same region.	<a href="#">Sharing Images</a>

Operation	Description	Reference
Replicating a private image	After an image is created from an HECS L instance: <ul style="list-style-type: none"><li>You can use the in-region image replication function to convert an encrypted image to an unencrypted image, or the other way around.</li><li>You can replicate the private image to accounts in other regions.</li></ul>	<ul style="list-style-type: none"><li><a href="#">Replicating Images Within a Region</a></li><li><a href="#">Replicating Images Across Regions</a></li></ul>
Exporting a private image	After a private image is created from an HECS L instance, you can export it to a standard OBS bucket and then download it to your local PC.	<a href="#">Exporting an Image</a>
Deleting a private image	You can delete a private image if you no longer need it.	<a href="#">Deleting Images</a>

## 1.7 Comparison Between HECS L and ECS

### Overview

HECS L simplifies the purchase of cloud servers. You can get a package of resources such as network configurations, EVS disks, backup vaults, and HSS at one stop and deploy your applications easily and quickly.

#### NOTE

HECS L instances use the same underlying hardware resources as Elastic Cloud Servers (ECSs) and deliver the same compute performance as ECS instances with the same flavors.

Their major differences are described as below:

- HECS L helps you quickly set up simple applications. It is sold as a package and suitable for lightweight, light-load applications.
- ECS provides a variety of billing modes, flavors, image types, and disk types. You can customize your ECS configurations for different service scenarios.

#### NOTE

For high-load applications, you are advised to use ECS for more stable performance.

## Comparison Details

Category	Item	HECS L	ECS
Scenarios	Application scenario	Low-load scenarios such as website setup, development and testing environments, small and medium-sized enterprise applications, and applets	Full-scenario coverage, typically high-load scenarios such as website applications, enterprise e-commerce, graphics rendering, data analysis, and high-performance computing
Billing	Billing mode	Yearly/monthly package. Any traffic usage in excess of the package is billed on a pay-per-use basis.	<ul style="list-style-type: none"> <li>Yearly/Monthly</li> <li>Pay-per-use</li> <li>Spot pricing</li> </ul>
Specifications	Flavor	Packaged with different allocations of vCPUs and memory	A variety of instance types and specifications
	Disk	<ul style="list-style-type: none"> <li>System disk type: General Purpose SSD</li> <li>Data disk type: General Purpose SSD V2</li> </ul>	Multiple disk types For details about disk types supported by ECS, see <a href="#">Disk Types and Performance</a> .
	Network	<ul style="list-style-type: none"> <li>An EIP is automatically assigned and cannot be changed.</li> <li>The EIP uses the Border Gateway Protocol (BGP) type by default (subject to what the console displays).</li> <li>Bandwidth is billed by traffic.</li> </ul>	<ul style="list-style-type: none"> <li>You can choose whether to bind an EIP.</li> <li>You can select an EIP type.</li> <li>Bandwidth is billed by bandwidth, traffic, or shared bandwidth.</li> </ul>
User experience	Advantage	Easy setup and O&M, cost-effective, and secure	Stable, reliable, scalable, secure, and hardware-software synergy
	Image	Mainstream images, including public images and application images	Various types of images, including public images, private images, shared images, and KooGallery images
	Login mode	Password	Password or key pair
	Combined purchase	<ul style="list-style-type: none"> <li>HSS</li> <li>EVS</li> <li>CBR</li> </ul>	<ul style="list-style-type: none"> <li>HSS</li> <li>Cloud Eye</li> </ul>

## 1.8 Billing

This section describes the billing modes, billing items, package pricing, expiration or arrears, renewal, and unsubscription of HECS L.

### Billing Modes

HECS L instances only support the yearly/monthly billing mode. Yearly/Monthly is a prepaid mode. You need to pay first, and will be billed based on the required duration in your order. You will need to make sure you have a top-up account with a sufficient balance or have a valid payment method configured first.

An HECS L instance is actually a package of resources. The package includes compute resources, network resources, images, EVS disks, backup vaults, and HSS. Resources included in the package cannot be unsubscribed separately.

An HECS L instance comes with a monthly data package. The traffic usage in excess of the package will be billed on a pay-per-use basis. Pay-per-use is a postpaid billing mode. You pay as you go and just pay for what you use.

### HECS L Billing Items

Billing Item	Description	Billing Mode	Price
HECS L instance	<p>An HECS L instance is actually a package of resources. The package includes compute resources, network resources, images, EVS disks, backup vaults, and HSS.</p> <p><b>NOTE</b></p> <ul style="list-style-type: none"><li>Only outbound traffic (originating from your server) will be billed.</li><li>The data package included in the HECS L service package is a monthly package. A monthly data package starts on the date of purchase and ends at 23:59:59 on the same day of the next month. For example, if you purchase an HECS L instance at 10:00:00 on June 5, the expiration time of the package is at 23:59:59 (the last second of the day) on July 5. The package for the next month starts from 23:59:59 on July 5 to 23:59:59 on August 5.</li></ul>	Yearly / Monthly	Monthly package price x Required duration

Billing Item	Description	Billing Mode	Price
(Optional) Excess traffic	Service traffic is preferentially deducted from the data package. Any traffic usage in excess of the package is billed by traffic. The excess traffic is billed based on a tiered pricing model, and the unit price varies in different regions.	Pay-per-use	Unit price of traffic x Excess traffic volume  For details about the unit price of traffic, see <a href="#">EIP Pricing Details</a> . The EIP type is dynamic BGP.
Intra-VPC communications	By default, HECS L instances created by the same account in the same region are located in the same VPC. They can communicate over a private network for free.	Free	None

The following provides some billing examples to help you understand the billing rules. The listed prices are for reference only. The actual pricing is subject to the console.

**Table 1-2** Billing example

Scenario	Description	Price
No excess traffic	Instance specification price (including a 4,096 GB/month data package): \$41.78 USD/month Data disk capacity: 20 GiB Data disk unit price: \$0.91 USD/10 GiB Required duration: 2 months	Monthly instance price = Monthly instance specification price + Monthly data disk price = \$41.78 USD/month + 20 GiB x \$0.91 USD/10 GiB = \$43.60 USD Total price = Monthly instance price x Required duration = \$43.60 USD x 2 = \$87.20 USD

Scenario	Description	Price
Excess traffic generated	10 GB traffic is generated in excess of the 1,024 GB/month monthly data package. The traffic in excess of the package is priced at \$0.114 USD/GB.	Excess traffic price = Unit price of excess traffic x Excess traffic volume = \$0.114 USD/GB x 10 GB = \$1.14 USD Total price = \$87.2 USD + \$1.14 USD = \$88.34 USD

## Other Billing Items

Billing Item	Description	Billing Mode	Price
(Optional) SSL certificate	If you purchase an SSL certificate and use it for HTTPS encryption, you need to pay for the SSL certificate.	One-off payment	See <a href="#">Cloud Certificate Manager Service Pricing Details</a> .
(Optional) Filing	Huawei Cloud provides you ICP filing for free.	Free	None
(Optional) DNS server	Huawei Cloud provides DNS for free to help resolve your website domain names for HECS L.	Free	None

## Specifications Upgrade

You can upgrade your HECS L instance specifications on the console as your services grow, but you will need to pay the difference in price.

