

**Billing**

# **Billing - International**

**Issue**            01  
**Date**             2023-11-03



**Copyright © Huawei Cloud Computing Technologies Co., Ltd. 2023. 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 Billing Overview</b> .....	<b>1</b>
<b>2 Billing Modes</b> .....	<b>2</b>
2.1 Overview.....	2
2.2 Pay-per-Use Billing.....	2
<b>3 Billing Items</b> .....	<b>5</b>
<b>4 Billing Examples</b> .....	<b>7</b>
<b>5 Bills</b> .....	<b>8</b>
<b>6 Arrears</b> .....	<b>12</b>
<b>7 Billing Termination</b> .....	<b>14</b>
<b>8 Cost Management</b> .....	<b>15</b>

# 1 Billing Overview

---

In this document, you will learn about how IoT Device Access (IoTDA) is billed, how you can renew subscriptions, and what happens if your account goes into arrears.

- **Billing Modes**

IoTDA supports pay-per-use billing, which is a postpaid mode. You are charged based on the actual usage duration.

- **Billing Items**

IoTDA is billed based on the instance specifications and usage duration. For details about the billing factors and formulas for each billing item, see [Billing Items](#).

For more information about the billing samples in different scenarios and the billing process for each billing item in different billing modes, see [Billing Examples](#).

- **Viewing Bills**

You can choose **Billing Center** > **Billing** to check the IoTDA 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 manage costs from cost composition, allocation, analysis, and optimization. For details, see [Cost Management](#).

# 2 Billing Modes

---

## 2.1 Overview

IoTDA supports pay-per-use billing, which is a postpaid mode. You are charged based on the actual usage duration. This allows you to adjust resource usage easily.

## 2.2 Pay-per-Use Billing

Pay-per-use billing is a postpaid mode in which you pay for what you use. This billing mode requires no upfront or long-term commitments. This section describes the billing rules for pay-per-use IoTDA resources.

### Scenario

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.

### Billing Items

You are billed for the following resources on a pay-per-use basis.

**Table 2-1** Billing items

Billing Item	Description
Standard instance	You are charged based on the instance specifications and required duration.

### Billed Usage Period

The usage of pay-per-use IoTDA resources is calculated by day (with partial days counted as full days) and billed at 0:00 every day (UTC+8). The billing starts from

the time when the standard instance is successfully created and ends at the time when the instance is deleted.

## Billing Examples

Assume you purchased a standard SU1 instance at 9:59:30 on April 18, 2023 and then deleted it at 11:45:46 on April 20, 2023. The following usage periods will be billed:

- The first billing cycle (one day): April 18, 2023, 9:59:30 to April 19, 2023, 00:00:00
- The second billing cycle (one day): April 19, 2023, 00:00:00 to April 20, 2023, 00:00:00
- The third billing cycle (zero day): April 20, 2023, 00:00:00 to April 21, 2023, 00:00:00

You need to pay for each billing cycle. [Table 2-2](#) lists the billing formula. The daily price of the resource is displayed in the product price details.

**Table 2-2** Formulas for billing pay-per-use IoTDA resources

Resource	Formula	Unit Price
IoTDA standard instance	Unit price of instance specifications x Billing duration	For details, see "Specifications Price" in <a href="#">IoTDA Price Details</a> .

## Impact on Billing After Specifications Change

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

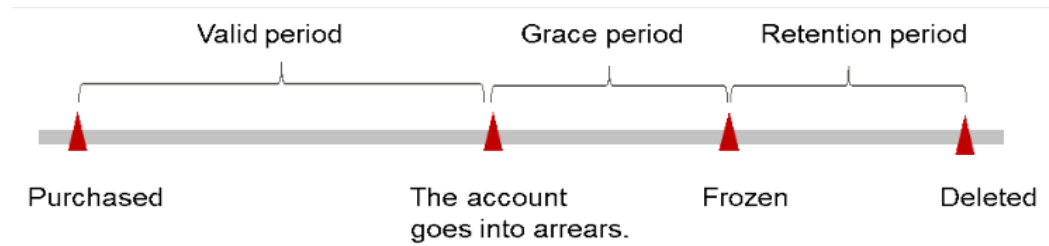
If you change the instance configuration within one day after the purchase, the billing cycle information is generated based on the new configuration.

