# Cloud Connect

# Billing

**Issue** 01

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HUAWEI CLOUD COMPUTING TECHNOLOGIES CO., LTD.

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# Contents

1 Billing Overview....1
2 Billing Modes....3
2.1 Overview....3
2.2 Yearly/Monthly Billing....4
2.3 Pay-per-Use Billing....7
3 Billed Items....11
4 Billing Examples....13
5 Subscription Renewal....16
5.1 Overview....16
5.2 Manually Renewing a Bandwidth Package....17
5.3 Auto-renewing a Global Connection Bandwidth....21
6 Bills....24
7 Arrears....28
8 Billing Termination....30
9 Cost Management....32

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# 1 Billing Overview

In this topic, you will learn about how Cloud Connect is billed, how you can renew subscriptions and manage costs, and what happens if your account goes into arrears.

- **Billing Modes**
  - Bandwidth packages used by cloud connections support the yearly/monthly billing mode. You pay upfront for the amount of time you expect to use the bandwidth packages for. You will need to make sure you have an account with a sufficient balance or have a valid payment method configured first.
  - Central networks support the pay-per-use billing mode. You can start using the resources first and then pay as you go. You will be charged for the following:
    - How long you use each global connection bandwidth
    - How long you use each connection between enterprise routers on a central network

  NOTE

  If you want to evaluate the network quality and bandwidth after you have configured Cloud Connect, you can contact your customer manager to apply for pay-per-use bandwidth packages.
  - Pay-per-use bandwidth packages are only used for testing.
  - Pay-per-use bandwidth packages are billed by the hour. View the exact price on the **Buy Bandwidth Package** page.
  - The billing stops only after pay-per-use bandwidth packages are deleted. Delete your bandwidth packages in a timely manner if you no longer need them.
- **Billed Items**
  - Cloud connections: bandwidth packages
  - Central networks: global connection bandwidths and connections between enterprise routers

  For details about the calculation factors and formula of billed items, see **Billed Items**.

  For more information about the billing samples and the billing for each item, see **Billing Examples**.

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- **Renewal**

  After yearly/monthly bandwidth packages expire, network instances cannot use the cloud connections normally. If you want to continue using the cloud connections, you need to renew the bandwidth packages within a specified period to avoid data loss. You can renew your subscriptions manually or automatically. For more details, see **Overview**.

- **Bills**

  You can choose **Billing Center** > **Billing** to check Cloud Connect transactions and bills. For details, see **Bills**.

- **Arrears**

  If there is not a sufficient account balance to pay for your bill and there is no other payment method configured, your account will go into arrears. If you want to continue using your cloud services, you will need to top up your account in a timely manner. For details, see **Arrears**.

- **Stopping Billing**

  If you no longer need to use your cloud service, you can unsubscribe from or delete it to stop the billing. For details, see **Billing Termination**.

- **Managing Costs**

  You can allocate, analyze, and optimize costs to save more money. For details, see **Cost Management**.

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# 2 Billing Modes

## 2.1 Overview

- Bandwidth packages used by cloud connections support the yearly/monthly billing mode. You pay upfront for the amount of time you expect to use the bandwidth packages for. The longer the subscription term, the bigger the discount.
- Central networks are billed for each global connection bandwidth used by cross-site connections and for each connection between enterprise routers. Both items support pay-per-use billing. Pay-per-use is a postpaid billing mode. You pay as you go and just pay for what you use. The usage is calculated by the second but billed every hour. This allows you to adjust resource usage easily. You neither need to prepare for resources in advance, nor end up with excessive or insufficient preset resources.

**Table 2-1** Cloud connection billing mode

| | |
|---|---|
| **Billing Mode** | Yearly/Monthly |
| **Payment** | Prepaid |
| **Billing Method** | Billed by the subscription term you purchase. |
| **Billed Item** | Bandwidth packages |
| **Changing the Specifications** | Allowed |
| **Application Scenarios** | Recommended for resources expected to be in use long-term. |

**Table 2-2** Central network billing mode

| | |
|---|---|
| **Billing Mode** | Pay-per-use |

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| | |
|---|---|
| **Payment** | Postpaid |
| **Billing Method** | Billed by the second and settled by the hour. |
| **Billed Items** | There are two billed items for a central network:<br>• Each connection between enterprise routers on the central network<br>• Each global connection bandwidth used by cross-site connections on the central network |
| **Changing the Specifications** | Global connection bandwidths can be changed. |
| **Scenario** | Recommended when the resource demands are likely to fluctuate and you want more flexibility. |

# 2.2 Yearly/Monthly Billing

If you expect to use resources for a longer period, you can save money by selecting yearly/monthly billing. Yearly/Monthly is a prepaid billing mode. You pay in advance for using a cloud service, and in exchange, you get a discounted rate. This topic describes the billing rules for yearly/monthly bandwidth packages.

## Application Scenarios

If you want to ensure resource stability over a certain period of time, yearly/monthly billing is a good choice for the following types of workloads:

- Long-term workloads with stable resource requirements, such as official websites, online malls, and blogs.
- Long-term projects, such as scientific research projects and large-scale events.
- Workloads with predictable traffic bursts, for example, e-commerce promotions or festivals.
- Workloads with high data security requirements

## Billed Item

Cloud connections are free. To enable high-quality communications across regions, you need to purchase yearly/monthly bandwidth packages. If your VPCs are in the same region, there is no need to buy a bandwidth package.

Bandwidth packages are billed by the term your purchase.

**Table 2-3** Billed item

| Billed Item | Description |
|---|---|
| Bandwidth package | Used for communications between regions within a geographic region or across geographic regions.<br>The bandwidth billing option is **By bandwidth**. |

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## Billed Usage Period

A yearly/monthly bandwidth package is billed for the purchased duration. The billing starts when you activated or renewed the subscription, and ends at 23:59:59 of the expiry date.

For example, if you purchased a one-month bandwidth package on March 08, 2023, 15:50:04, the billed usage period is from March 08, 2023, 15:50:04 to April 08, 2023, 23:59:59.

## Billing Example

Assume that you purchased a one-month, 150-Mbit/s bandwidth package at 15:50:04 on March 8, 2023 for communications within the Chinese mainland and renewed the subscription for one more month before the initial subscription expired. That would include two usage periods:

- March 08, 2023, 15:50:04 to April 08, 2023, 23:59:59
- April 8, 2023, 23:59:59 to May 8, 2023, 23:59:59

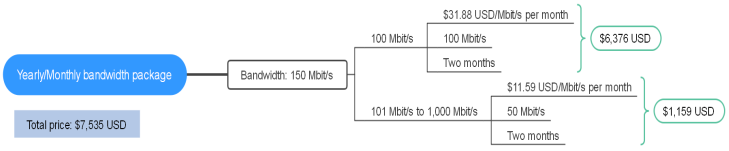
You will be billed for both usage periods. **Table 2-4** shows the billing formula.

**Table 2-4** Billing formula

| Resource | Billing | Unit Price |
| --- | --- | --- |
| Bandwidth package | Tiered pricing is used based on the bandwidth size. | **Cloud Connect pricing details** |

**Figure 2-1** shows how the total price is calculated.

**Figure 2-1** Example bandwidth package billing




**NOTICE**

The prices in the figure are just examples. The actual prices are displayed on **Cloud Cloud Pricing Details**.

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## Price Change After Specification Change

If the specifications of a yearly/monthly bandwidth package no longer meet your needs, you can change the specifications on the console. The system will recalculate the price and either bill or refund you the difference.

- If you upgrade the bandwidth package, you need to pay the difference in price.
- If you downgrade the bandwidth package, Huawei Cloud will refund you the difference.

Assume that you purchased a one-month 150-Mbit/s bandwidth package for communications within the Chinese mainland (billed by bandwidth) on April 8, 2023 and changed the bandwidth to 200 Mbit/s on April 18, 2023. The price of the original bandwidth is $3,767.5 USD, and the price of the new bandwidth is $4,347 USD. The price difference will be calculated as follows:

**Price difference = New bandwidth price × Remaining period - Original bandwidth price × 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, the remaining period is 0.6581.

