

Enterprise Router

Billing Description

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1 Billing Overview

In this document, you will learn about how enterprise routers are billed and what happens if your account goes into arrears.

- **Billing Modes**

There is only pay-per-use billing. It is a postpaid mode. You use enterprise routers first and then pay as you go. You will be billed for how long attachments are used and how much traffic is used by attachments.

- **Billed Items**

There are two billed items: duration that attachments are used and traffic used by attachments. [Billed Items](#) describes the billing factors and formulas for each billed item.

[Billing Examples](#) describes the billing examples and how the prices are calculated of each billed item.

- **Viewing Bills**

You can choose **Billing & Costs > Bills** to check Enterprise Router transactions and bills. For details, see [Bills](#).

- **Arrears**

If there is no sufficient account balance to pay for your bills and there is no other payment method configured, your account will go into arrears. If you want to continue using an enterprise router and associated resources, you will need to top up your account in a timely manner. For details, see [Arrears](#).

- **Stopping Billing**

If an enterprise router and associated resources are no longer needed, you can unsubscribe from or delete them to stop billing. For details, see [Billing Termination](#).

- **Managing Costs**

You can allocate, analyze, and optimize Enterprise Router costs to save more money. For details, see [Cost Management](#).

2 Billing Modes

2.1 Overview

Enterprise Router supports only pay-per-use billing. It is a postpaid billing mode. You pay as you go and just pay for what you use. You are billed for the duration that each attachment is used and the traffic that flows from each attachment to an enterprise router. The duration is calculated by the second but billed every hour. Pay-per-use billing is a good option for scenarios where there are sudden traffic bursts, such as e-commerce promotions.

Table 2-1 Billing modes

Billing Mode	Pay-per-use
Payment	Postpaid
Billing Method	<ul style="list-style-type: none">Attachment duration: calculated by the second but billed by the hourTraffic: billed based on the traffic used by each attachment
Billed Items	<ul style="list-style-type: none">Duration that each attachment is usedTraffic that flows from each attachment to an enterprise router
Changing Specifications	-
Application Scenarios	Recommended when the resource demands are likely to fluctuate and you want more flexibility.

2.2 Pay-per-Use Billing

Pay-per-use billing means you pay nothing up front and are not tied into any contract or commitment. This section describes the billing rules for pay-per-use enterprise routers.

Application Scenarios

Pay-per-use is suitable for applications or services that cannot be interrupted when facing temporary or sudden traffic increases or unpredictable demands, such as e-commerce flash sales, testing, and scientific computing.

Billed Items

Enterprise routers are free. When you attach an instance to an enterprise router, you will be charged for this attachment and the traffic this attachment uses to communicate with the enterprise router.

Table 2-2 Enterprise Router billed items

Billed Item	Attachment Type	Billing Description
Duration that an attachment is used	<ul style="list-style-type: none">• VPC attachments• Virtual gateway attachments• VPN gateway attachments• Peering connection attachments• Global DC gateway attachments	Hourly billing starts when an attachment is created and stops when the attachment is deleted. If an attachment is created to a shared enterprise router, hourly billing starts when the enterprise router owner accepts the attachment.
Traffic	<ul style="list-style-type: none">• VPC attachments• Virtual gateway attachments• VPN gateway attachments• Global DC gateway attachments	The amount of traffic flows from an attachment to an enterprise router (inbound traffic) is billed.

- For each peering connection attachments, you will only be charged for the attachment. The traffic cost is included in your global private bandwidth. For details about how global private bandwidths are billed, see [Central Network Billing Items](#).

- CFW instance attachments and the traffic used by the attachments are free.

An attachment creator pays for the attachment and used traffic.

For example, if a shared enterprise router has VPC attachments from its owner and other accounts. If the owner creates attachments to the enterprise router, the owner pays for the attachments and used traffic. If the other accounts create attachments to the enterprise router, these accounts pay for the attachments and used traffic.

 **NOTE**

Only VPC attachments can be added to shared enterprise routers.

Billed Usage Period

- Each attachment is billed hourly and only in full hours. If the duration is less than one hour, the attachment is still billed for a full hour. The following uses a VPC attachment as an example.
 - Scenario 1: You created a VPC attachment to an enterprise router at 12:36 on July 6, 2022 and deleted the attachment at 12:57 on July 6, 2022. In this case, you need to pay for a full hour.
 - Scenario 2: You created a VPC attachment to an enterprise router at 12:59 on July 6, 2022 and deleted the attachment at 13:01 on July 6, 2022. In this case, your usage spanned 2 clock hours, so you need to pay for 2 full hours.
- The inbound traffic that flows from each attachment to the enterprise router is billed.