For example, you purchased a standard SU1 instance at 9:00:00 and upgraded it to an SU2 instance at 9:30:00, the billing cycle information of the SU2 instance will be generated for the day.

## Impact of Arrears

[Figure 1](#) shows the statuses a pay-per-use IoTDA instance can have throughout its lifecycle. After an IoTDA instance is purchased, it enters the valid period and runs normally during this period. If your account goes into arrears, the IoTDA instance enters a grace period and then a retention period.

**Figure 2-1** IoTDA instance lifecycle



### Arrears Reminder

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.

### Impact of Arrears

If your account is insufficient to pay your amount, your account goes into arrears. However, your resources will not be stopped immediately; instead, they enter the grace period. You will need to pay for the fees incurred during the grace period, which you can see on the **Billing & Costs > Billing Center > Overview** page of the Huawei Cloud console. Huawei Cloud will automatically deduct this amount when you top up.

If you do not pay the arrears within the grace period, your resources will enter the retention period and become frozen. You cannot perform any operations on the pay-per-use resources during this period.

If you do not bring your account balance current before the retention period ends, your resource will be released and the data cannot be restored.

# 3 Billing Items

## Billing Description

Fees of IoTDA consist of instance fees and message fees. For details, see [Table 3-1](#).

**Table 3-1** IoTDA billing items

Billing Item	Description	Billing Mode	Formula
Instance specifications	Standard and enterprise editions are charged based on the instance type, specifications, and purchase duration.	Pay-per-use	<b>Instance specifications unit price x Purchase duration</b> For details, see "Specifications Price" in <a href="#">IoTDA Price Details</a> .

Item	Description	Billing Mode
Device messages	Messages sent by devices by calling the MQTT PUB interface	The number of messages is charged.
	Messages received by devices by calling the MQTT SUB interface	
	Messages sent by devices by calling the LwM2M Update/Notify interface	
	Response messages received by devices by calling the LwM2M Update interface	
	Messages and properties reported by devices by calling the HTTP interface	



Item	Description	Billing Mode
	Command messages sent by the platform by calling the LwM2M Read/Write/Write-Attributes/Execute interface and response messages reported by devices	
Application messages	Messages sent by applications by calling platform APIs	The number of messages is charged.
Messages forwarded by rules	Messages forwarded to other Huawei Cloud services using rules	If there are fewer forwarded messages than messages sent from devices to the cloud, the forwarded messages are free of charge. If not, the excess forwarded messages are charged.
	Messages pushed by the platform to applications (including HTTP and AMQP messages)	The number of messages is charged.
Protocol messages	Login messages Logout messages Heartbeat messages ACK messages at the protocol layer Subscription messages Unsubscription messages	Free
OTA upgrade	You will be billed for using OBS to store upgrade packages. For details, see <a href="#">Software/Firmware Package Upload</a> .	OTA upgrade is free, but OBS is charged.

## Billing Examples

Assume you purchased a standard SU1 instance at 15:50:04 on March 8, 2023 and then deleted it at 15:50:04 on March 10, 2023. The following usage periods will be billed:

- The first billing cycle: March 8, 2023, 15:50:04 to March 9, 2023, 00:00:00
- The first billing cycle: March 9, 2023, 00:00:00 to March 10, 2023, 00:00:00

You need to pay for each billing cycle.