12 (Remaining days in April)/30 (Days in April) + 8 (Remaining days in May)/31 (Days in May) = 0.6581

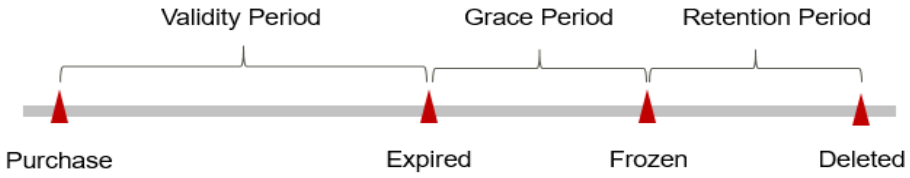
Price difference = $4,347 USD x 0.6581 – $3767.5 USD x 0.6581 = $377.7181 USD

For more information, see **Pricing of a Changed Specification**.

## Impact of Expiration

**Figure 2-2** shows the statuses a yearly/monthly bandwidth package can go through throughout its lifecycle. After a bandwidth package is purchased, it enters the valid period and runs normally during this period. If the bandwidth package is not renewed after it expires, before being deleted, it first enters a grace period and then a retention period.

**Figure 2-2** Lifecycle of a yearly/monthly bandwidth package




### Expiration Reminder

The system will send you a reminder (by email, SMS, or in-app message) 7 days before a yearly/monthly bandwidth package expires to remind you to renew the subscription.

### Impact of Expiration

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- If the yearly/monthly bandwidth package is not renewed after it expires, it changes to the **Expired** state and enters a grace period.
- If the yearly/monthly bandwidth package is not renewed after the grace period ends, its status turns to **Frozen** and it enters a retention period. You cannot perform any operations on the bandwidth package while it is in the retention period.
- If the yearly/monthly bandwidth package is not renewed by the time the retention period ends, the bandwidth package will be released and data cannot be restored.

NOTE

- For details about renewals, see **Overview**.

# 2.3 Pay-per-Use Billing

Pay-per-use billing means you pay nothing up front and are not tied into any contract or commitment. This topic describes the billing rules for pay-per-use resources used by a central network.

## Application Scenarios

Pay-per-use billing is good for short-term, bursty, or unpredictable workloads that cannot tolerate any interruptions, such as applications for e-commerce flash sales, temporary testing, and scientific computing.

## Billed Items

Central networks are free of charge. The global connection bandwidths used by central networks and the connections between enterprise routers on the central networks support pay-per-use billing.

**Table 2-5** Billed items

| Billed Item | Description |
| --- | --- |
| Each global connection bandwidth used by cross-site connections on the central network | A global connection bandwidth is used by instances to allow communications over the cloud backbone network.<br>The bandwidth is billed by fixed bandwidth. |
| Each connection between enterprise routers on a central network | When you add enterprise routers to a central network, the connections between enterprise routers are not free.<br>The price of connections on a central network is determined by the number of enterprise routers. |

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## Billed Usage Period

Global connection bandwidth usage is calculated by the second and billed every hour. The billing starts when a global connection bandwidth is purchased and ends when the bandwidth is deleted.

For example, if you purchased a pay-per-use global connection bandwidth at 8:45:00 and deleted it at 8:55:00, you are billed for the 600 seconds from 8:45:00 to 8:55:00.

## Billing Example

Assume that you purchased a 150-Mbit/s global connection bandwidth for a cross-site connection between enterprise routers at 9:30:00 on April 18, 2023.

- You increased the bandwidth to 200 Mbit/s at 11:00:00 on April 18, 2023.
- You deleted the bandwidth at 11:00:00 on April 19, 2023.

Enterprise routers are free of charge, but the connections between enterprise routers are billed by the hour.

In this example, the unit price of the global connection bandwidth is $0.1 USD/Mbit/s per hour, and that of the connection is $0.06 USD/hour.

**Figure 2-3** shows how the total price is calculated.

**Figure 2-3** Example central network price

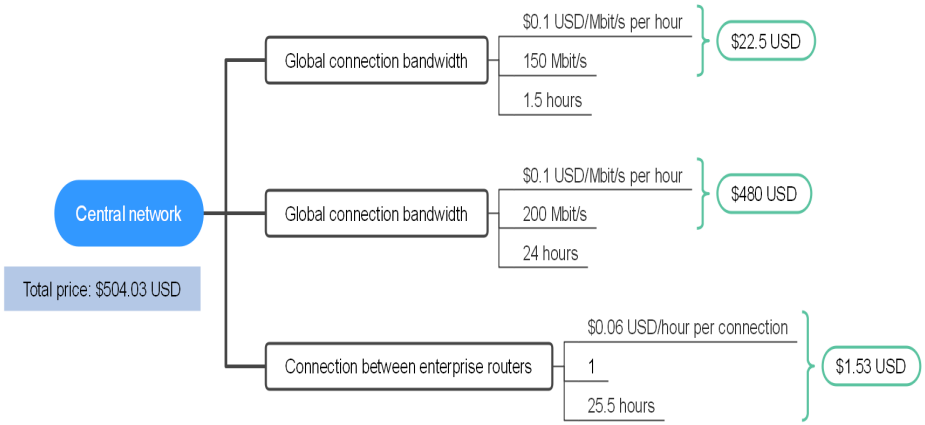


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**Table 2-6** Center network price details

| Resource | Required Duration | Price | Total Price |
| --- | --- | --- | --- |
| Global connection bandwidth | From 9:30:00 on April 18, 2023 to 11:00:00 on April 19, 2023<br>• From 9:30:00 on April 18, 2023 to 11:00:00 on April 18, 2023: 1.5 hours<br>• From 11:00:00 on April 18, 2023 to 11:00:00 on April 19, 2023: 24 hours | • $0.1 USD x 150 Mbit/s x 1.5 hours = $22.5 USD<br>• $0.1 USD x 200 Mbit/s x 24 hours = $480 USD | $22.5 USD + $480 USD = $502.5 USD |
| Connection between enterprise routers | From 9:30:00 on April 18, 2023 to 11:00:00 on April 19, 2023: 25.5 hours | $0.06 x 1 x 25.5 hours = $1.53 USD | $1.53 USD |

**NOTICE**

The prices in the figure are for reference only. The actual prices are displayed on the console.

## Price Change After Specification Change

If you change the specifications of a pay-per-use global connection bandwidth, the original order will become invalid and a new order will be placed. You will be billed based on the new specifications.

If you change the specifications within a given hour, multiple records will be generated. Different records record the billing for different specifications.

For example, if you purchase a 150-Mbit/s global connection bandwidth at 9:00:00 and increase the bandwidth to 200 Mbit/s at 9:30:00, two records will be generated between 9:00:00 and 10:00:00.

- From 9:00:00 to 9:30:00: 150 Mbit/s
- From 9:30:00 to 10:00:00: 200 Mbit/s

## Impact of Arrears

**Figure 2-4** shows the statuses a pay-per-use resource can have throughout its lifecycle. After a resource is purchased, it enters the valid period and runs normally during this period. If your account goes into arrears, the resource enters a grace period and then a retention period.

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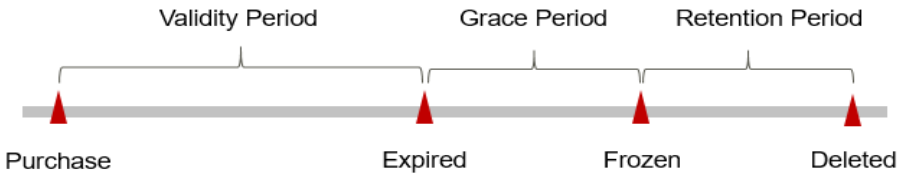
**Figure 2-4** Lifecycle of a pay-per-use resource




### Arrears Reminder

The system will bill you for pay-per-use resources after each billing cycle ends. If your account goes into arrears, we will notify you by email, SMS, or in-app message.

### Impact of Arrears

- If your account is insufficient to pay your amount due, the account will go into arrears and the resource will enter the grace period.