### NOTE

Specifications cannot be degraded.

For example, if you purchased a one-month yearly/monthly HECS L instance (2 vCPUs, 2 GiB memory, and 60 GiB system disk) on April 8, 2023 and plan to upgrade the specifications to 2 vCPUs, 4 GiB memory, and 80 GiB system disk on April 18, 2023. The price for the original specification is \$17.21 USD/month, and that for the new specification is \$41.78 USD/month. The price difference will be calculated as follows:

Price difference for the specifications upgrade = Price for the new specifications × Remaining period – Price for the original specifications × Remaining period

The remaining period is the remaining days of each calendar month divided by the maximum number of days in each calendar month. In this example, Remaining period = 12 (Remaining days in April)/30 (Maximum number of days in April) + 8 (Remaining days in May)/31 (Maximum number of days in May) = 0.6581. Cost of

specifications upgrade = \$41.78 USD/month x 0.6581 – \$17.21 USD/month x 0.6581 = \$16.1695 USD

For more details, see [Pricing of a Changed Specification](#).

## Expiration and Arrears

- The following describes the impacts if your HECS L instances expire or if your account is in arrears.

Phase	Impact
<a href="#">Grace period</a>	After an HECS L instance expires or your account is in arrears, the instance enters a grace period. Within the grace period, you can still access and use the HECS L instance.
<a href="#">Retention period</a>	If you do not renew your HECS L instance or pay off the arrears before the grace period expires, the instance enters a retention period. During this retention period, you cannot access or use HECS L instance, but it is still retained.

After an L instance enters a grace period or retention period, Huawei Cloud will notify you of this by email or text message. If you do not complete the renewal or payment before the retention period ends, your instance will be released. To avoid impacting your services, [renew the instance in a timely manner](#).

- Arrears  
HECS L instances come with data packages. Any traffic usage in excess of the package is billed on a pay-per-use basis and settled periodically. If you do not have a valid payment method configured or your account balance is insufficient, your account will fall into arrears.

## Renewal

HECS L instances cannot be used after they expire. If you want to continue using them, renew them before the [retention period](#) ends. Otherwise, your resources will be released and cannot be recovered.

HECS L is provided as a package. Resources in the package are renewed together.

## Unsubscription

HECS L is provided as a package. Resources in the same package are unsubscribed together.

Suppose you purchased a yearly/monthly HECS L instance with a 40 GB backup vault. When you unsubscribe from the HECS L instance, the 40 GB backup vault included in the package will be unsubscribed together with the instance. The backup vault cannot be unsubscribed separately.

For details, see [Unsubscription Rules](#).

# 2 HECS X Instances

---

## 2.1 What Is HECS X?

### Overview

Hyper Elastic Cloud Server Flex (HECS X) is a next-generation lightweight cloud server designed for small- and medium-sized enterprises (SMEs) and developers. HECS X provides functions similar to what ECS provides. It is a simplified version of ECS. HECS X simplifies the purchase process of cloud servers. It supports one-stop purchase for compute, disk, and network resources, as well as Cloud Eye and HSS cloud services. HECS X helps you deploy, configure, and manage your applications more easily and efficiently.

### Application Scenarios

- E-commerce livestreaming: building e-commerce transaction platforms on HECS X instances to handle spikes and lulls in the e-commerce market
- Enterprise website setup: helping enterprises set up platforms such as blogs, forums, and websites to communicate, share, and spread information
- Individual development and testing: building development and testing environment on HECS X instances easily and cost-effectively
- Game servers: creating game servers with robust computing power to support 1,000+ players online at the same time, smooth scaling to handle the sudden increase of online players, and strong network acceleration capability to improve user experience.

### Advantages

- A variety of public images and versions are provided for you to choose from.
- Service changes can be intelligently detected and specifications can be dynamically adjusted, allowing for a higher workload range.
- You can flexibly select instance specifications from 2 to 16 vCPUs and 2 to 64 GiB memory.
- HECS X instances support the flexible pay-per-user billing mode and provide intelligent recommendations for instance specifications.



## Billing Modes

HECS X instances support the yearly/monthly and pay-per-use billing modes to meet your requirements in different scenarios. You can change the billing mode from yearly/monthly to pay-per-use, and vice versa. For more information, see [Billing](#).

## Resource Configuration

HECS X instances provide resources covering compute (vCPUs/memory and images), networking (VPCs and EIPs), storage (EVS disks), security (HSS), and Cloud Eye. You can flexibly configure resources based on service requirements.

- For details about specifications provided by HECS X instances, see [HECS X Instance Specifications](#).
- For details about images provided by the HECS X instances, see [Images Supported by HECS X Instances](#).

## Differences Among HECS X, HECS L, and ECS Instances

- An HECS L instance is a package of resources that include cloud servers, EVS disks, EIPs, CBR vaults, and HSS. Resources in the package are created and managed together. HECS L instances provide various featured application images to help you quickly set up service environments. HECS L instances are easy to use and friendly to beginners in cloud computing.

Both HECS L and HECS X instances are lightweight cloud servers. L instances are sold and managed as packages. X instance specifications and functions are more flexible and have fewer constraints.

- An ECS instance is a server that supports high-load scenarios. It provides multiple billing modes, flavor types, image types, and disk types. You can customize ECS configurations for different service scenarios.

HECS X provides functions similar to what ECS provides. It is a simplified version of ECS. HECS X simplifies the purchase process of cloud servers. It supports one-stop purchase for compute, disk, and network resources, as well as Cloud Eye and HSS cloud services. HECS X helps you deploy, configure, and manage your applications more easily and efficiently.

### NOTE

- HECS X instances use the same underlying hardware resources as ECS instances and deliver the same compute performance as ECS instances with the same flavors.
- For high-load applications, you are advised to use ECS for more stable performance.

[Table 2-1](#) describes the differences among HECS X, HECS L, and ECS instances.