Billing Example

Assume that you created a pay-per-use enterprise router at 12:25:30 on July 6, 2023 and created two attachments to it later:

- You created a VPC attachment at 12:36:00 on July 6, 2023 and deleted it at 18:50:00 on July 7, 2023. A total of 532-GB traffic was used by this attachment.
- You created a virtual gateway attachment at 13:01:00 on July 6, 2023 and deleted it at 18:55:00 on July 7, 2023. A total of 1,300 GB traffic was used by this attachment.

The enterprise router is free. You are billed for how long each attachment is used and the traffic each attachment uses to communicate with the enterprise router.

In this example, each attachment costs \$0.06 USD/hour, and the unit price of traffic is \$0.02 USD/GB. [Figure 2-1](#) shows how the total price is calculated, and [Table 2-3](#) describes the price of each billed item.

Figure 2-1 Total price for a pay-per-use enterprise router

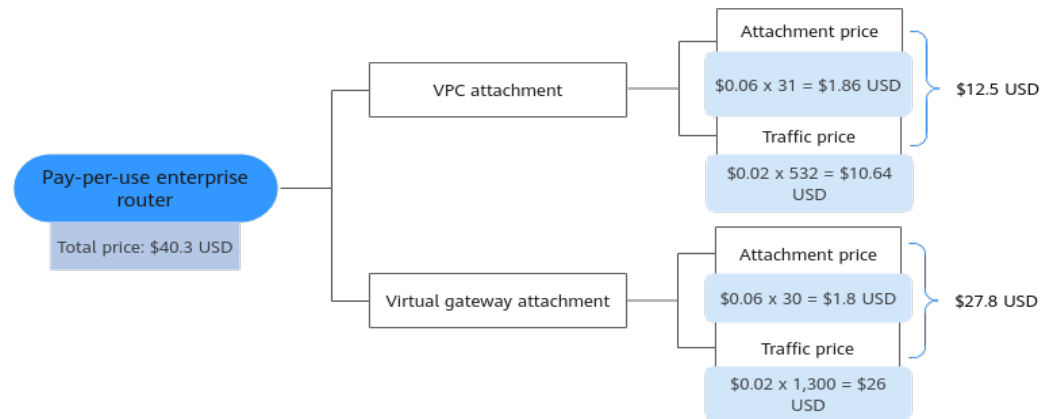


Table 2-3 Enterprise Router pricing details

Attachment Type	Required Duration	Price	Total Price
VPC attachment	<p>From 12:36:30 on July 06, 2023 to 18:50:00 on July 07, 2023</p> <p>The VPC attachment is used for 30 hours and 14 minutes. The total duration is 31 hours because pricing is listed on a per-hour basis.</p> <ul style="list-style-type: none"> From 12:36:00 on July 06, 2023 to 13:00:00 on July 06, 2023: 1 hour From 13:00:00 on July 06, 2023 to 18:00:00 on July 07, 2023: 29 hours From 18:00:00 on July 07, 2023 to 18:50:00 on July 07, 2023: 1 hour 	<ul style="list-style-type: none"> Attachment price: $\\$0.06 \text{ USD} \times 31 \text{ hours} = \\1.86 USD Traffic price: $\\$0.02 \text{ USD} \times 532 \text{ GB} = \\10.64 USD 	$\$1.86 \text{ USD} + \$10.64 \text{ USD} = \$12.5 \text{ USD}$

Attachment Type	Required Duration	Price	Total Price
Virtual gateway attachment	<p>From 13:01:00 on July 06, 2023 to 18:55:00 on July 07, 2023</p> <p>The virtual gateway attachment is used for 29 hours and 54 minutes. The total duration is 30 hours because pricing is listed on a per-hour basis.</p> <ul style="list-style-type: none"> From 13:01:00 on July 06, 2023 to 14:00:00 on July 06, 2023: 1 hour From 14:00:00 on July 06, 2023 to 18:00:00 on July 07, 2023: 28 hours From 18:00:00 on July 07, 2023 to 18:55:00 on July 07, 2023: 1 hour 	<ul style="list-style-type: none"> Attachment price: \$0.06 USD × 30 hours = \$1.8 USD Traffic price: \$0.02 USD × 1,300 GB = \$26 USD 	\$1.8 USD + \$26 USD = \$27.8 USD