  Pay-per-use resources are not stopped immediately. You are still responsible for expenditures generated during the grace period. You can view the charges on the **Billing Center** > **Overview** page and pay any past due balance as needed.
- If you do not bring your account balance current before the grace period expires, the resource status turns to **Frozen** and it enters a retention period.
- If you do not bring your account balance current before the retention period ends, your resources will be released, and the data cannot be restored.

NOTE

- For details about the grace period and retention period, see **What Is a Grace Period of Huawei Cloud? How Long Is It?** and **What Is a Retention Period of Huawei Cloud? How Long Is It?**
- For details about topping up your account, see **Topping Up an Account**.

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# 3 Billed Items

## Cloud Connection Billed Item

Cloud connections and central networks are billed separately.

**Table 3-1** Cloud connection billed item

| Billed Item | Description | Billing Mode | Formula |
| --- | --- | --- | --- |
| Bandwidth packages | • A bandwidth package is billed regardless of whether it is used for communications within a geographic region or across geographic regions.<br>• Billing option: by bandwidth | Yearly/ Monthly | Tiered pricing based on fixed bandwidth<br>Bandwidth package unit price x Required duration<br>See **Cloud Connect Pricing Details**. |

## Central Network Billed Items

A central network is billed by each global connection bandwidth and each connection between enterprise routers, as detailed in **Table 3-2**.

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**Table 3-2** Central network billed items

| Billed Item | Description | Billing Mode | Billing Formula |
| --- | --- | --- | --- |
| Each global connection bandwidth used by cross-site connections on the central network | • The multi-city bandwidth is free. Geographic-region bandwidth and cross-geographic-region bandwidth are billed for the duration that you use the bandwidth.<br>• Billing option: by bandwidth | Pay-per-use | Billed by bandwidth<br>Bandwidth package unit price x Required duration<br>The actual price is displayed on the console. |
| Connection between enterprise routers on the central network | Enterprise routers on the central network are free, but the connections between enterprise routers are billed. | Pay-per-use | Connection unit price x Required duration<br>See **Enterprise Router Pricing Details**. |

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# 4 Billing Examples

## Cloud Connection Billing Example

Assume that you purchased a one-month, 150-Mbit/s bandwidth package at 15:50:04 on March 8, 2023 for communications within the Chinese mainland and renewed the subscription for one more month before the initial subscription expired. That would include two usage periods:

- March 08, 2023, 15:50:04 to April 08, 2023, 23:59:59
- April 8, 2023, 23:59:59 to May 8, 2023, 23:59:59

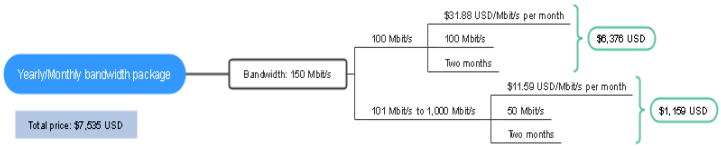
You will be billed for each usage period. **Table 4-1** shows the billing formula.

**Table 4-1** Billing formula

| Resource | Billing | Unit Price |
| --- | --- | --- |
| Bandwidth package | Tiered pricing is used based on the bandwidth size. | **Cloud Connect pricing details** |

**Figure 4-1** shows how the total price is calculated.

**Figure 4-1** Example bandwidth package billing




**NOTICE**

The prices in the figure are just examples. The actual prices are displayed on **Cloud Cloud Pricing Details**.

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## Central Network Billing Example

Assume that you purchased a 150-Mbit/s global connection bandwidth for a cross-site connection between enterprise routers at 9:30:00 on April 18, 2023.

- You increased the bandwidth to 200 Mbit/s at 11:00:00 on April 18, 2023.
- You deleted the bandwidth at 11:00:00 on April 19, 2023.

Enterprise routers are free of charge, but the connections between enterprise routers are billed by the hour.

In this example, the unit price of the global connection bandwidth is $0.1 USD/Mbit/s per hour, and that of the connection is $0.06 USD/hour. **Table 4-2** shows the details.

**Figure 4-2** shows how the total price is calculated.

**Figure 4-2** Example central network price

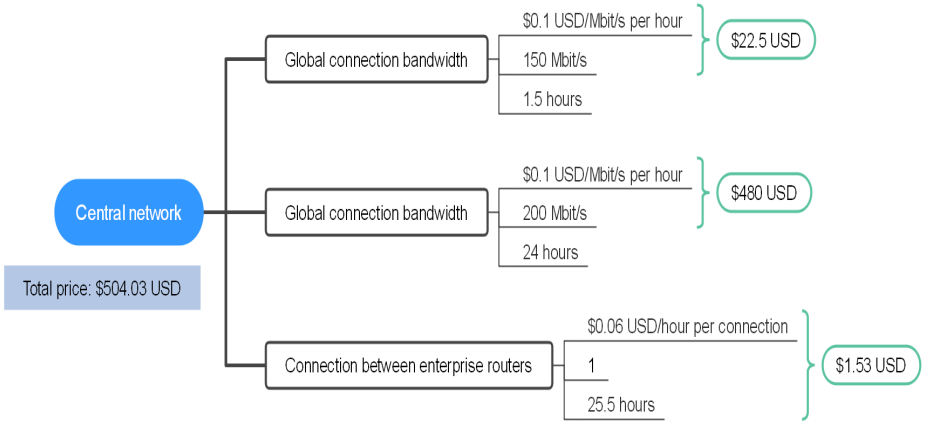


**Table 4-2** Center network price details

| Resource | Required Duration | Price | Total Price |
| --- | --- | --- | --- |
| Global connection bandwidth | From 9:30:00 on April 18, 2023 to 11:00:00 on April 19, 2023<br>• From 9:30:00 on April 18, 2023 to 11:00:00 on April 18, 2023: 1.5 hours<br>• From 11:00:00 on April 18, 2023 to 11:00:00 on April 19, 2023: 24 hours | • $0.1 USD x 150 Mbit/s x 1.5 hours = $22.5 USD<br>• $0.1 USD x 200 Mbit/s x 24 hours = $480 USD | $22.5 USD + $480 USD = $502.5 USD |

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| Resource | Required Duration | Price | Total Price |
| --- | --- | --- | --- |
| Connection between enterprise routers | From 9:30:00 on April 18, 2023 to 11:00:00 on April 19, 2023: 25.5 hours | $0.06 x 1 x 25.5 hours = $1.53 USD | $1.53 USD |

**NOTICE**

The prices in the figure are for reference only. The actual prices are displayed on the console.

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# 5 Subscription Renewal

## 5.1 Overview

### When to Renew Subscriptions

After yearly/monthly bandwidth packages expire, network instances cannot use the cloud connections normally. If you want to continue using the cloud connections, you need to renew the bandwidth packages within the specified period. If the bandwidth packages are not renewed, they will be automatically released, and data will be lost and cannot be restored.

Only yearly/monthly bandwidth package subscriptions can be renewed. Ensure that your account has sufficient balance to pay your amount due. For details, see **Topping Up an Account (Postpaid Direct Customers)**.

If you renew the bandwidth package before it expires, resources will be retained and you can continue using the bandwidth package. For details about bandwidth package statuses after they have expired and the associated impacts, see **Impact of Expiration**.

### How to Renew Subscriptions

You can renew a yearly/monthly bandwidth package manually or automatically.

**Table 5-1** Renewing a yearly/monthly bandwidth package

| Method | Description |
| --- | --- |
| **Manually Renewing a Bandwidth Package** | You can renew a yearly/monthly bandwidth package on the console anytime before it is automatically deleted. |
| **Auto-renewing a Global Connection Bandwidth** | You can enable auto-renewal to automatically renew the bandwidth package before it expires. This prevents resources from being deleted in case you forget to renew a subscription. |

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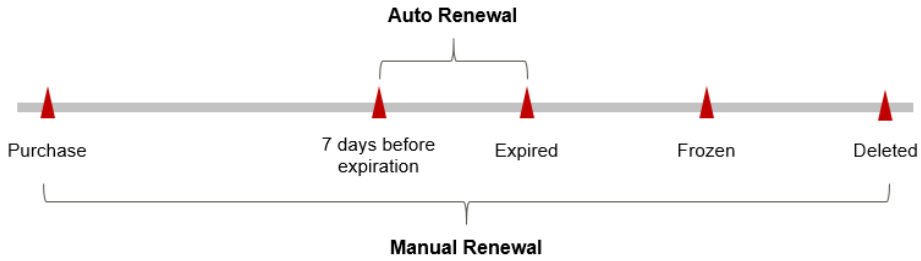
You can select a method to renew a yearly/monthly bandwidth package based on the phase the bandwidth package is currently in.