# 4 Billing Examples

---

## Billing Scenario

A user purchased a pay-per-use IoTDA instance of the standard edition at 15:30:00 on March 18, 2023. The instance configuration is as follows:

- Service unit type: SU1
- Number of service units: 5

After a period of time, the user found that the current instance specifications no longer met service requirements and updated the instance specifications to ten SU2 units at 9:00:00 on March 22, 2023. How much is the total cost by the end of March?

## Billing Analysis

The fee can be divided into two segments. From March 18, 2023, 15:30:00 to March 22, 2023, 00:00:00, the fee was charged based on five SU1 units:  $0.81$  (per unit per day)  $\times 5 \times 4 = \text{USD}16.2$ . From March 22, 2023, 00:00:00 to April 1, 2023, 00:00:00, the fee was charged based on ten SU2 units:  $5.32$  (per unit per day)  $\times 10 \times 10 = \text{USD}532$ .

As a result, the total cost incurred is  $\text{USD}548.2$ .

# 5 Bills

---

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

## Bill Generation

After yearly/monthly resources are paid, a bill is reported to the billing system for settlement.

The usage of pay-per-use resources is reported to the billing system at a fixed interval. Pay-per-use resources can be settled by hour, day, or month based on usage type. Pay-per-use IoTDA resources are settled by day.

The fee deduction time of pay-per-use resources may be later than the settlement period. For example, if an IoTDA instance (settled by hour) is deleted at 08:30, the fees generated during 08:00 to 09:00 are usually deducted at about 10:00. On the **Billing Center > Billing > Transactions and Detailed Bills > Transaction Bills** page, **Expenditure Time** indicates the time when a pay-per-use product is used.

## Viewing Bills of a Specific Resource

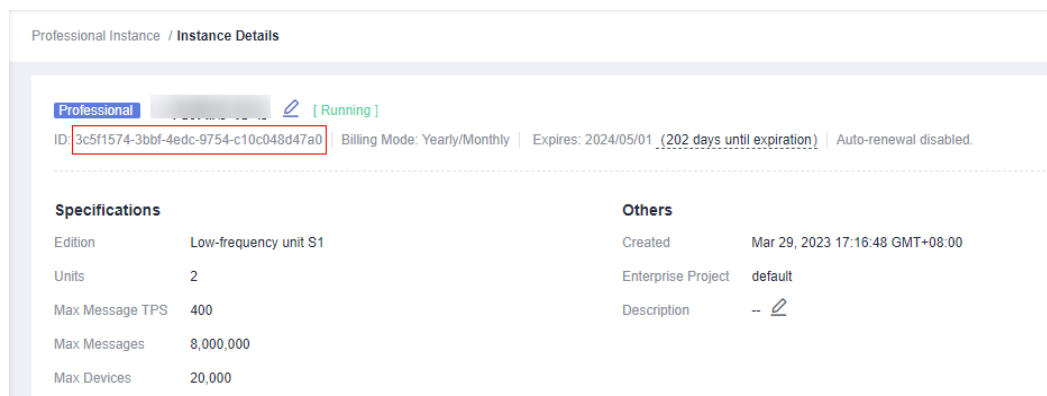
[Example 1 (IoTDA): Use the resource ID to search for the bill. The resource ID is the same as that in the bill.]

**Step 1** Log in to the management console, choose **IoT > IoTDA Device Access** in the navigation pane.

The IoTDA instance list page is displayed. Go to the details page of the target instance.