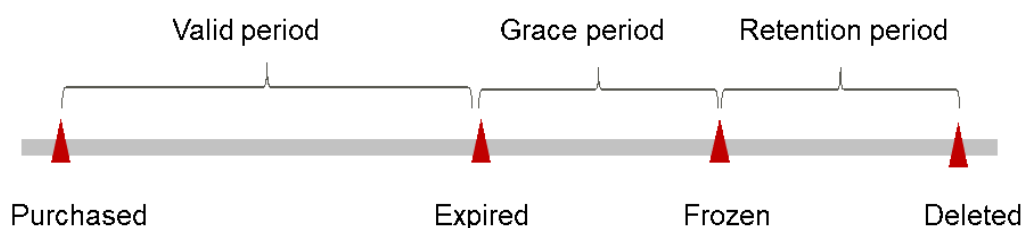
NOTICE

The prices are for reference only. For details, see [Enterprise Router Pricing Details](#).

Impacts of Arrears

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

Figure 2-2 Lifecycle of a pay-per-use enterprise router



Arrears Alert

The system will deduct fees for pay-per-use resources at the end of each billing cycle. If your account goes into arrears, we will notify you by email, SMS, or in-app message.

Impacts of Arrears

If your account is insufficient to pay your amount due, your account goes into arrears, and pay-per-use resources enter the grace period. 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 turns to **Frozen** and enters a retention period.

If you do not bring your account balance current before the retention period ends, the 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 top-up, see [Topping Up an Account](#).

3 Billed Items

Pay-per-Use

Enterprise routers are free. When you attach an instance to an enterprise router, you will be charged for this attachment and the traffic this attachment uses to communicate with the enterprise router.

Table 3-1 Enterprise Router billed items

Billed Item	Attachment Type	Billing Description
Duration that an attachment is used	<ul style="list-style-type: none">• VPC attachments• Virtual gateway attachments• VPN gateway attachments• Peering connection attachments• Global DC gateway attachments	Hourly billing starts when an attachment is created and stops when the attachment is deleted. If an attachment is created to a shared enterprise router, hourly billing starts when the enterprise router owner accepts the attachment.
Traffic	<ul style="list-style-type: none">• VPC attachments• Virtual gateway attachments• VPN gateway attachments• Global DC gateway attachments	The amount of traffic flows from an attachment to an enterprise router (inbound traffic) is billed.

4 Billing Examples

Assume that you created a pay-per-use enterprise router at 12:25:30 on July 6, 2023 and created two attachments to it later:

- You created a VPC attachment at 12:36:00 on July 6, 2023 and deleted it at 18:50:00 on July 7, 2023. A total of 532-GB traffic was used by this attachment.
- You created a virtual gateway attachment at 13:01:00 on July 6, 2023 and deleted it at 18:55:00 on July 7, 2023. A total of 1,300 GB traffic was used by this attachment.

In this example, each attachment costs \$0.06 USD/hour, and the unit price of traffic is \$0.02 USD/GB. [Figure 4-1](#) shows how the total price is calculated, and [Table 2-3](#) describes the price of each billed item.