**Figure 5-1** Selecting a renewal method based on bandwidth package's current phase




- A bandwidth package is in the **Running** state after it is provisioned.
- When a bandwidth package subscription expires, the bandwidth package status will change from **Running** to **Expired**.
- If an expired bandwidth package is not renewed, it enters a grace period. If it is not renewed by the time the grace period expires, the bandwidth package will be frozen and enter a retention period.
- If you do not renew the subscription before the retention period expires, your resources will be automatically deleted.

NOTE

For details about the grace period and retention period, see **What Is a Grace Period of Huawei Cloud? How Long Is It?** and **What Is a Retention Period of Huawei Cloud? How Long Is It?**

You can enable auto-renewal anytime before a bandwidth package expires. By default, the system will make the first attempt to charge your account for the renewal at 03:00, seven days before the expiry date. If this attempt fails, it will make another attempt at 03:00 every day until the subscription is renewed or expires. You can change the auto-payment date for renewal as required.

# 5.2 Manually Renewing a Bandwidth Package

You can renew a yearly/monthly bandwidth package anytime on the console before it is automatically deleted.

## Renewing a Subscription on the Console

**Step 1** Log in to the management console.

**Step 2** Click ☰ in the navigation tree on the left and choose **Networking** > **Cloud Connect**.

**Step 3** In the navigation pane on the left, choose **Cloud Connect** > **Bandwidth Packages**.

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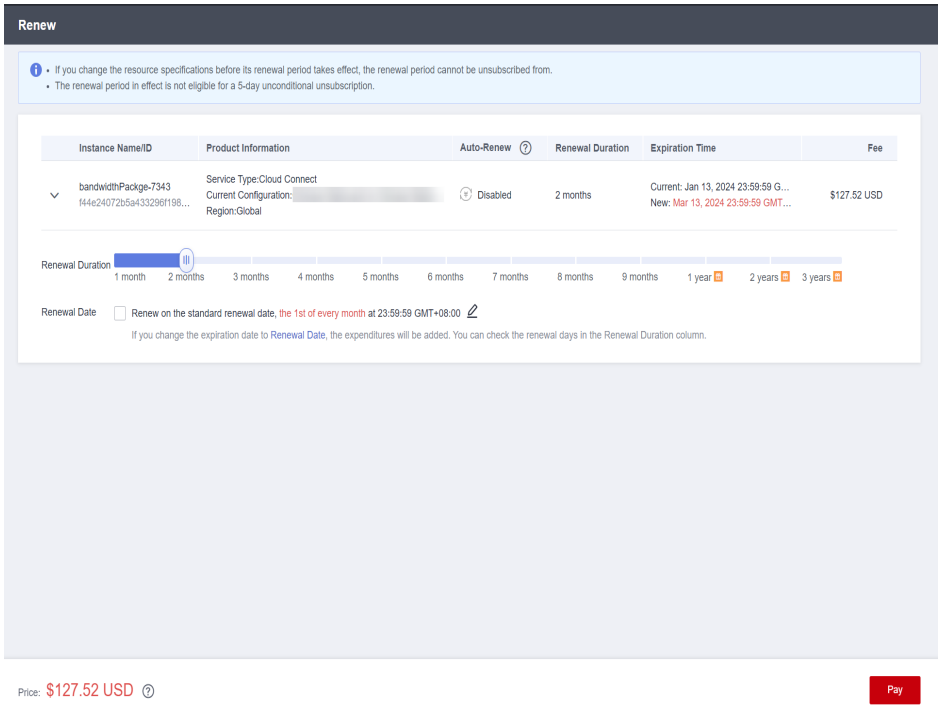
**Step 4** On the **Bandwidth Packages** page, select the yearly/monthly bandwidth package to be renewed.

**Step 5** Choose **More** > **Renew** in the **Operation** column.

**Step 6** Select a renewal duration and optionally select **Renew on the standard renewal date**. For details, see **Setting the Same Renewal Day for Yearly/Monthly Resources**. Confirm the price and click **Pay**.

**Figure 5-2** Confirming renewal




**Step 7** Select a payment method and make your payment. Once the order is paid for, the renewal is complete.

**----End**

## Renewing a Subscription in Billing Center

**Step 1** Log in to the management console.

**Step 2** Hover over **Billing & Costs** in the upper part of the console and choose **Renewal** from the drop-down list.

The **Renewals** page is displayed.

**Step 3** Set the search criteria.

On the **Manual Renewals**, **Auto Renewals**, **Pay-per-Use After Expiration**, and **Renewals Canceled** pages, you can view the resources to be renewed.

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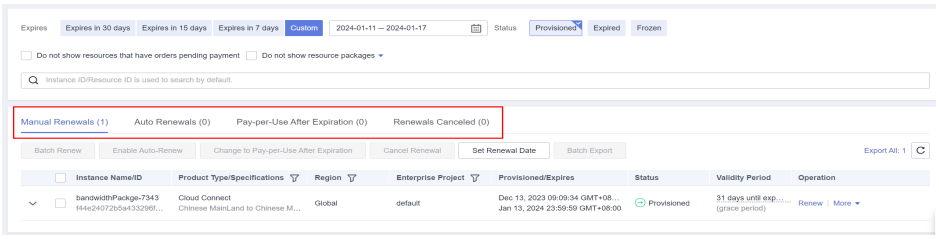
**Figure 5-3** Renewal management

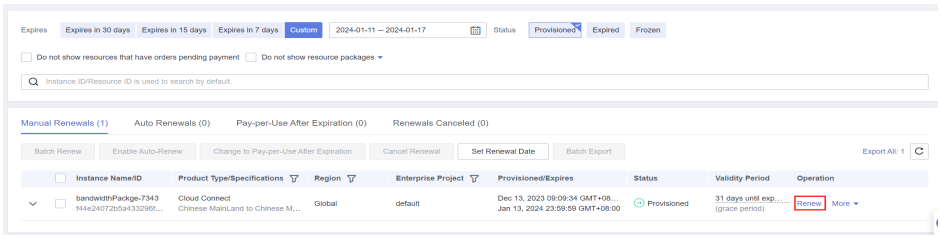



You can move all resources that need to be manually renewed to the **Manual Renewals** tab. For details, see **Restoring to Manual Renewal**.

**Step 4** Manually renew resources.

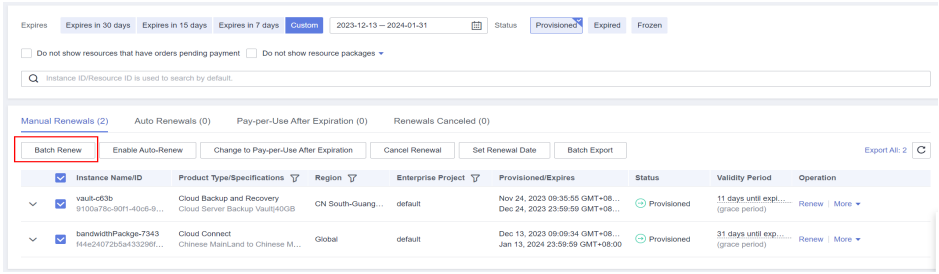
- Individual renewal: Click **Renew** in the **Operation** column for the desired resource.

  **Figure 5-4** Individual renewal

- Batch renewal: Check the boxes for the desired resources, and click **Batch Renew** in the upper left corner.

  **Figure 5-5** Batch renewal

**Step 5** Select a renewal duration and optionally select **Renew on the standard renewal date**. For details, see **Setting the Same Renewal Day for Yearly/Monthly Resources**. Confirm the price and click **Pay**.