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

**Figure 5-1** Obtaining the resource ID

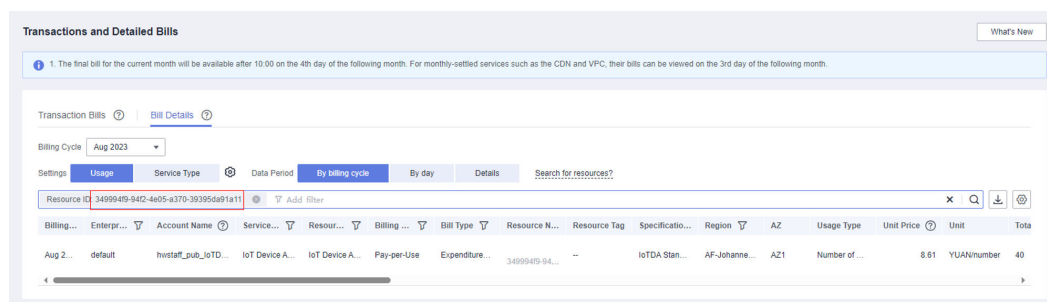


**Step 3** On the top menu bar, choose **Billing & Costs > Bills**.

The **Bills** page is displayed.

**Step 4** Choose **Transactions and Detailed Bills > Bill Details**. On the displayed page, select **Resource ID** as the filter condition, paste the resource ID copied in **Step 2**, and click  to search for the bill of the resource.

**Figure 5-2** Querying a resource bill



By default, bill details are displayed by usage and billing cycle. You can also select other statistical dimensions or periods.

----End

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

Assume that you purchased four IoTDA SU1 units at 10:09:06 on April 8, 2023, and delete the them at 12:09:06 on April 10, 2023.

- IoTDA transaction bills  
Pay-per-use IoTDA instances are billed by hour and are settled on the hour. You can check whether the information about each billing period in the transaction bill is consistent with the actual information. For details, see [Table 5-1](#).

**Table 5-1** IoTDA transaction bills

<b>Service</b>	IoTDA
----------------	-------

<b>Product</b>	IoTDA standard instance
<b>Billing Mode</b>	Pay-per-use billing
<b>Expenditure Time</b>	From 10:09:06 on April 8, 2023 to 12:09:06 on April 10, 2023, 2 transaction bills were generated: <ul style="list-style-type: none"> <li>April 8, 2023, 00:00:00 to April 9, 2023, 00:00:00</li> <li>April 9, 2023, 00:00:00 to April 10, 2023, 00:00:00</li> </ul>
<b>List Price</b>	List price = Usage x Unit price In this example, there are two billing cycles. For example, if the price is USD0.81 per SU1 unit per day, the list price is USD3.24 (0.81 x 2 x 2).
<b>Discounted Amount</b>	Discounts offered for cloud services, for example, commercial discounts, partner authorized discounts, and promotional discounts. Discounts are based on the list prices.
<b>Truncated Amount</b>	Huawei Cloud bills a resource with the price (CNY) accurate to the eighth decimal place. However, the amount due is truncated to the 2nd decimal place, while the third and later decimal places are referred to as the truncated amount.
<b>Amount Due</b>	Amount due = List price – Discount amount – Truncated amount

- IoTDA bill details  
Bill details can display in multiple ways. By default, the bill details of a resource are displayed by usage and by billing cycle. [Table 5-2](#) illustrates the IoTDA bill details, which can be used to check against the actual usage.

**Table 5-2** IoTDA bill details

<b>Service</b>	IoTDA
<b>Product</b>	IoTDA standard instance
<b>Billing Mode</b>	Pay-per-use billing
<b>Resource Name/ID</b>	Name and ID of an IoTDA instance. Example: iotda-test-instance, 4cdeb1cd-7071-4890-9ce4-e6c2299e960e
<b>Specifications</b>	Specific EVS disk type and capacity. Example: IoTDA standard instance   Small package SU1   2