Figure 4-1 Total price for a pay-per-use enterprise router

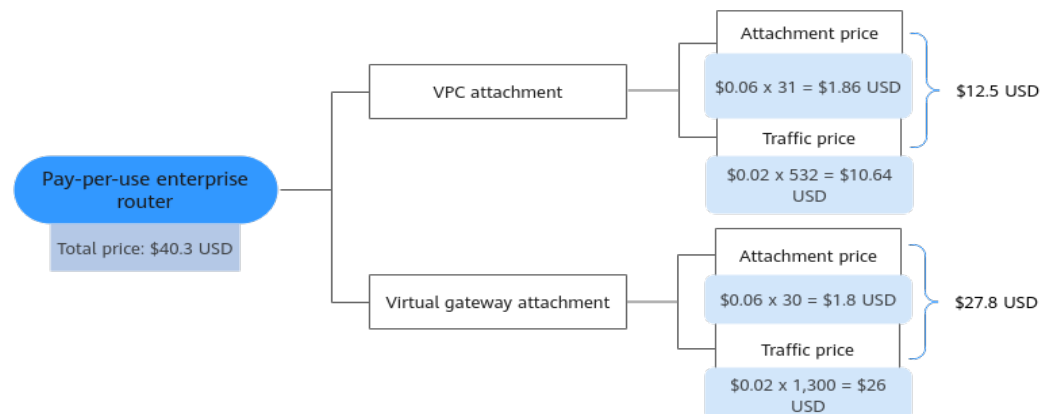


Table 4-1 Enterprise Router pricing details

Attachment Type	Required Duration	Price	Total Price
VPC attachment	<p>From 12:36:30 on July 06, 2023 to 18:50:00 on July 07, 2023</p> <p>The VPC attachment is used for 30 hours and 14 minutes. The total duration is 31 hours because pricing is listed on a per-hour basis.</p> <ul style="list-style-type: none"> From 12:36:00 on July 06, 2023 to 13:00:00 on July 06, 2023: 1 hour From 13:00:00 on July 06, 2023 to 18:00:00 on July 07, 2023: 29 hours From 18:00:00 on July 07, 2023 to 18:50:00 on July 07, 2023: 1 hour 	<ul style="list-style-type: none"> Attachment price: \$0.06 USD x 31 hours = \$1.86 USD Traffic price: \$0.02 USD x 532 GB = \$10.64 USD 	\$1.86 USD + \$10.64 USD = \$12.5 USD
Virtual gateway attachment	<p>From 13:01:00 on July 06, 2023 to 18:55:00 on July 07, 2023</p> <p>The virtual gateway attachment is used for 29 hours and 54 minutes. The total duration is 30 hours because pricing is listed on a per-hour basis.</p> <ul style="list-style-type: none"> From 13:01:00 on July 06, 2023 to 14:00:00 on July 06, 2023: 1 hour From 14:00:00 on July 06, 2023 to 18:00:00 on July 07, 2023: 28 hours From 18:00:00 on July 07, 2023 to 18:55:00 on July 07, 2023: 1 hour 	<ul style="list-style-type: none"> Attachment price: \$0.06 USD x 30 hours = \$1.8 USD Traffic price: \$0.02 USD x 1,300 GB = \$26 USD 	\$1.8 USD + \$26 USD = \$27.8 USD

5 Bills

You can view the resource usage and bills for different billing cycles under **Billing > Dashboard** of Billing Center.

Bill Generation

A pay-per-use resource is billed by the hour, day, or month, depending on the resource's usage type. For details, see [Bill Run for Pay-per-Use Resources](#). The enterprise router usage is billed by the hour.

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

Viewing Bills of an Enterprise Router

[Example 1: Use the resource ID to search for a bill. The resource ID is the same as that in the bill.]

Step 1 Log in to the management console and choose **Networking > Enterprise Router**.

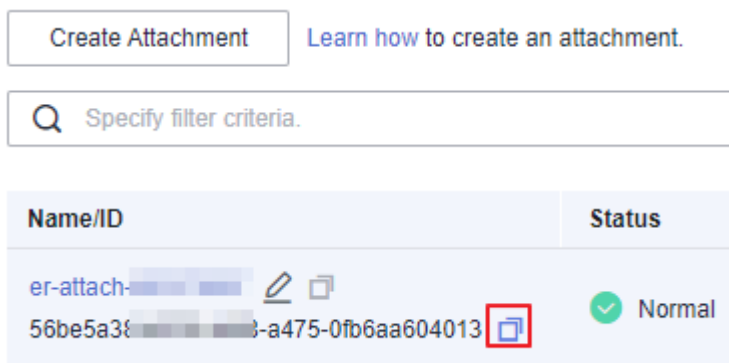
The enterprise router list is displayed.

Step 2 Go to the **Attachments** tab using either of the following methods:

- In the upper right corner of the enterprise router, click **Manage Attachment**.
- Click the enterprise router name and click **Attachments**.

Step 3 In the attachment list, obtain the attachment ID.

Click the icon shown in [Figure 5-1](#) to copy the attachment ID.

Figure 5-1 Obtaining an attachment ID

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

The **Dashboard** page is displayed.


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

Figure 5-2 Searching for a transaction

Billing...	Enterpr...	Acc...	Service...	Resour...	Billing...	Bill Type	Resource N...	Resource Tag	Specificatio...	Region	AZ	Usage Type	Unit Price	Unit	Total Usage (Pricin
Oct 2023	default		Enterprise R...	er.traffic	Pay-per-Use	Expenditure...	er-attach-9264 3329252-029e-4		ER VPC traffic			downflow	Dollar/GB	0	
Oct 2023	default		Enterprise R...	er.attachment	Pay-per-Use	Expenditure...	er-attach-9264 3329252-029e-4		ER VPC att...			duration	Dollar/Hour	1	

By default, bill details are displayed by usage and billing cycle. You can also select other statistical dimensions or periods. For details, see [Bills](#).