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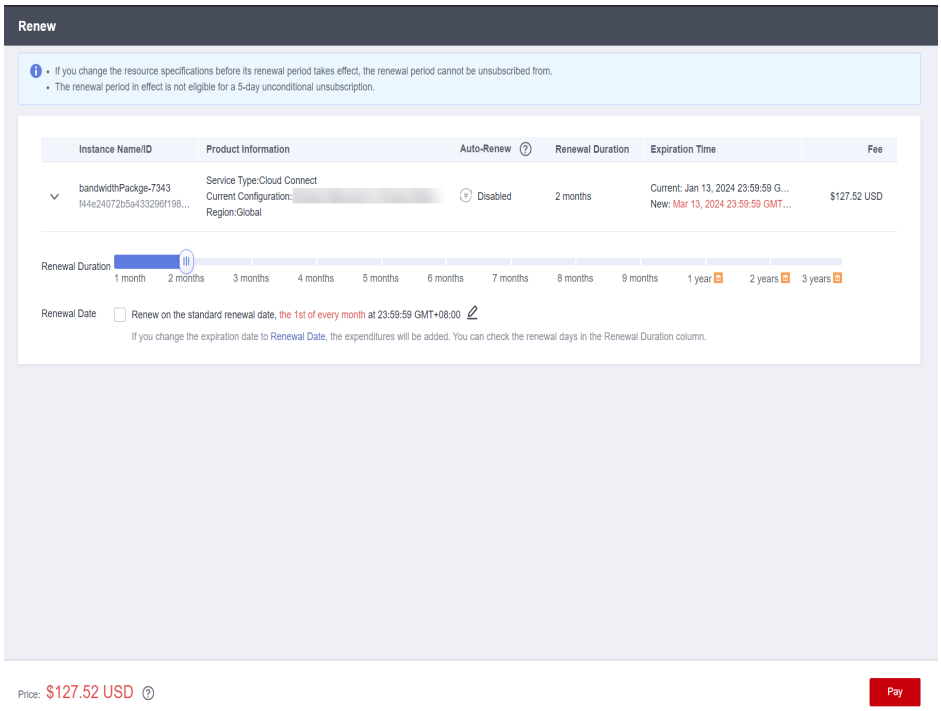
**Figure 5-6** Confirming renewal




**Step 6** Select a payment method and make your payment. Once the order is paid for, the renewal is complete.

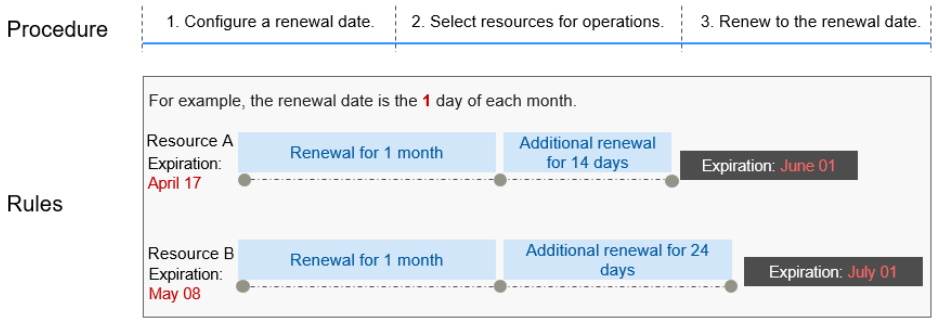
**----End**

## Setting the Same Renewal Day for Yearly/Monthly Resources

If your bandwidth packages have different expiry dates, you can set the same renewal day, for example, the first day of each month, to make it easier to manage renewals.

In **Figure 5-7**, a user sets the same renewal day for two resources that will expire at different dates.

**Figure 5-7** Setting the same renewal day for resources with different expiry dates




For more details, see **Setting a Renewal Date**.

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# 5.3 Auto-renewing a Global Connection Bandwidth

Auto-renewal can prevent resources from being automatically deleted if you forget to manually renew them. The auto-renewal rules are as follows:

- The first auto-renewal date is based on when the bandwidth package expires and the billing cycle.
- The auto-renewal period of a bandwidth package varies depending on how you enable auto-renewal.
- You can enable auto-renewal anytime before a bandwidth package expires. By default, the system will make the first attempt to charge your account for the renewal at 03:00 seven days before the expiry date. If this attempt fails, it will make another attempt at 03:00 every day until the subscription is renewed or expires.
- After auto-renewal is enabled, you can still renew the bandwidth package manually if you want to. After a manual renewal is complete, auto-renewal is still valid, and the renewal fee will be deducted from your account seven days before the new expiry date.
- By default, the renewal fee is deducted from your account seven days before the new expiry date. You can change this auto-renewal payment date as required.

For more information about auto-renewal rules, see **Auto-Renewal Rules**.

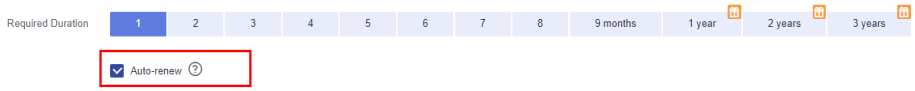
## Prerequisites

The bandwidth package has not expired.

## Enabling Auto-Renewal During Purchase

You can enable auto-renewal on the bandwidth package purchase page. For details, see **Buying a Bandwidth Package**.

**Figure 5-8** Enabling auto-renewal




The auto-renewal period of a bandwidth package depends on the subscription term.

- Monthly subscriptions renew each month.
- Yearly subscriptions renew each year.

## Enabling Auto-Renewal on the Renewals Page

**Step 1** Log in to the management console.

**Step 2** Hover over **Billing & Costs** in the upper part of the console and choose **Renewal** from the drop-down list.

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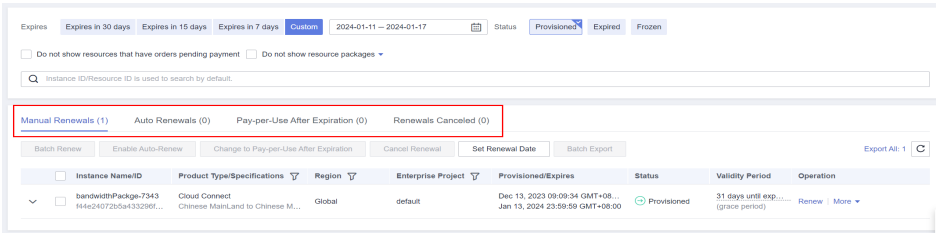
The **Renewals** page is displayed.

**Step 3** Set the search criteria.

- You can view the resources for which auto-renewal has been enabled on the **Auto Renewals** page.
- You can enable auto-renewal for resources on the **Manual Renewals**, **Pay-per-Use After Expiration**, and **Renewals Canceled** pages.

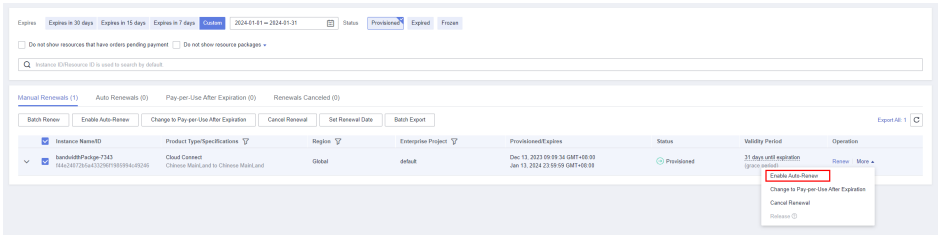
**Figure 5-9** Renewals




**Step 4** Enable auto-renewal for yearly/monthly resources.

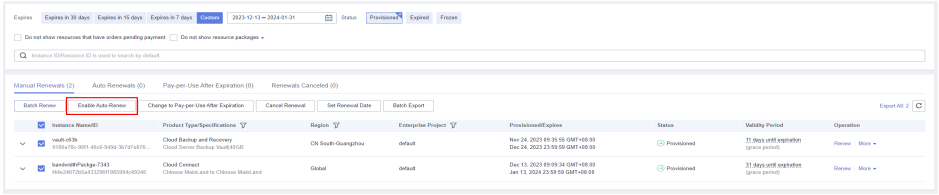
- Enabling auto-renewal for a single resource: Select the bandwidth package for which you want to enable auto-renewal and choose **More** > **Enable Auto-Renew** in the **Operation** column.