**Table 2-1** Differences among HECS X, HECS L, and ECS instances

Item	HECS L	HECS X	ECS
Target customer	Small- and medium-sized enterprises and developers with low service loads and requiring fast deployment	Small- and medium-sized enterprises and developers with medium service loads and requiring flexible configurations	High-load and full-service scenarios, such as website applications, enterprise e-commerce, graphics rendering, data analysis, and high-performance computing.
Feature	Various built-in solutions and images, quick environment setup, easy service management	Custom specifications, stable and robust performance, and flexible pay-per-use billing	Flexible vCPU, memory, and bandwidth configuration; reliable, secure, and efficient application environments
CPU architecture	x86	x86	x86 or Arm
Billing mode	Yearly/Monthly HECS L instances are sold and managed as packages. Resources created with L instances cannot be disassociated, deleted, or unsubscribed separately.	<ul style="list-style-type: none"><li>• Pay-per-use</li><li>• Yearly/Monthly</li></ul>	<ul style="list-style-type: none"><li>• Yearly/Monthly</li><li>• Pay-per-use</li><li>• Spot pricing</li></ul>
Specifications	Multiple instance specifications available	vCPUs: 2 to 16; memory (GiB): 2 to 64  The memory size is determined by the number of vCPUs. For details, see the specifications displayed on the console.	Multiple instance specifications available

Item	HECS L	HECS X	ECS
Disk	<p>Each HECS L instance has a system disk with a fixed capacity attached by default and supports one data disk at most.</p> <ul style="list-style-type: none"><li>System disk: General Purpose SSD</li><li>Data disk: General Purpose SSD V2</li></ul>	<p>System disk specifications can be customized.</p> <p>Supported disk types:</p> <ul style="list-style-type: none"><li>System disk: common I/O, high I/O, General Purpose SSD, ultra-high I/O, and General Purpose SSD V2</li><li>Data disk: common I/O, high I/O, General Purpose SSD, ultra-high I/O, and General Purpose SSD V2</li></ul>	<p>All disk types are supported.</p> <p>For details about disk types supported by ECS, see <a href="#">Disk Types and Performance</a>.</p>
Network	<ul style="list-style-type: none"><li>A fixed EIP is assigned by default.</li><li>EIP bandwidth is billed by traffic. An HECS L instance comes with a monthly data package.</li></ul>	<ul style="list-style-type: none"><li>You can choose whether to bind an EIP.</li><li>You can select an EIP type.</li><li>Bandwidth is billed by bandwidth, traffic, or shared bandwidth.</li></ul>	<ul style="list-style-type: none"><li>You can choose whether to bind an EIP.</li><li>You can select an EIP type.</li><li>Bandwidth is billed by bandwidth, traffic, or shared bandwidth.</li></ul>
Advantage	<p>Easy setup and O&amp;M, cost-effective, and secure</p>	<ul style="list-style-type: none"><li>Easy setup and O&amp;M, cost-effective, and secure</li><li>HECS X instances that use the Huawei Cloud EulerOS 2.0 public image support Nginx, Redis, and MySQL application acceleration.</li></ul>	<p>Stable, reliable, scalable, secure, and hardware-software synergy</p>

Item	HECS L	HECS X	ECS
Image	<ul style="list-style-type: none"><li>Five types of mainstream system images provided</li><li>Seven types of featured application images provided</li><li>Private images supported</li></ul>	Various types of images, including public images, private images, and shared images	Various types of images, including public images, private images, shared images, and KooGallery images
Login mode	Password	Password or key pair	Password or key pair
Associated Service	<ul style="list-style-type: none"><li>HSS (basic edition)</li><li>CBR</li></ul>	<ul style="list-style-type: none"><li>HSS (basic and enterprise editions)</li><li>Cloud Eye</li><li>CBR</li></ul>	<ul style="list-style-type: none"><li>HSS (all editions)</li><li>Cloud Eye</li><li>CBR</li></ul>

## Access Methods

You can access HECS X instances using a web-based management console.

If you have already signed up for Huawei Cloud, log in to the management console and choose **Compute** > **Hyper Elastic Cloud Server** from the service list.

If you have not signed up for Huawei Cloud, see [Registering a HUAWEI ID and Enabling Huawei Cloud Services](#).

## 2.2 Notes and Constraints on Using HECS X Instances

To ensure that your HECS X instances run properly, read the following notes and constraints before using them.

### General Constraints

- Private images are regional resources. HECS X instances only can use private images that are in the same region as them.
- HECS X instances use the x86 architecture and do not support private images created using Arm servers.
- HECS X instances do not support nested virtualization.
- Do not install external hardware devices, such as encryption dongles or USB flash drives on HECS X instances.

### Precautions

When using HECS X instances, comply with the precautions listed below.

## General Precautions

- Do not use HECS X instances as unauthorized servers for any illegal or violation service, such as gambling or cross-border VPN.
- Do not use HECS X instances for fraudulent transactions, such as click farming on e-commerce websites.
- Do not use HECS X instances to initiate network attacks, such as DDoS attacks, CC attacks, web attacks, brute force cracking, or spreading of viruses and Trojan horses.
- Do not use HECS X instances for traffic transit.
- Do not use HECS X instances for web crawling.
- Do not use HECS X instances to detect other systems like scanning or penetration unless otherwise being authorized.
- Do not deploy any illegal websites or applications on HECS X instances.
- Do not uninstall drivers from the hardware of HECS X instances.
- Do not change the MAC address of NICs.
- The authentication mechanism of certain software may require that software licenses be associated with the physical server hosting HECS X instances. Once an HECS X instance is migrated from one physical server to another, the associated licenses may become invalid.
- An HECS X instance may need to stop or restart when it is migrated from a faulty host. For high service availability, deploy applications in a cluster or on HECS X instances working in active/standby mode, or configure automatic startup upon a host failure or startup.
- Back up data for HECS X instances where core applications are deployed.
- Monitor application metrics on HECS X instances.
- Do not change the default DNS server address. If you need to configure a public DNS server address, configure both a public and a private DNS address for your HECS X instance.

## Precautions for Using Windows HECS X Instances

- Do not stop system processes if you are not sure about the consequences. Otherwise, blue screen of death (BSOD) or a restart may occur on HECS X instances.
- Ensure that there is at least 2 GiB of idle memory. Otherwise, BSOD, freezing, or service failures may occur.
- Do not modify the registry. Otherwise, the system startup may fail. If the modification is mandatory, back up the registry before modifying it.
- Do not modify the clock settings. Otherwise, DHCP lease may fail, leading to the loss of IP addresses.
- Do not delete the CloudResetPwdAgent or CloudResetPwdUpdateAgent process. Otherwise, one-click password reset will become unavailable.
- Do not disable virtual memory. Otherwise, system performance may deteriorate, or system exceptions may occur.
- Do not delete the VMTool program, or an exception may occur on HECS X instances.

## Precautions for Using Linux HECS X Instances

- Do not modify the `/etc/issue` file. Otherwise, the OS distribution will not be identified.
- Do not delete system directories or files. Otherwise, the system may fail to run or start.
- Do not change the permissions for or names of system directories. Otherwise, the system may fail to run or start.
- Do not upgrade the kernel of the Linux unless necessary.  
When you have to upgrade the Linux kernel, follow the instructions provided in [How Can I Upgrade the Kernel of a Linux ECS?](#)
- Do not delete the `CloudResetPwdAgent` or `CloudResetPwdUpdateAgent` process. Otherwise, one-click password reset will become unavailable.
- Do not change the default `/etc/resolv.conf` of the DNS server. Otherwise, software sources and NTP may be unavailable.
- Do not modify default intranet configurations, such as the IP address, subnet mask, or gateway address of an HECS X instance. Otherwise, network exceptions may occur.
- Manually specified IP addresses for Linux HECS X instances are generally static IP addresses. To avoid network exceptions caused by conflicts between `NetworkManager` and internal network services, do not enable `NetworkManager` when not required, such as when installing Kubernetes.