----End

[Example 2: Use the resource name to search for a bill.]

Step 1 Log in to the management console and choose **Networking > Enterprise Router**.

The enterprise router list is displayed.

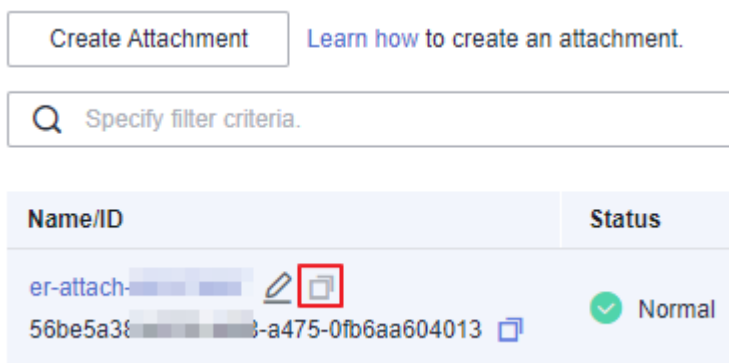
Step 2 Go to the **Attachments** tab using either of the following methods:

- In the upper right corner of the enterprise router, click **Manage Attachment**.
- Click the enterprise router name and click **Attachments**.

Step 3 In the attachment list, obtain the attachment name.

Click the icon shown in [Figure 5-3](#) to copy the attachment name.

Figure 5-3 Obtaining the attachment name



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

The **Dashboard** page is displayed.


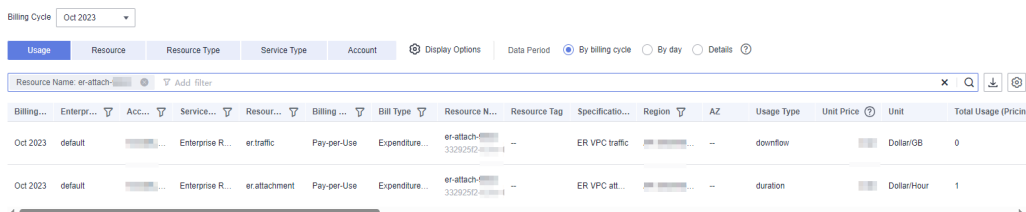
Step 5 On the **Bill Details** tab, select **Resource Name** from the filter criteria, enter the resource name obtained in **Step 3**, and click .

Figure 5-4 Searching for a transaction



For details, see [Bills](#).

----End

Checking the Consistency of the Actual Usage and Billed Usage

Assume that you created an enterprise router at 12:25:30 on July 6, 2023, created a VPC attachment to the enterprise router at 12:36:00 on July 6, 2023, and deleted this attachment at 18:50 on July 7, 2023. During this period of time, a total of 532-GB traffic was used by the attachment.

- Duration that the attachment is used
Each attachment is billed hourly and only in full hours. If the duration is less than one hour, the attachment is still billed for a full hour. [Table 5-2](#) describes the attachment price.

Table 5-1 Attachment transaction record

Cloud Service	Enterprise Router
Resource Type	Attachments

Billing Mode	Pay-per-use
Expenditure Time	From 12:36:00 on July 6, 2023 to 18:50:00 on July 7, 2023, a transaction record is generated.
List Price	List price on the official website = Usage x Unit price In this example, the duration is 30 hours and 14 minutes. The total duration is 31 hours because pricing is listed on a per-hour basis. The unit price of the attachment is \$0.06 USD per hour. The list price of this attachment is \$0.06 USD x 31 hours = \$1.86 USD.
Discounted Amount	Discounts offered for cloud services, for example, commercial discounts, partner authorized discounts, and promotional discounts. Discounts are based on the list prices.
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. In this example, the truncated amount is \$0 USD.
Amount Due	Amount due = List price – Discount amount – Truncated amount In this example, if the discounted amount is 0 and the truncated amount is 0, the amount due is \$1.86 USD - \$0 USD - \$0 USD = \$1.86 USD.

- Traffic
You are billed for the actual traffic that flows from each attachment to an enterprise router. In this example, there is 532 GB of traffic. [Table 5-2](#) describes the traffic price.