**Figure 5-10** Enabling auto-renewal for a single resource



- Enabling auto-renewal for multiple resources at a time: Select the bandwidth packages for which you want to enable auto-renewal and click **Enable Auto-Renew** above the list.

**Figure 5-11** Enabling auto-renewal for multiple resources



**Step 5** Select a renewal period, specify the auto-renewal times, and click **OK**.

If auto-renewal is enabled on the **Renewals** page, the auto-renewal period is subject to the selected renewal period and number of auto-renewals. For example, if you select three months renewal period and do not select **Preset Auto-renewals**, your subscription is automatically renewed for three months before each expiration.

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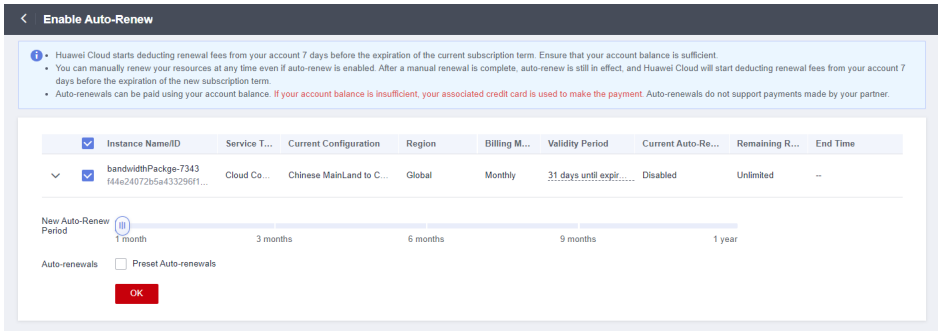
**Figure 5-12** Enabling auto-renew




**----End**

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# 6 Bills

You can view the resource usage and bills for a different billing cycles on the **Bills** page in the Billing Center.

## Billing Generation

- Yearly/Monthly: Transaction records for yearly/monthly subscriptions are generated immediately after being paid for.
- Pay-per-use: A pay-per-use resource is billed by the hour, day, or month, depending on the resource's usage type. The usages of global connection bandwidths and connections between enterprise routers are billed by the hour. For details, see **Bill Run for Pay-per-Use Resources**.

You are not charged immediately after a record is generated. For example, if a pay-per-use global connection bandwidth billed on an hourly basis is deleted at 08:30, you will still have expenditures for the 08:00 to 09:00 hour. However, but you will not likely be billed for the 08:00 to 09:00 hour until about 10:00. In the Billing Center, choose **Billing** > **Expenditure Items** in the left navigation pane, **Expenditure Time** in the bill indicates the time when the pay-per-use or spot pricing resource is used.

## Viewing Bills of a Specific Resource

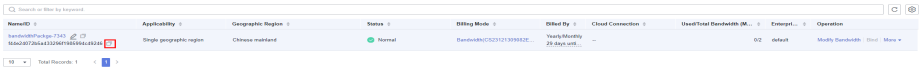
**Step 1** Log in to the management console and choose **Networking** > **Cloud Connect**.

The **Cloud Connect** page is displayed.

**Step 2** In the navigation pane on the left, choose **Cloud Connect** > **Bandwidth Packages**.

**Step 3** Click the icon shown in the figure below to copy the resource ID.

**Figure 6-1** Copying the resource ID



**Step 4** On the top menu bar, choose **Billing & Costs** > **Bills**.

The **Bills** page is displayed.

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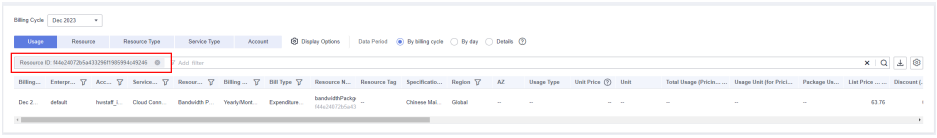
**Step 5** Choose **Billing** > **Expenditure Details** in the left navigation pane. Select **Resource ID** as the filter criteria, enter the resource ID obtained in **Step 3**, and click the icon.

**Figure 6-2** Searching for a bill



By default, the bill details are displayed by usage and billing cycle. You can choose other display options as required. For details, see **Bills**.

**----End**

## Checking the Consistency of the Actual Usage and Billed Usage

Assume that you purchased a 150-Mbit/s global connection bandwidth (billed by fixed bandwidth) at 08:23:10 on April 18, 2023 and deleted the bandwidth at 09:23:10 on April 18, 2023.

- Global connection bandwidth transaction records

  The usage of pay-per-use global connection bandwidths is calculated by the second and billed on an hourly basis. You can check the expenditure items against the actual usage. For details, see **Table 6-1**.

  **Table 6-1** Global connection bandwidth transaction records

| | |
|---|---|
| **Service** | Cloud Connect |
| **Resource Type** | Global connection bandwidth |
| **Billing Mode** | Pay-per-Use |
| **Expenditure Time** | For the period of time from 08:23:10 to 09:23:10 on April 8, 2023, two transaction records would be generated for the resource usage in the following periods:<br>• From 08:23:10 to 09:00:00<br>• From 09:00:00 to 09:23:10 |
| **List Price** | List price on the official website = Unit price x Usage<br>In this example, the bandwidth was used for 2,210 seconds in the first period, and the unit price was $0.01 USD/Mbit/s per hour. The list price is calculated as follows: (2,210 ÷ 3,600) x $0.1 USD x 150 = $9.2083 USD Similarly, you can calculate the list price for the other usage period. |

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| | |
|---|---|
| **Discounted Amount** | Discounts offered for cloud services, for example, commercial discounts, partner authorized discounts, and promotional discounts. It is the discounted amount based on the list price. |
| **Truncated Amount** | Huawei Cloud billing is calculated to the 8th decimal place. However, the amount due is truncated to the 2nd decimal place. The third and later decimal places are referred to as the truncated amounts.<br>Take the first period as an example. The truncated amount is $0.0083 USD. |
| **Amount Due** | Amount due = List price – Discounted amount – Truncated amount<br>Take the first usage period as an example. If the discounted amount is 0, the amount due is $9.20 USD ($9.2083 USD – $0 USD – $0.0083 USD). |

- Global connection bandwidth bill details

  Expenditure details can be displayed in multiple ways. By default, the bill details of a resource are displayed by usage and by billing cycle. **Table 6-2** illustrates the bill details, which can be used to check against the actual usage.

  **Table 6-2** Global connection bandwidth bill details

| | |
|---|---|
| **Service** | Cloud Connect |
| **Resource Type** | Global connection bandwidth |
| **Billing Mode** | Pay-per-Use |
| **Resource Name/ID** | Name and ID of the global connection bandwidth<br>Example: bandwidth-GPB, eda64ab4-fbb0-4d2c-8a43-6f8a24df31fe |
| **Specifications** | Gold bandwidth from CN Southwest-Guiyang1 to CN East-Shanghai1 |
| **Usage Type** | How long the global connection bandwidth is used |
| **Unit Price** | When pay-per-use billing is used, the unit price is only provided if the amount is equal to the usage multiplied by the unit price.<br>Global connection bandwidths support only pay-per-use billing. |
| **Unit** | Unit price: $*xx.xx* USD/Mbit/s per hour |

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| | |
|---|---|
| **Usage** | Global connection bandwidth usage is billed by the hour. In this example, the global connection bandwidth was used for 1 hour. |
| **Usage Unit** | Hour |
| **List Price** | List price on the official website = Unit price x Usage<br>The bandwidth was used for 1 hour, and the unit price is $0.1 USD/Mbit/s per hour. Official website price = $0.1 USD x 150 = $15 USD<br>Similarly, you can calculate the list price for the other usage period. |
| **Discounted Amount** | Discounts offered for cloud services, for example, commercial discounts, partner authorized discounts, and promotional discounts. It is the discounted amount based on the list price. |
| **Amount Due** | Amount that should be paid for used cloud services after discounts are applied. |

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# 7 Arrears

If your configured payment method is unable to pay for your bill, your account will be in arrears. If you want to continue using your cloud services, you will need to update your payment method or to top up your account in a timely manner.