## 2.3 HECS X Instance Specifications

You can learn about vCPUs/memory, images, EVS disks, VPCs, EIPs, Cloud Eye, and HSS provided by HECS X instances.

### Instance Specifications

HECS X instances use the same underlying hardware resources as ECS instances and deliver the same compute performance as ECS instances with the same flavors. Select appropriate instance specifications based on your service requirements.

#### NOTE

HECS X instances use the x86 CPU architecture.

You can select either preset or custom instance specifications.

**Table 2-2** HECS X instance specifications

Type	Specifications	Assured/ Maximum Bandwidth	Packets per Second (PPS)
Preset	2 vCPUs   2 GiB	0.2/2 Gbit/s	300,000
	2 vCPUs   4 GiB	0.2/2 Gbit/s	300,000

Type	Specifications	Assured/ Maximum Bandwidth	Packets per Second (PPS)
	4 vCPUs   8 GiB	0.4/3 Gbit/s	500,000
	8 vCPUs   16 GiB	0.8/6 Gbit/s	800,000
	12 vCPUs   24 GiB	1.2/8 Gbit/s	900,000
	16 vCPUs   32 GiB	1.6/12 Gbit/s	1 million
Custom (vCPUs/ memory)	vCPUs: 2, 4, 6, 8, 12, and 16 Memory (GiB): 2, 4, 6, 8, 10, 12, 16, 18, 20, 24, 28, 32, 48, and 64 All supported vCPUs and memory sizes are listed here. The memory size is determined by the number of vCPUs. For details, see the specifications displayed on the console.		

#### NOTE

The intranet bandwidth and PPS of an HECS X instance are determined by the instance specifications.

- Assured intranet bandwidth: the guaranteed bandwidth allocated to HECS X instances
- Maximum intranet bandwidth: the maximum bandwidth that can be allocated to HECS X instances
- Maximum intranet PPS: the maximum capability of HECS X instances in sending and receiving packets

## EVS Disks

EVS offers scalable block storage for HECS X instances. With high reliability and performance, EVS disks can be used to meet service requirements in various application scenarios. For more information about EVS disk performance, see [Disk Types and Disk Performance](#).

System and data disks of HECS X instances support the following EVS disk types: common I/O, high I/O, General Purpose SSD, ultra-high I/O, and General Purpose SSD V2. By default, an HECS X instance has a system disk attached. You can configure the type and capacity of the system and data disks based on service requirements.

## Networks

HECS X instances provide the following networking services:

- Virtual Private Cloud (VPC): allows you to create customized virtual networks in your logically isolated AZ. These networks are dedicated zones that are logically isolated for your HECS X instances. You can define security groups and IP address segments for a VPC. This facilitates internal network configuration, management, and change. You can also customize the cloud server access rules within a security group and between security groups to strengthen cloud server security protection.

- Elastic IP: consists of a public IP address and public network outbound bandwidth. After an EIP is bound to an HECS X instance, the instance can directly access the Internet. HECS X instances cannot access the Internet if they only have private IP addresses assigned.

Network Setting	Description	Billing Mode
VPC	<ul style="list-style-type: none"><li>• You can customize the VPC for HECS X instances.</li><li>• In the same region of the same account, all HECS X instances can communicate with each other over a private network only when they are in the same VPC.</li><li>• HECS X instances created by different accounts or in different regions are located in different VPCs. They cannot communicate with each other over a private network by default.</li><li>• HECS X instances in the same region can communicate with each other through <a href="#">VPC Peering Connection</a>, and those in different regions can communicate with each other through <a href="#">Cloud Connect</a>.</li></ul>	Free
EIP	<p>You can purchase an EIP during the instance creation or after the instance is created.</p> <ul style="list-style-type: none"><li>• You can bind an EIP to or unbind an EIP from an HECS X instance.</li><li>• The EIP will not be retained after the HECS X instance is released.</li><li>• HECS X instances support IPv6 addresses.</li></ul>	<ul style="list-style-type: none"><li>• Yearly/Monthly and pay-per-use billing modes are supported.</li><li>• EIPs can be billed by bandwidth, traffic, or shared bandwidth.</li><li>• The bandwidth size can be changed.</li></ul>

## Services Integrated On the HECS X Console

The HECS X console integrates Cloud Eye, Host Security Service (HSS), and Cloud Backup and Recovery (CBR). You can purchase them together with HECS X instances on the HECS X console.



Service	Description	Reference
Cloud Eye	Cloud Eye is a multi-dimensional resource monitoring service. You can use Cloud Eye to monitor resource utilization and service running status, and generate alarms to notify you of service exceptions in a timely manner. For more information, see <a href="#">What Is Cloud Eye?</a>	<a href="#">Managing Server Monitoring</a>
Host Security Service (HSS)	HSS improves the overall security of HECS X instances. After HSS is enabled, it scans for weak passwords, system vulnerabilities, brute-force attacks, and unauthorized logins. For more information, see <a href="#">What Is HSS?</a>	<a href="#">Managing Server Security</a>
Cloud Backup and Recovery (CBR)	CBR enables you to back up HECS X instances and disks with ease. In case of a virus attack, accidental deletion, or software or hardware fault, you can restore data to any point in the past when the data was backed up. For more information, see <a href="#">What Is CBR?</a>	<a href="#">Managing Backups</a>

#### NOTE

Whether Cloud Eye and HSS are displayed on the HECS X console depends on the selected images. Certain public images do not support Cloud Eye or HSS.

## 2.4 Images Supported by HECS X Instances

### What Is an Image?

An image is a cloud server template that contains mandatory software, such as the operating system (OS). It may also contain application software, such as database software and proprietary software. You can use images to quickly create cloud servers with the same configurations.

- To learn more about images, see [What Is Image Management Service?](#)
- To learn how to use images to create or switch HECS X instances, or how to create images from HECS X instances, see [Managing Images](#).

### Image Types

HECS X provides public, private, and shared images for you to choose from.