<b>Usage type</b>	Duration
<b>Unit Price</b>	In the pay-per-use billing mode, the unit price is provided only when the amount is equal to the usage multiplied by the unit price. No unit price is provided in other pricing modes, for example, tiered pricing. For details about the unit price of pay-per-use IoTDA instances, see <a href="#">IoTDA Pricing Details</a> .
<b>Price Unit</b>	Unit price in <a href="#">IoTDA Pricing Details</a> : USD/set.
<b>Usage</b>	The usage is displayed by the unit price, which is CNY/hour for IoTDA. The usage is measured by hour. In this example, the total usage is 2 days.
<b>Usage Unit</b>	day
<b>List Price</b>	List price on the official website = Usage x Unit price x Capacity In this example, the usage is 2 days, and the unit price can be queried in <a href="#">IoTDA Price Details</a> . For example, if the price is USD0.81 per SU1 unit per day, the list price is USD3.24 (0.81 x 2 x 2).
<b>Discounted Amount</b>	Discounts offered for cloud services, for example, commercial discounts, partner authorized discounts, and promotional discounts. Discounts are based on the list prices.
<b>Amount Due</b>	Amount that should be paid for used cloud services after discounts are applied.

# 6 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. To continue using your cloud services, top up your account in a timely manner.

## Arrears Reason

- Your account balance is insufficient to pay for the used resources on the pay-per-use basis.

## Impact of Arrears

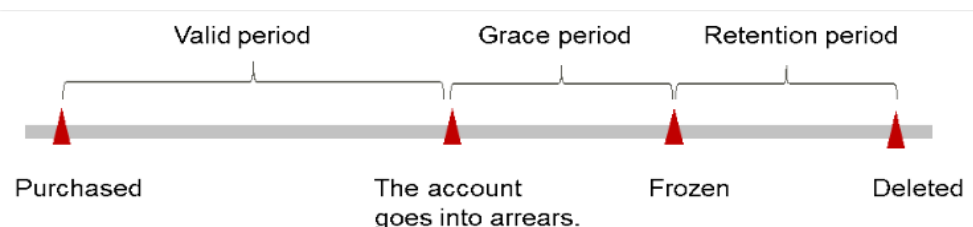
- Pay per use

If your account is insufficient to pay your amount, your account goes into arrears. However, your resources will not be stopped immediately; instead, they enter the grace period. You will need to pay for the fees incurred during the grace period, which you can see on the **Billing & Costs > Billing Center > Overview** page of the Huawei Cloud console. Huawei Cloud will automatically deduct this amount when you top up.

If you do not pay the arrears within the grace period, your resources will enter the retention period and become frozen. You cannot perform any operations on the pay-per-use resources during this period.

If you do not bring your account balance current before the retention period ends, your resource will be released and the data cannot be restored.

**Figure 6-1** IoTDA instance lifecycle



## Avoiding and Handling Arrears

Top up your account in a timely manner after your account is in arrears.

Configure the **Balance Alert** function on the **Billing Center > Overview** page. When the total amount of the available quota, general cash coupons, and cash coupons is lower than the threshold, the system automatically notifies you by SMS or email.

If your account is in arrears, top up your account in a timely manner.



# 7 Billing Termination

---

## Pay-per-Use Resources

If a pay-per-use IoTDA instance is no longer needed, delete it to stop billing.

# 8 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 IoTDA instances. The following describes how to manage costs from four dimensions: cost composition, allocation, analysis, and optimization, to help maximize return on your investment.

## Cost Composition

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

## Cost Allocation

A good cost accountability system is the basis of cost management. It ensures that departments, business teams, and owners are accountable for their respective cloud costs. Allocate costs to different teams or projects so that organizations have a clear picture of their respective costs.

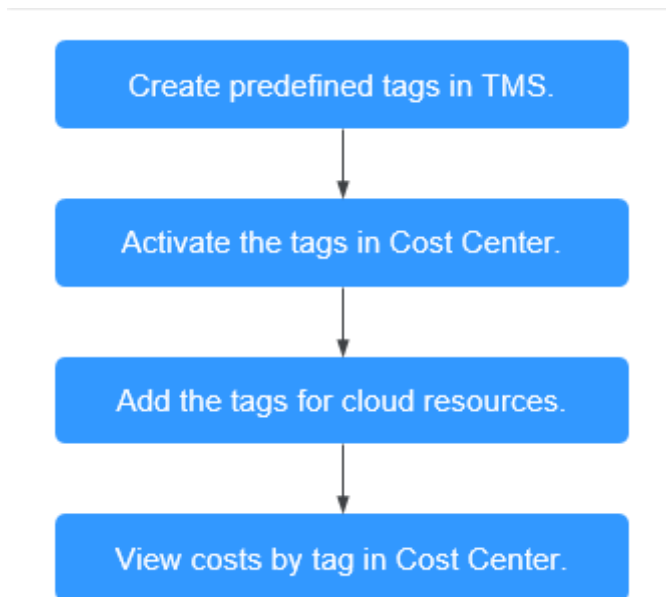
Huawei Cloud [Cost Center](#) supports cost collection and reallocation with multiple tools for you to choose from.