## Arrears Reason

Your account falls into arrears anytime your configured payment method is unable to pay for the used resources on the pay-per-use basis.

## Arrears Impact

- Yearly/Monthly

  This is a pre-paid billing mode, so you can continue using yearly/monthly bandwidth packages even if your account is in arrears. However, you cannot perform operations such as changing the bandwidth or renewing the bandwidth package, because they will generate new expenditures.

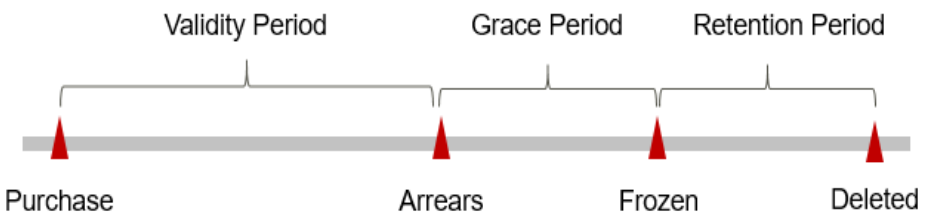
- Pay-per-use

  If your configured payment method is unable to pay a bill for pay-per-use resources, the resources enter a grace period. After you top up your account, Huawei Cloud will bill you for expenditures generated by the resources during the grace period. You can view the expenditures on the **Overview** page of the Billing Center.

  If your account is still in arrears after the grace period ends, the resources enter the retention period and their status turns to **Frozen**. You cannot perform any operations on these resources.

  After the retention period ends, global connection bandwidths used by cross-site connections and connections between enterprise routers will be released and cannot be restored.

**Figure 7-1** Lifecycle of a pay-per-use resource

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NOTE

For details about the grace period and retention period, see **What Is a Grace Period of Huawei Cloud? How Long Is It?** and **What Is a Retention Period of Huawei Cloud? How Long Is It?**

## Avoiding and Handling Arrears

Make sure that your account has sufficient balance to pay your amount due. For details, see **Topping Up an Account**.

If a cloud service resource is no longer used, you can delete it and its associated resources to avoid generating further expenditures.

To help make sure your account never falls into arrears, you can configure the **Balance Alert** on the **Overview** page of the Billing Center. Anytime an expenditure quota drops to below the threshold you specify, Huawei Cloud automatically notifies you by SMS or email.

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# 8 Billing Termination

## Yearly/Monthly Resources

When you purchase a yearly/monthly bandwidth package, you make a one-time up-front payment. By default, the billing automatically stops when the purchased subscription expires.

- If you no longer need a bandwidth package, but the subscription has not yet expired, you can unsubscribe from it. Depending on what coupons were used for the purchase and on if 5-day unconditional unsubscription rules apply, Huawei Cloud may issue you a refund. For details about unsubscription rules, see **Unsubscriptions**.
- If you have enabled auto-renewal but no longer wish to automatically renew the subscription, disable it before the auto-renewal date (7 days before the expiration date by default) to avoid unexpected expenditures.

## Pay-per-Use Resources

If global connection bandwidths or connections between enterprise routers are no longer required, delete them in a timely manner to stop billing.

## Searching for Resources from Bills and Stopping Billing

To ensure that all related resources are deleted, you can search the billing records by resource ID, and then delete the resources you identify in this way.

Search for the billed bandwidth package by ID.

**Step 1** On the top menu bar, choose **Billing & Costs** > **Bills**.

The **Dashboard** page is displayed.

**Step 2** On the **Expenditure Details** page of the Billing Center, click the icon shown in the following figure to copy the resource ID.

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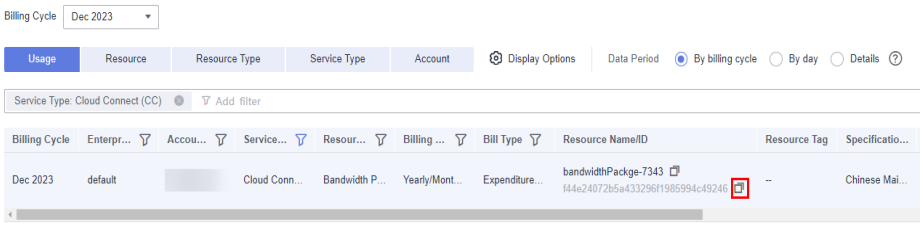
**Figure 8-1** Copying the resource ID



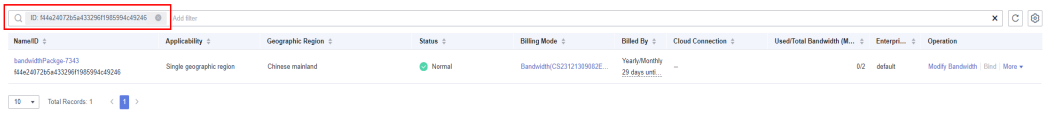

**Step 3** Log in to the management console and select the region where the bandwidth package is located.

**Step 4** Choose **Networking** > **Cloud Connect**.

**Step 5** In the navigation pane on the left, choose **Cloud Connect** > **Bandwidth Packages**.

**Step 6** Select **ID** from the filter criteria and enter the copied resource ID. Click the icon to search for the resource.

**Figure 8-2** Searching for the resource




**Step 7** Choose **More** > **Unsubscribe** in the **Operation** column to delete the bandwidth package. Ensure that the bandwidth package does not exist in the list.

NOTE

- Before unsubscribing from a bandwidth package, unbind it from the cloud connection.
- Before deleting a global connection bandwidth, unbind it from the cross-site connection.
- You are billed one hour after the resource usage is calculated, so a bill may still be generated after the pay-per-use resource is deleted. For example, if you delete a global connection bandwidth (which is billed on an hourly basis) at 08:30, the expenditures for that hour from 08:00 to 09:00 are usually not billed until about 10:00.

**----End**

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# 9 Cost Management

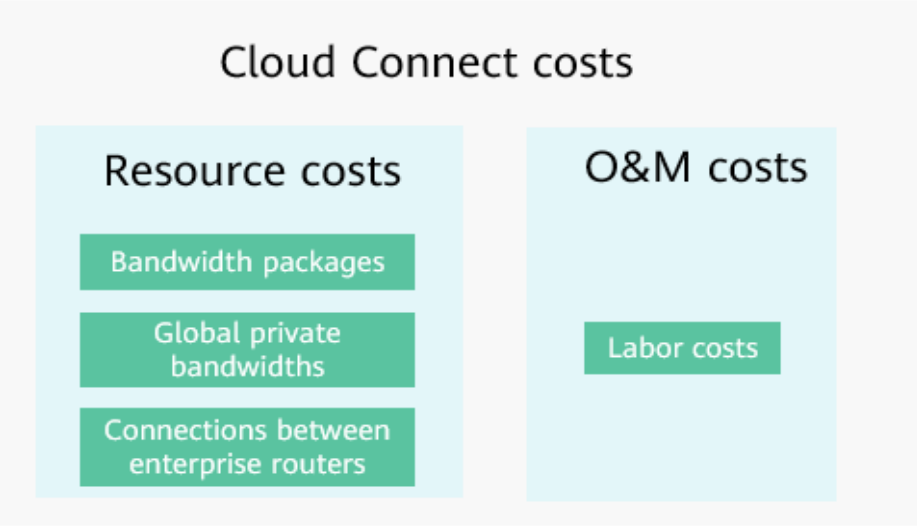
As you migrate more of your services to the cloud, managing cloud costs becomes more important. For example, you may be more concerned with cost management when using Cloud Connect. This topic describes how you can manage costs in terms of cost composition, allocation, analysis, and optimization. Optimizing costs can help you maximize return on investment.

## Cost Composition

Cloud Connect costs consist of two parts:

- Resource costs: cost of resources and resource packages, depending on the billing items of Cloud Connect. For details, see **Billed Items**.
- O&M costs: labor costs incurred during the use of Cloud Connect.

**Figure 9-1** Cloud Connect costs




Huawei Cloud **Cost Center** helps you manage resource costs with ease. However, you need to identify, manage, and optimize O&M costs by yourself.