Image Type	Description
Public images	<p>A public image is a widely used, standard image. It contains an OS and pre-installed public applications and is visible to all users. Public images are very stable and their OS and any included software have been officially authorized for use. If a public image does not contain the environments or software you need, you can use a public image to create a cloud server and then deploy the required environments or software on the server.</p> <p>You can install applications based on your service requirements. If you are familiar with system and application environment configurations, select a public image.</p>
Private images	<p>A private image is created by yourself. A private image can be a system disk image, data disk image, or full-server image.</p> <ul style="list-style-type: none"><li>• A system disk image contains an OS and preinstalled software for various services. You can use a system disk image to create a cloud server and migrate your services to the cloud.</li><li>• A data disk image contains only service data. You can use a data disk image to create EVS disks and use them to migrate your service data to the cloud.</li><li>• A full-server image contains an OS, pre-installed application software, and service data. It is created using differential backups and the creation takes less time than creating a system or data disk image that has the same disk capacity.</li></ul> <p>You can use a private image to quickly create HECS X instances with the same configurations as the private image, eliminating the need to configure multiple HECS X instances repeatedly. For more information, see <a href="#">Creating an HECS X Instance from a Private Image or Using a Private Image to Change the OS</a>.</p>
Shared images	<p>A shared image is a private image shared by another user with you. For more information, see <a href="#">Sharing Images</a>.</p>

## Supported Images

- Public images: Huawei Cloud EulerOS, CentOS, Ubuntu, EulerOS, Debian, OpenSUSE, AlmaLinux, Rocky Linux, CentOS Stream, CoreOS, openEuler, and FreeBSD
- Shared images and private images:
  - System disk images, data disk images, and full-server images
  - Linux private images created using x86 servers

## 2.5 Billing

This section describes the billing details of HECS X instances.

## Billing Modes

HECS X instances support the yearly/monthly and pay-per-use billing. You can change the billing mode from yearly/monthly to pay-per-use, and vice versa.

- Yearly/Monthly is a prepaid billing mode. You pay in advance for a subscription term, and in exchange, you get a discounted rate. The longer the subscription term, the higher the discount. Yearly/Monthly billing is a good option for long-term, stable services.
- Pay-per-use is a postpaid billing mode. You pay as you go and just pay for what you use. HECS X instances are calculated by the second but billed every hour. This mode allows you to adjust resource usage easily. You do not need to prepare resources in advance, and will not have excessive or insufficient preset resources. Pay-per-use billing is a good option for scenarios where there are sudden traffic bursts, such as e-commerce promotions.

**Table 2-3** lists the differences between these billing modes.

**Table 2-3** Differences between billing modes

Billing Mode	Yearly/Monthly	Pay-per-use
Payment	Prepaid Settled based on the subscription term you purchase	Postpaid Billed by the usage duration
Billing Method	Billed by the subscription term you purchase	Calculated by the second but billed every hour
Billing for Stopped Instances	Billing stops after the subscription expires.	Basic resources (vCPUs, memory, and image) are not billed after the instance is stopped. Other resources (such as EVS disks, EIPs, and bandwidth) associated with the instance will continue to be billed.
Changing the Specifications	Supported	Supported
ICP Filing	Supported The subscription term must be at least three months, including all time covered by subscription renewals.	Not supported
Application Scenarios	Recommended for resources expected to be in use over the long term. Recommended for resources expected to be in use in the long term	Recommended when the resource demands are likely to fluctuate and you want more flexibility

## HECS X Instance Billing items

Table 2-4 HECS X instance billing items

Billing Item	Description	Billing Mode	Formula
*Instance	Computing and storage capabilities vary by the number of vCPUs and memory size. Billed by vCPU and memory	Yearly/ monthly and pay- per-use	Unit price x Required duration  The unit price of an instance is that displayed on the console.
*Image	The billing modes of images are the same as those of instances. <ul style="list-style-type: none"><li>• Public images: provided by Huawei Cloud and free of charge</li><li>• Private images:<ul style="list-style-type: none"><li>– System disk images and data disk images can be used for free.</li><li>– If a full-server image is created using Cloud Server Backup Service (CSBS) or Cloud Backup and Recovery (CBR), you will be billed for the storage and cross-region replication traffic on a pay-per-use basis. For details, see <a href="#">CBR Billing Items</a>.</li><li>– If a private image is created using a cloud server created from a KooGallery image, the image will be billed based on the KooGallery image pricing details.</li></ul></li><li>• Shared images: System disk images, data disk images, and full-server images shared by others are private images. They are billed based on the <a href="#">private image pricing details</a>. Shared images are only shared within a given region, so they do not generate cross-region replication traffic costs.</li></ul>	Yearly/ Monthly and pay- per-use	Unit price x Required duration  The unit price of an image is that displayed on the purchase page and KooGallery.

Billing Item	Description	Billing Mode	Formula
*EVS disk (system disk)	When you purchase an HECS X instance, a 40 GiB system disk is selected by default. You can select a higher capacity as required. Regardless of whether you use the disk, you will be billed right away after purchasing it. Billed by EVS disk type and capacity	Yearly/ monthly and pay-per-use	Unit price x Required duration The unit price of an EVS disk is that displayed on the console.
EVS disk (data disk)	If you have additional storage requirements, you need to purchase more data disks. Billed by EVS disk type and capacity	Yearly/ monthly and pay-per-use	Unit price x Required duration The unit price of an EVS disk is that displayed on the console.
Bandwidth	An EIP is required if the HECS X instance needs to access the Internet. Billed by bandwidth, traffic, and the EIP reservation price <ul style="list-style-type: none"> <li>EIP for a yearly/monthly HECS X instance: billed by bandwidth</li> <li>EIP for a pay-per-use HECS X instance: billed by bandwidth, traffic, or shared bandwidth. You are also billed for EIP reservation if you do not bind the EIP to any instance.</li> </ul> <p><b>NOTE</b> If the EIP has been bound to an HECS X instance, the EIP reservation price is 0.</p>	Yearly/ monthly and pay-per-use	Tiered pricing based on fixed bandwidth <ul style="list-style-type: none"> <li>0 Mbit/s to 5 Mbit/s (included): billed at a fixed unit price per Mbit/s</li> <li>Greater than 5 Mbit/s: billed at a different price per Mbit/s</li> </ul> The unit price of the EIP bandwidth is that displayed on the console.
Host Security Service (HSS)	You can use the HSS basic or enterprise edition to protect your HECS X instances. The HSS basic edition (one-month free trial) provides basic protection, account cracking protection, weak password detection, and malicious program detection.	Yearly/ monthly and pay-per-use	HSS unit price x Required duration The unit price of HSS is that displayed on the console.

Billing Item	Description	Billing Mode	Formula
CBR	You can purchase a backup vault to store backups of your HECS X instance. You are billed based on the vault capacity. For details, see <a href="#">CBR Pricing Details</a> .	Yearly/ monthly and pay- per-use	Unit price x Required duration  The unit price of CBR is that displayed on the console.

## Expiration and Arrears

- Pay-per-use HECS X instances are settled periodically. If you do not have a valid payment method configured or your account balance is insufficient, your account will fall into arrears.
- Yearly/Monthly HECS X instances will expire after their validity periods end.

The following describes the impacts if your HECS X instances expire or if your account is in arrears.

Phase	Impact
<a href="#">Grace period</a>	After an HECS X instance expires or your account is in arrears, the instance enters a grace period. During the grace period, you can still access and use the HECS X instance.
<a href="#">Retention period</a>	If you do not renew your HECS X instance or pay off the arrears before the grace period expires, the instance enters a retention period. During the retention period, you cannot access or use the HECS X instance, but it is still retained.