- **By linked account**

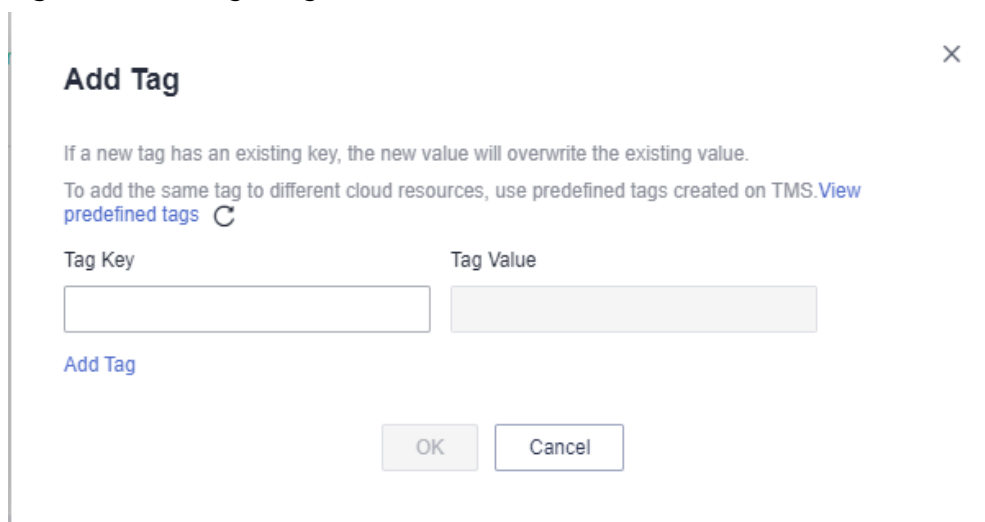
The enterprise master account can categorize the costs of its member accounts by linked account to manage the accounting of those member accounts. For details, see [Viewing Costs by Linked Account](#).

- **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).



**Figure 8-1** Adding a tag to a cloud server



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 include the costs for the resources (compute, network, storage, or resource packages) shared across departments or the costs that cannot be directly split by cost tag or enterprise project configured for the resources. These costs are not directly attributable to a singular owner, and hence cannot be categorized into a singular cost category. 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 accurately 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 or amortized costs using various dimensions and display filters. Analyze the trends and drivers of your service usage and costs from a variety of perspectives and scopes.

**Cost Anomaly Detection** provided by **Cost Center** also detects unexpected expenses promptly for tracing, monitoring, and analysis.

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 CNY2000 for a pay-per-use cloud server 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 8-2** Basic 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:

\* 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:

\* Allocation:  Fixed  Monthly  Dynamic

\* Budgeted Amount (\*):  Last month's cost: ¥1,985,860.01

Figure 8-3 Budget scope

### Budget Scope

Alerts are unavailable for the current month cost of mo

Service Type	Include	▲
IoT Device Access (IoTDA) ✕		1
Linked Account	All	▼
Region	All	▼
Specifications	All	▼
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 8-4 Budget alerts

(Optional) Alert Thresholds

Thresholds   (% of budgeted amount) ▼

[Add threshold](#)

Recipients [Select From Contacts](#)

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