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## Cost Allocation

A good cost accountability system is a prerequisite for cost management. It ensures that departments, business teams, and owners are accountable for their respective cloud costs. An enterprise can allocate cloud costs to different teams or projects so as to have a clear picture of their respective costs.

Huawei Cloud **Cost Center** provides various tools for you to group costs in different ways. You can experiment with these tools and find a way that works best for you.

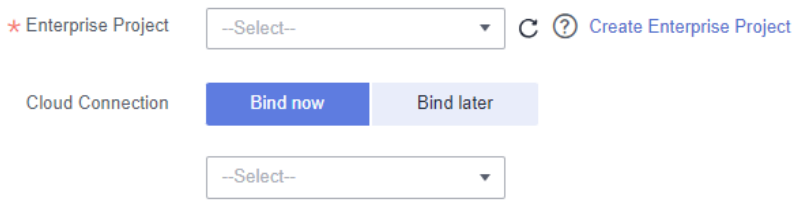
- **By linked account**

  The enterprise master account can manage costs by grouping the costs of its member accounts by linked account. For details, see **Viewing Costs by Linked Account**.

- **By enterprise project**

  Before allocating costs, enable Enterprise Project Management Service (EPS) and plan your enterprise projects based on your organizational structure or service needs. When purchasing cloud resources, select an enterprise project so that the costs of the resources will be allocated to the selected enterprise project. For details, see **Viewing Costs by Enterprise Project**.

  **Figure 9-2** Selecting an enterprise project for a cloud connection bandwidth package

- **By cost tag**

  You can use tags to sort your Huawei Cloud resources in a variety of different ways, for example, by purpose, owner, or environment. The following is the process of managing costs by predefined tags (recommended).

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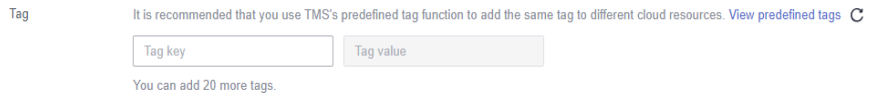
**Figure 9-3** Adding tags to a cloud connection bandwidth package




For details, see **Viewing Costs by Cost Tag**.

- **By cost category**

  You can use cost categories provided by **Cost Center** to split shared costs. Shared costs are the costs of resources (compute, network, storage, or resource packages) shared across multiple departments or the costs that cannot be directly split by cost tag or enterprise project. These costs are not directly attributable to a singular owner, and they cannot be categorized into a singular cost type. In this case, you can define cost splitting rules to fairly allocate these costs among teams or business units. For details, see **Viewing Cost By Cost Category**.

## Cost Analysis

To precisely control and optimize your costs, you need a clear understanding of what parts of your enterprise incurred different costs. **Cost Center** visualizes your original costs and amortized costs using various dimensions and display filters for cost analysis so that you can analyze the trends and drivers of your service usage and costs from a variety of perspectives or within different defined scopes.

You can also use cost anomaly detection provided by **Cost Center** to detect unexpected expenses in a timely manner. In this way, costs can be monitored, analyzed, and traced.

For details, see **Performing Cost Analysis to Explore Costs and Usage** and **Enabling Cost Anomaly Detection to Identify Anomalies**.

## Cost Optimization

- **Cost control**

  You can create different types of budgets on the **Budgets** page of Cost Center to track your costs against the budgeted amount you specified. If the budget thresholds you defined are reached, Cost Center will send alerts to the recipients you configured. You can also create budget reports and specify recipients to receive budget alerts if any at a frequency you configured.

  Suppose you want to create a monthly budget of $2,000 USD for using Cloud Connect and expect to receive an alert if the forecasted amount exceeds 80% of the budgeted amount. You can refer to the following budget information.

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**Figure 9-4** Basic budget information

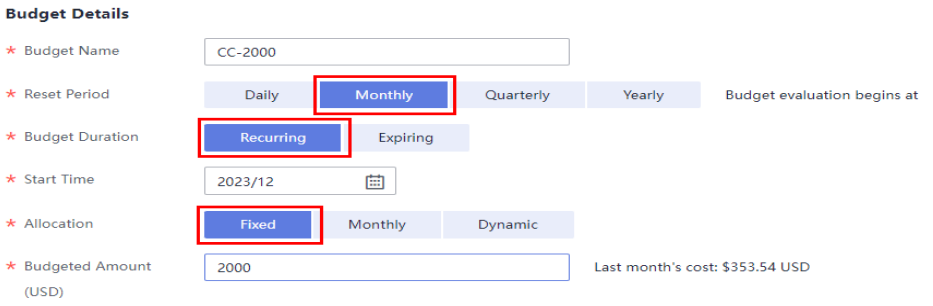



**Figure 9-5** Defining the budget scope

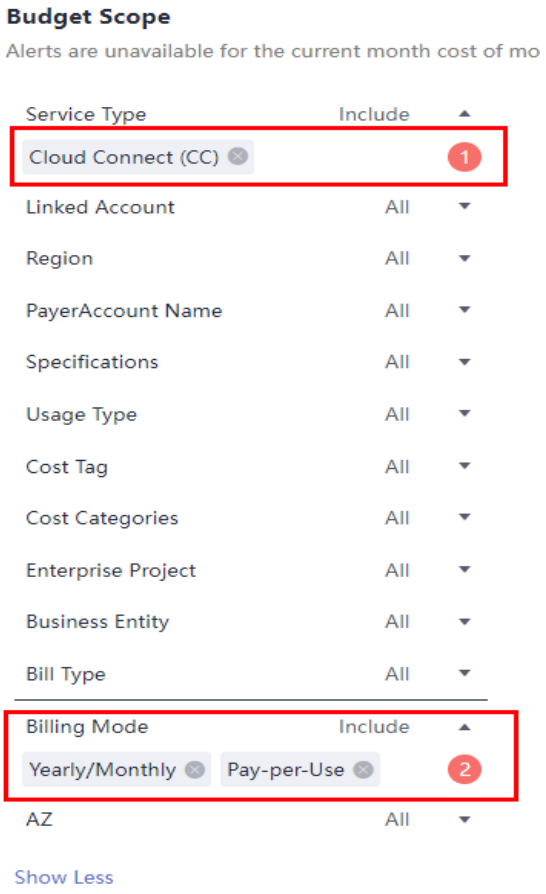
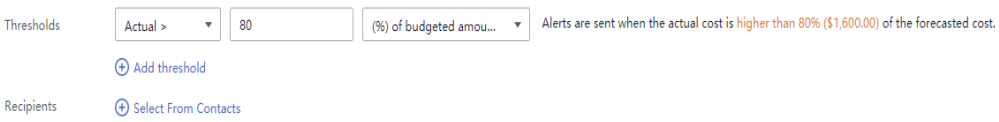



**Figure 9-6** Setting a budget alert




For details, see **Creating Forecasts and Budgets to Track Costs and Usage**.

- **Resource rightsizing**

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Cloud Eye helps you monitor resource usage, identify idle resources, and find opportunities to save costs. You can also identify resources with high costs based on **Cost Analysis**, and then take optimization measures accordingly.

- Monitor resource usage and evaluate whether the current configuration is more than you need. For example, you can monitor the bandwidth usage.
- Identify idle resources, for example, global connection bandwidths that are not bound to any instance.

- **O&M automation**

  Huawei Cloud also provides various O&M products to help you improve O&M efficiency and reduce labor costs. The following are examples of such products:

  - Auto Scaling**Auto Scaling**: You can automatically and continuously maintain pay-per-use bandwidths. Use this service when there is a clear distinction between peak and off-peak workloads.
  - **Auto Launch Group**: In just a few clicks, you can deploy instance clusters that use different billing modes, are distributed across AZs, and have different instance specifications. Use this method when stable computing power needs to be quickly delivered and spot instances need to be used to reduce costs.
  - **Resource Formation Service**: Resource stacks with multiple cloud resources and dependencies can be deployed and maintained with just a few clicks. Use this service to deliver the entire system or clone an environment.
  - **Application Operations Management**: Groups of O&M operations can be defined as services to make it much easier to execute various O&M tasks. Use this service for scheduled O&M, batch O&M, and cross-region O&M.

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