Table 5-2 Traffic transaction record

Cloud Service	Enterprise Router
Resource Type	Attachments
Billing Mode	Pay-per-use
Expenditure Time	From 12:36:00 on July 6, 2023 to 18:50:00 on July 7, 2023, a transaction record is generated.

List Price	List price on the official website = Usage x Unit price In this example, the actual traffic is 532 GB, and the unit of traffic is \$0.02 USD/GB. The list price of traffic is \$0.02 USD x 532 GB = \$10.64 USD.
Discounted Amount	Discounts offered for cloud services, for example, commercial discounts, partner authorized discounts, and promotional discounts. Discounts are based on the list prices.
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. In this example, the truncated amount is \$0 USD.
Amount Due	Amount due = List price - Discount amount - Truncated amount In this example, if the discounted amount is 0 and the truncated amount is 0, the amount due is \$10.64 USD - \$0 USD - \$0 USD = \$10.64 USD.

6 Arrears

If there is no sufficient account balance to pay for your bills and there is no other payment method configured, your account will go into arrears. If you want to continue using Enterprise Router, you will need to update your payment method or to top up your account in a timely manner.

Reason of Arrears

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

Impacts of Arrears

- Pay-per-use

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

If your account is still in arrears after the grace period ends, the enterprise routers enter the retention period and turns to **Frozen**. You cannot perform any operations on them.

After the retention period ends, the enterprise routers will be released and cannot be restored.

Avoiding and Handling Arrears

Make sure you have a valid payment method configured as soon as possible after your account is in arrears. For details, see [Topping Up an Account \(Prepaid Direct Customers\)](#).

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

7 Billing Termination

Pay-per-Use Resources

If attachments of pay-per-use 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.

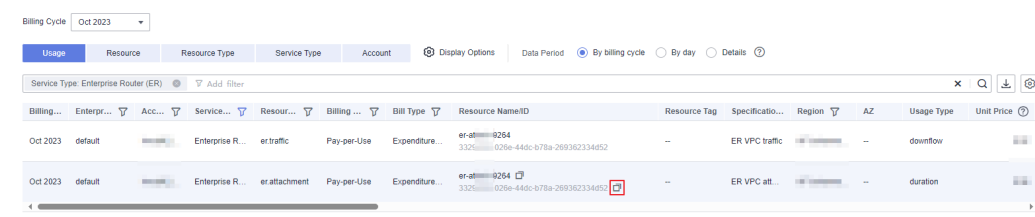
[Example 1: Use the resource ID in the bill to search for the resource.]

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

The **Dashboard** page is displayed.

Step 2 Choose **Expenditure Details**. Click the icon shown in the following figure to copy the resource ID.

Figure 7-1 Copying the resource ID



Billing Cycle	Account	Service Type	Resource Type	Billing Type	Bill Type	Resource Name/ID	Resource Tag	Specification	Region	AZ	Usage Type	Unit Price
Oct 2023	default	Enterprise R...	er traffic	Pay-per-Use	Expenditure...	er-att-9264-3325-029e-440c-678a-269362334652	--	ER VPC traffic	--	--	downflow	
Oct 2023	default	Enterprise R...	er attachment	Pay-per-Use	Expenditure...	er-att-9264-3325-029e-440c-678a-269362334652	--	ER VPC att...	--	--	duration	

Step 3 Log in to the management console and choose **Networking > Enterprise Router**.

The enterprise router list is displayed.

Step 4 Select the region where the attachment is located and go to the **Attachments** tab of the enterprise router using either of the following two methods:

- In the upper right corner of the enterprise router, click **Manage Attachment**.
- Click the enterprise router name and click **Attachments**.


Step 5 In the attachment list, select **ID** from the filter criteria, enter the resource ID copied in **Step 2**, and click  to search for the attachment.

Figure 7-2 Searching for an attachment

NameID	Status	Attachment Type	Attached Resource	Account/Project ID	Association Route Table	Description	Operation
er-attach-ca75 b36e5eed-9c395e2b3bc	Normal	VPC	vpc-A	My account	default/RouteTable	-	Modify Delete

Step 6 Delete the attachment. For details, see [Attachment Overview](#).

NOTE

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 VPC attachment at 08:30, the expenditures generated from 08:00 to 09:00 are usually settled at about 10:00.

----End

[Example 2: Use the resource name in the bill to search for the resource.]

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

The **Dashboard** page is displayed.