After an HECS X instance enters a grace period or retention period, Huawei Cloud will notify you of this by email or text message. If you do not complete the renewal or payment before the retention period ends, your instance will be released. To avoid impact on your services, renew your subscription or top up your account in a timely manner.

## Renewal and Top-up

HECS X instances cannot be used after they expire or if your account is in arrears. If you want to continue using them, renew them before the [retention period](#) ends. Otherwise, your resources will be released and cannot be recovered.

### NOTE

Pay-per-use is a postpaid billing mode. Pay-per-use HECS X instances are automatically settled by the hour. You will need to make sure you have a top-up account with a sufficient balance or have a valid payment method configured first. Yearly/Monthly is a prepaid billing mode. To use yearly/monthly HECS X instances, you also need to renew your subscription before they expire.

## Unsubscription and Deletion

If you no longer need HECS X instances, unsubscribe from or delete them to avoid unnecessary costs.

For details, see [Unsubscription Rules](#).

### NOTE

For yearly/monthly HECS X instances that are no longer used, unsubscribe from them. For pay-per-use HECS X instances that are no longer used, delete them.

## 2.6 Region and AZ

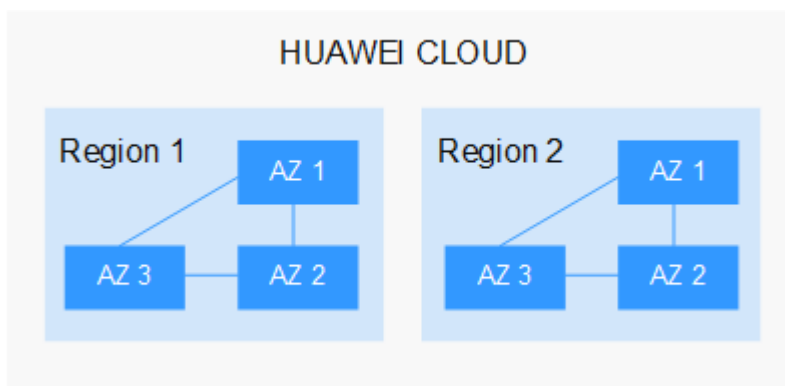
### Concept

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 high-speed optical fibers, to support cross-AZ high-availability systems.

[Figure 2-1](#) shows the relationship between regions and AZs.

**Figure 2-1** Regions and AZs



Huawei Cloud provides services in many regions around the world. You can select a region and an AZ based on requirements. For more information, see [Huawei Cloud Global Regions](#).

## Regions Supported by HECS X Instances

HECS X instances are now only available in the CN-Hong Kong and AP-Singapore regions.

## Selecting a Region

When selecting a region, consider the following factors:

- Location

It is recommended that you select the closest region for lower network latency and quick access.

- If your target users are in Asia Pacific (excluding the Chinese mainland), select the **CN-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 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 lower network latency, deploy resources in the same AZ.



# 3 HRDS

---

## 3.1 HRDS Overview

Based on the open-source MySQL kernel, Hyper Relational Database Service (HRDS) is a lightweight relational database service developed for startups and individuals. HRDS is easy to set up and use. It frees you to focus on your core business.

### How to Use HRDS

A web-based [management console](#) is provided for you to manage your HRDS instances.

HRDS supports MySQL 8.0 and 5.7. For details about how to buy an HRDS instance, see [Buying and Connecting to an HRDS Instance](#).

For more information, see the official documentation at <https://dev.mysql.com/doc/>.

### Basic Concepts

- **DB Instance**  
The smallest management unit of HRDS is the DB instance. A DB instance is an isolated database environment on the cloud. You can create and manage HRDS instances on the console.
- **DB Engine**  
HRDS supports the MySQL DB engine.
- **DB Instance Type**  
HRDS instances are classified into single instances and primary/standby instances.

**Table 3-1** DB instance types

Type	Description	Notes
Single	Uses a single-node architecture. It is less expensive than a primary/standby DB pair.	If a fault occurs on a single-node instance, the instance cannot recover in a timely manner.
Primary/Standby	Uses an HA architecture. The primary and standby instances share the same IP address and can be deployed in different AZs.	<ul style="list-style-type: none"> <li>When a primary instance is being created, a standby instance is provisioned synchronously to provide data redundancy. The standby instance is invisible to you after being created.</li> <li>If the primary instance fails, a failover occurs, during which database connection is interrupted. If there is a replication delay between the primary and standby instances, the failover takes an extended period of time. The client needs to be able to reconnect to the instance.</li> </ul>

- Instance Class

You can choose one of several database plans based on the vCPUs, memory, storage, and DB instance type you require. The following database plans are available:

**Table 3-2** Database plans

Instance Class	DB Instance Type
Standard 2U4G, 120 GB of storage	Single
Standard 2U8G, 240 GB of storage	Single
Standard 4U8G, 240 GB of storage	Single
High-availability 2U4G, 120 GB of storage	Primary/Standby
High-availability 2U8G, 240 GB of storage	Primary/Standby
High-availability 4U8G, 240 GB of storage	Primary/Standby

- Automated Backup

Automated backup is enabled by default when you create an HRDS instance. The backup policy cannot be modified after instance creation.

- Manual Backup

Manual backups are user-initiated full backups of DB instances. You can download and delete manual backup as needed. Or if you want, you can keep the manual backups until you unsubscribe from your instance.

## Product Advantages

- Quick Setup

You can create an HRDS instance anytime you want to on the console. Working with a Hyper Elastic Cloud Server (HECS), an HRDS instance can be accessed through a private network. This reduces the application response time and saves traffic fees.

- Solid Reliability

HRDS automatically backs up data every day and stores backups as packages in Object Storage Service (OBS). Automated backups are retained for seven days and can be used to restore data within that period.

Point-in-time recovery (PITR) is supported. You can restore data to a new or original instance.

- Storage Autoscaling

Storage autoscaling is disabled by default. You can enable it after purchasing an instance. With storage autoscaling enabled, HRDS automatically scales up the storage of your instance when the storage usage reaches your preset limit. It works with Cloud Eye to monitor changes in database pressure and data volume.

- High Security

HRDS is protected by multiple layers of firewalls to defend against various malicious attacks, such as DDoS attacks and SQL injections.

- Simplified O&M

With a web-based console, you can reboot DB instances, reset passwords, modify parameters, view error logs and slow query logs, and restore data. Instance metrics like CPU usage, IOPS, connections, and storage usage are monitored in real time, and an alarm is reported once any of the metrics becomes abnormal. You can always keep aware of your instance health.

## 3.2 Permissions

If you need to assign different permissions to personnel in your enterprise to access your HRDS resources, Identity and Access Management (IAM) is a good choice for fine-grained permissions management. IAM provides identity authentication, permissions management, and access control, helping you to securely access your Huawei Cloud resources.