Step 2 Choose **Transactions and Detailed Bills > Bill Details**. Click the icon shown in the following figure to copy the resource name.

Figure 7-3 Copying the resource name

Billing Cycle	Usage	Resource	Resource Type	Service Type	Account	Display Options	Data Period	By billing cycle	By day	Details
Oct 2023	Usage	Enterprise Router (ER)	Enterprise R...	er traffic	Pay-per-Use	Expenditure	er-att-9264-332c-026a-440c-678a-269362334652	ER VPC traffic	downflow	
Oct 2023	Usage	Enterprise Router (ER)	Enterprise R...	er attachment	Pay-per-Use	Expenditure	er-att-9264-332c-026a-440c-678a-269362334652	ER VPC att...	duration	

Step 3 Log in to the management console and choose **Networking > Enterprise Router**.

The enterprise router list is displayed.

Step 4 Select the region where the attachment is located and go to the **Attachments** tab of the enterprise router:

- In the upper right corner of the enterprise router, click **Manage Attachment**.
- Click the enterprise router name and click **Attachments**.


Step 5 In the attachment list, select **Name** from the filter criteria, enter the resource name copied in [Step 2](#), and click  to search for the attachment.

Figure 7-4 Searching for an attachment

NameID	Status	Attachment Type	Attached Resource	Account/Project ID	Association Route Table	Description	Operation
er-attach-ca75 b36e5eed-9c395e2b3bc	Normal	VPC	vpc-A	My account	default/RouteTable	-	Modify Delete

Step 6 Delete the attachment. For details, see [Attachment Overview](#).

 **NOTE**

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 VPC attachment at 08:30, the expenditures generated from 08:00 to 09:00 are usually settled at about 10:00.

----End

8 Cost Management

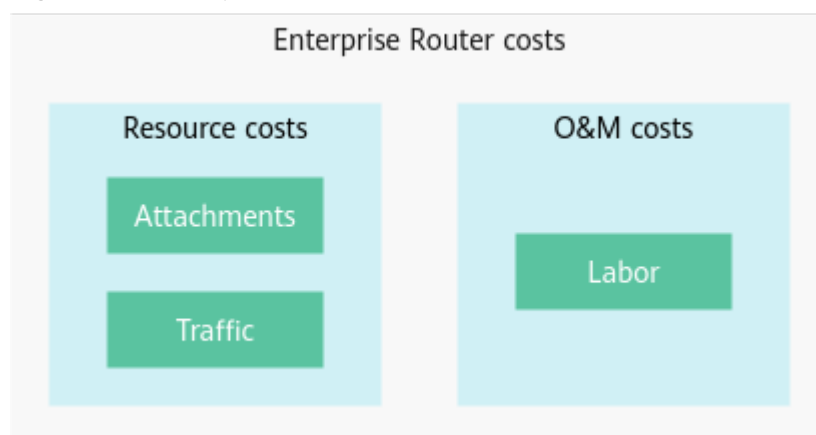
As you migrate more of your workloads to the cloud, managing cloud costs becomes more important. For example, you may be more concerned with cost management when using enterprise routers. The following describes how to manage costs in terms of cost composition, allocation, analysis, and optimization.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

Cost Composition

Enterprise Router costs consist of two parts:

- Resource costs: cost of resources and resource packages, depending on the billed items of enterprise routers. For details, see [Billed Items](#).
- O&M costs: labor costs generated during the use of enterprise routers.

Figure 8-1 Enterprise Router costs



Huawei Cloud [Cost Center](#) helps you manage resource costs with ease.

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.

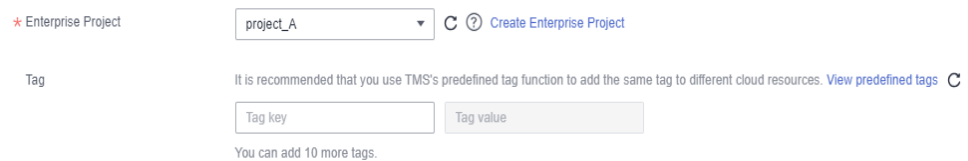
- **By linked account**

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. If you select an enterprise project when purchasing an enterprise router, the cost of newly purchased attachments is allocated to the selected enterprise project. For details, see [Viewing Costs by Enterprise Project](#).

Figure 8-2 Selecting an enterprise project for an enterprise router



- **By cost tag**

You 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).