With IAM, you can create IAM users and assign permissions to control their access to specific resources. For example, if you want some software developers in your enterprise to use HRDS resources but do not want them to delete HRDS instances or perform any other high-risk operations, you can create IAM users and grant permission to use HRDS instances but not permission to delete them.

If your Huawei account does not require individual IAM users for permissions management, you can skip this section.

IAM is a free service. You only pay for the resources in your account. For more information about IAM, see [IAM Service Overview](#).

## HRDS Permissions

New IAM users do not have any permissions assigned by default. You need to first add them to one or more groups and attach policies or roles to these groups. The users then inherit permissions from the groups and can perform specified operations on cloud services based on the permissions they have been assigned.

HRDS is a project-level service deployed in specific physical regions. When you set **Scope** to **Region-specific projects** and select the specified projects (for example, **cn-north-1**) in the specified regions (for example, **CN North-Beijing1**), the users only have permissions for HRDS instances in the selected projects. If you set **Scope** to **All resources**, the users have permissions for HRDS instances in all region-specific projects. When accessing HRDS instances, the users need to switch to the authorized region.

You can grant permissions by using roles and policies.

- **Roles:** A coarse-grained authorization strategy provided by IAM to assign permissions based on users' job responsibilities. Only a limited number of service-level roles are available for authorization. Cloud services depend on each other. When you grant permissions using roles, you also need to attach any existing role dependencies. Roles are not ideal for fine-grained authorization and least privilege access.
- **Policies:** A fine-grained authorization strategy that defines permissions required to perform operations on specific cloud resources under certain conditions. This type of authorization is more flexible and is ideal for least privilege access. For example, you can grant users only permissions to manage database resources of a certain type.

[Table 3-3](#) lists all the system-defined permissions for HRDS.

**Table 3-3** System-defined permissions for HRDS

Role/Policy Name	Description	Type	Dependencies
RDS FullAccess	Full permissions for HRDS	System-defined policy	<p>To purchase a yearly/monthly DB instance, configure the following actions:</p> <p>bss:order:update bss:order:pay</p> <p>To use storage autoscaling, configure the following actions for IAM users:</p> <ul style="list-style-type: none"> <li>• Creating a custom policy: <ul style="list-style-type: none"> <li>- iam:agencies:listAgencies</li> <li>- iam:agencies:createAgency</li> <li>- iam:permissions:listRolesForAgencyOnProject</li> <li>- iam:permissions:grantRoleToGroupOnProject</li> <li>- iam:roles:listRoles</li> <li>- cors:productInstance:createDefault</li> </ul> </li> <li>• Adding system role <b>Security Administrator</b>: Select a user group to which the user belongs. Click <b>Authorize</b> in the <b>Operation</b> column. Add the <b>Security</b></li> </ul>

Role/Policy Name	Description	Type	Dependencies
			<b>Administrator</b> role.
RDS ReadOnlyAccess	Read-only permissions for HRDS resources	System-defined policy	N/A
RDS ManageAccess	Database administrator permissions for all operations except deleting HRDS resources	System-defined policy	N/A
RDS Administrator	Administrator permissions for HRDS	System-defined role	<b>Tenant Guest and Server Administrator</b> roles, which must be attached in the same project as the <b>RDS Administrator</b> role

**Table 3-4** lists the common operations supported by system-defined permissions for HRDS.

**Table 3-4** Common operations supported by system-defined permissions

Operation	RDS FullAccess	RDS ReadOnlyAccesses	RDS ManageAccesses	RDS Administrator
Creating an HRDS instance	√	x	√	√
Deleting an HRDS instance	√	x	x	√
Querying HRDS instances	√	√	√	√

**Table 3-5** Common operations and supported actions

Operation	Actions	Remarks
Creating a DB instance	rds:instance:create rds:param:list	To select a VPC, subnet, and security group, configure the following actions: vpc:vpcs:list vpc:vpcs:get vpc:subnets:get vpc:securityGroups:get To purchase a yearly/monthly DB instance, configure the following actions: bss:order:update bss:order:pay cors:productInstance:createDefault
Rebooting a DB instance	rds:instance:restart	N/A
Querying a DB instance list	rds:instance:list	N/A
Querying DB instance details	rds:instance:list	If the VPC, subnet, and security group are displayed in the DB instance list, you need to configure vpc*:get and vpc*:list.
Changing a DB instance password	rds:password:update	N/A
Changing a DB instance name	rds:instance:modify	N/A
Binding or unbinding an EIP	rds:instance:modifyPublicAccess	To query public IP addresses, configure the following actions: vpc:publicIps:get vpc:publicIps:list
Modifying parameters in a parameter template	rds:param:modify	N/A
Creating a manual backup	rds:backup:create	N/A

Operation	Actions	Remarks
Obtaining the link for downloading a backup file	rds:backup:download	N/A
Deleting a manual backup	rds:backup:delete	N/A
Querying the restoration time range	rds:instance:list	N/A
Restoring data to a new DB instance	rds:instance:create	To select a VPC, subnet, and security group, configure the following actions: vpc:vpcs:list vpc:vpcs:get vpc:subnets:get vpc:securityGroups:get cors:productInstance:createDefault
Restoring data to the original DB instance	rds:instance:restoreInPlace	N/A
Obtaining a database backup file list	rds:backup:list	N/A
Querying a database error log	rds:log:list	N/A
Querying a database slow log	rds:log:list	N/A
Submitting an order for a yearly/monthly DB instance	bss:order:update	To purchase a yearly/monthly DB instance, configure the following actions: bss:order:pay
Managing a tag	rds:instance:modify	Tag-related operations depend on the tms:resourceTags:* permission.



Operation	Actions	Remarks
Configuring autoscaling	rds:instance:extendSpace	<p>To enable autoscaling, configure the following actions for the IAM users instead of your Huawei account:</p> <ul style="list-style-type: none"> <li>• Creating a custom policy <ul style="list-style-type: none"> <li>- iam:agencies:listAgencies</li> <li>- iam:agencies:createAgency</li> <li>- iam:permissions:listRolesForAgencyOnProject</li> <li>- iam:permissions:grantRoleToGroupOnProject</li> <li>- iam:roles:listRoles</li> </ul> </li> <li>• Adding system role <b>Security Administrator</b>: Select a user group to which the user belongs. Click <b>Authorize</b> in the <b>Operation</b> column. Add the <b>Security Administrator</b> role.</li> </ul>

### 3.3 Constraints

The following tables list the constraints designed to ensure the stability and security of HRDS instances.

## Specifications

**Table 3-6** Specifications

Item	Constraints	Description
Storage space	The purchased storage space depends on the selected instance class.	You can enable storage autoscaling for your instance after the instance is created. Storage can autoscale to no more than 4 TB.