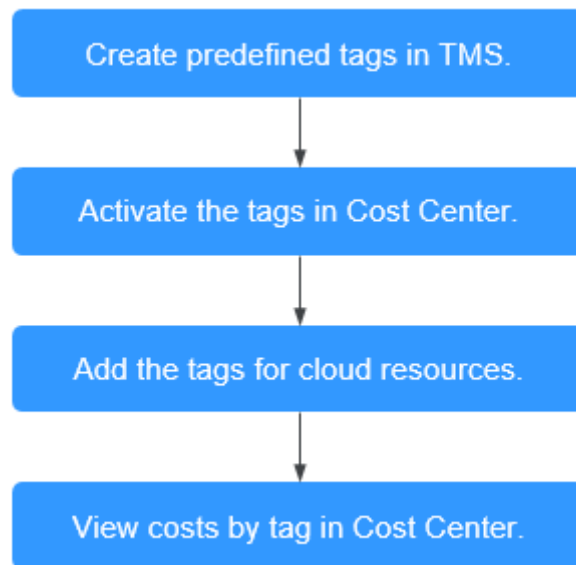


Figure 8-3 Adding a tag to an enterprise router

Enterprise Project: project_A [Create Enterprise Project](#)

Tag: It is recommended that you use TMS's predefined tag function to add the same tag to different cloud resources. [View predefined tags](#)

Tag key: [input field] Tag value: [input field]

You can add 10 more tags.

Figure 8-4 Adding a tag to an attachment

Name	er-attach-ce75	ID	b38e65e6-7d...f88e2b8bc
Status	Normal	Attachment Type	VPC
VPC name	vpc-A	Subnet	subnet-AD1(172.16.0.0/24)
Created	Nov 21, 2023 10:08:57 GMT+08:00	Auto Add Routes	Disabled
Description	-		

Add Tag You can add 10 more tags. A tag is a pair of key and value. For hierarchical management, use both keys and values. For common management, you can use keys only and leave values blank.

Key	Value	Operation
-----	-------	-----------

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 \$10,000 USD for a pay-per-use enterprise router and expect to receive an alert if the forecasted amount exceeds 80% of the budgeted amount. You can refer to the following budget information.

Figure 8-5 Basic budget information

Budgets / Create Budget

1 Choose budget type — 2 Set your budget — 3 (Optional) Configure budget alerts — 4 Confirm budget information

Specify your budget details, including the reset period and budgeted amount. You can also define the budget scope to have your budget monitoring more accurate.

Budget Details

- * Budget Name: EnterpriseRouter-10000
- * Reset Period: Daily, **Monthly**, Quarterly, Yearly. Budget evaluation begins at 00:00 GMT+08:00 on the 1st day of the start month and will be reset to zero at 00:00 GMT+08:00 on the 1st day of each month moving forward.
- * Budget Duration: **Recurring**, Expiring
- * Start Time: 2023/11
- * Allocation: **Fixed**, Monthly, Dynamic
- * Budgeted Amount (USD): 10000. Last month's cost: \$1,534.24 USD

Figure 8-6 Defining the budget scope

Budget Scope
Alerts are unavailable for the current month cost of m

Service Type	Include	▲
Enterprise Router (ER) ✕		1
Linked Account	All	▼
Region	All	▼
Specifications	Selected7	▲
Enterprise Router ER	Include	
ER VPN traffic ✕		7
Usage Type	All	▼
Cost Tag	All	▼
Cost Categories	All	▼
Enterprise Project	All	▼
Business Entity	Include	▼
HUAWEI CLOUD ✕		1
Bill Type	All	▼
Billing Mode	Include	▲
Pay-per-Use ✕		1
AZ	All	▼

Figure 8-7 Setting a budget alert

(Optional) Alert Thresholds

Thresholds Alerts are sent when the actual cost is higher than 80% (\$8,000.00) of the forecasted cost.

[+ Add threshold](#)

Recipients [+ Select From Contacts](#)

For details, see [Enabling Forecasting and Creating Budgets to Track Costs and Usage](#).

- **Resource rightsizing**

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 take optimization measures accordingly.

- Monitor resource usage and evaluate whether the current configuration is more than you need, for example, the bandwidth of an enterprise router attachment.
- Identify idle resources, for example, attachments that are not used by an enterprise router.
- **O&M automation**

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

 - **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.

A Change History

Released On	Description
2024-05-16	This issue is the second official issue. Updated the following content: Added the description of global DC gateway attachments in Pay-per-Use Billing .
2023-11-25	This issue is the first official release.