## Quotas

**Table 3-7** Quotas

Item	Constraints	Description
Tags	A maximum of 20 tags can be added for a DB instance.	For more information, see <a href="#">Managing Tags</a> .
Free backup space	HRDS provides free backup space of the same size as your purchased storage space.	After you pay for the storage space of your instance, you will get a backup space of the same size for free. For more information, see <a href="#">How Is HRDS Backup Data Billed?</a>
Retention period of automated backups	The default value is seven days and cannot be changed.	-
Log retention period	<ul style="list-style-type: none"><li>Error log details: 30 days</li><li>Slow query log details: 7 days</li></ul>	For more information, see <a href="#">Logs</a> .

## Naming

**Table 3-8** Naming

Item	Constraints
Instance name	<ul style="list-style-type: none"><li>4 to 64 characters long</li><li>Must start with a letter. Only letters (case sensitive), digits, hyphens (-), underscores (_), and periods (.) are allowed.</li></ul>

Item	Constraints
Backup name	<ul style="list-style-type: none"> <li>• Must be 4 to 64 characters long.</li> <li>• Must start with a letter. Only letters (case sensitive), digits, hyphens (-), and underscores (_) are allowed.</li> </ul>

## Security

**Table 3-9** Security

Item	Constraints
root permissions	<p>Only the administrator account <b>root</b> is provided on the instance creation page. For details about the supported permissions, see <a href="#">root Permissions</a>.</p> <p><b>NOTE</b> Running <b>revoke</b>, <b>drop user</b>, or <b>rename user</b> on <b>root</b> may cause service interruption. Exercise caution when running any of these statements.</p>
root password	<ul style="list-style-type: none"> <li>• 8 to 32 characters long</li> <li>• Must contain at least three types of the following characters: uppercase letters, lowercase letters, digits, and special characters (~ ! @ # \$ % ^ * - _ = + ? , ( ) &amp; .   ).</li> </ul> <p>For more information, see <a href="#">Resetting the Administrator Password</a>.</p>
Database port	3306
System account	<p>To provide O&amp;M services, the system automatically creates system accounts when you create HRDS instances. These system accounts are unavailable to you.</p> <ul style="list-style-type: none"> <li>• <b>rdsAdmin</b>: a management account with the highest permission. It is used to query and modify instance information, rectify faults, migrate data, and restore data.</li> <li>• <b>rdsRepl</b>: a replication account, used to synchronize data from the primary instance to the standby instance.</li> <li>• <b>rdsBackup</b>: a backup account, used for backend backup.</li> <li>• <b>rdsMetric</b>: a metric monitoring account used by watchdog to collect database status data.</li> </ul>

## Instance Operations

**Table 3-10** Instance operations

Item	Description
Storage engine	Only the InnoDB storage engine is supported.
Instance deployment	HECSs where DB instances are deployed are not directly visible to you. You can only access the DB instances through IP addresses and database ports.
Data migration	Data Replication Service (DRS) can be used to migrate data. It is easy to use and can complete a migration task in minutes. DRS facilitates data transfer between databases, helping you reduce DBA labor costs and hardware costs.
Primary/Standby replication	HRDS uses a primary/standby dual-node replication cluster. You do not need to set up replication additionally. The standby instance is not visible to you and therefore you cannot access it directly.
Rebooting a DB instance	HRDS instances cannot be rebooted through commands. They must be rebooted on the management console.
Viewing backups	You can download automated and manual backups for local storage. To download a backup, you can use OBS Browser+, the current browser, or the download URL. For more information, see <a href="#">Downloading a Full Backup</a> .
Log management	<ul style="list-style-type: none"><li>Logging is enabled by default and cannot be disabled.</li><li>Binary logging is enabled by default.</li></ul>

## root Permissions

**Table 3-11** root permissions

Permission	Level	Description	Supported
Select	Table	Query permissions	Yes
Insert	Table	Insert permissions	
Update	Table	Update permissions	
Delete	Table	Delete permissions	
Create	Database, table, or index	Permissions of creating databases, tables, or indexes	
Drop	Database or table	Permissions of deleting databases or tables	

Permission	Level	Description	Supported
Reload	Server management	Permissions of running the following commands: flush-hosts, flush-logs, flush-privileges, flush-status, flush-tables, flush-threads, refresh, and reload	
Process	Server management	Permissions of viewing processes	
Grant	Database, table, or stored program	Permissions of granting access control	
References	Database or table	Foreign key operation permissions	
Index	Table	Index permissions	
Alter	Table	Permissions of altering tables, such as adding fields or indexes	
Show_db	Server management	Permissions of viewing database connections	
Create_tmp_table	Server management	Permissions of creating temporary tables	
Lock_tables	Server management	Permissions of locking tables	
Execute	Stored procedure	Permissions of executing storage procedures	
Repl_slave	Server management	Replication permissions	
Repl_client	Server management	Replication permissions	
Create_view	View	Permissions of creating views	

Permission	Level	Description	Supported
Show_view	View	Permissions of viewing views	
Create_routine	Stored procedure	Permissions of creating storage procedures	
Alter_routine	Stored procedure	Permissions of altering storage procedures	
Create_user	Server management	Permissions of creating users	
Event	Database	Event triggers	
Trigger	Database	Triggers	
Super	Server management	Permissions of killing threads	No <b>NOTE</b> For more information, see <a href="#">Why Does the Root User Not Have the Super Permission?</a>
File	File on the server	Permissions of accessing files on database server nodes	No
Shutdown	Server management	Permissions of shutting down databases	
Create_tablespace	Server management	Permissions of creating tablespaces	

## 3.4 Billing

HRDS supports only yearly/monthly billing.

### Billing Items

You will be billed for your instance class, backup storage (optional), and public network traffic (optional).

**Table 3-12** Billing items

Billing Item	Description
Instance class	Yearly/Monthly billing is used. The actual prices are displayed on the console.
(Optional) Backup storage	HRDS provides free backup storage of the same size as your purchased database storage. If the backup storage usage exceeds your purchased database storage, the billing starts.
(Optional) Public network traffic	HRDS instances are accessible from public networks. Traffic from public networks is billed.

## Specification Changes

Autoscaling up storage space: You can enable storage autoscaling as required. You will be billed for new storage space.

## Renewal

An upfront payment is required when you purchase yearly/monthly instances. No additional fees are incurred as you use the instances.

To renew a subscription, see [Renewing DB Instances](#).

## Expiration

When a yearly/monthly instance expires, no operations can be performed on the console. The monitoring, alarm reporting, and other O&M operations will also be unavailable. If your account is not topped up or the resource package is not renewed before the retention period expires, the DB instance will become unavailable and data stored in the DB instance will be deleted and cannot be recovered.

# 4 Change History

---

Released On	Description
2024-05-15	This issue is the third official release. Added the <a href="#">HECS X</a> service overview.
2024-04-30	This issue is the second official release. Added <a href="#">HRDS</a> .
2024-04-15	The issue is the first official release.