Distributed Database Middleware

Billing

Issue 01

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Contents

1 Billing Overview

In this document, you will learn about how DDM instances are billed, how you can renew subscriptions and manage costs, and what happens if your account goes into arrears.

- **Billing Modes**

  DDM has two billing modes: yearly/monthly and pay-per-use.

  – Yearly/Monthly: You pay upfront for the amount of time you expect to use the DB instance for. You will need to make sure you have a top-up account with a sufficient balance or have a valid payment method configured first.

  – Pay-per-use: You can start using the DDM instance first and then pay as you go.

  For details about the preceding billing modes, see **Overview**.

  You can also change the billing mode later if it no longer meets your needs. For details, see **Overview**.

- **Billing Items**

  You will be billed for instance specifications and public network bandwidth.

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

- **Renewing Subscriptions**

  If you want to continue using a DDM instance after it expires, you need to renew the instance subscription within the specified period. Otherwise, resources, such as compute, will be automatically released, and data may be lost. You can renew your subscription manually or automatically. For more information about renewal, see **Overview**.

- **Viewing Bills**

  You can choose **Billing Center** > **Billing** to check the DDM instance transactions and bills. For details, see **Bills**.

- **Arrears**

  If there is not a sufficient account balance to pay for your bill, 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 DDM instance, you can unsubscribe from or delete it to stop the billing. For details, see **Billing Termination**.

- **Managing Costs**

  DDM costs include resource costs and O&M costs. You can allocate, analyze, and optimize costs to save more money. For details, see **Cost Management**.

2 Billing Modes

2.1 Overview

DDM has two billing modes: yearly/monthly and pay-per-use.

- Yearly/Monthly is a prepaid billing mode. You pay in advance for a subscription term, and in exchange, you get a discounted rate. The longer the subscription term, the bigger the discount. Yearly/Monthly billing is a good option for long-term, stable services.

- Pay-per-use is a postpaid billing mode. You pay as you go and just pay for what you use. DDM instance usage is calculated by the second but billed every hour.

Table 2-1 Differences between billing modes

Billing Mode	Yearly/Monthly	Pay-per-use
Payment	Prepaid Billed by the subscription term you purchase	Postpaid Billed for what you use
Billed Usage Period	Billed by the subscription term you purchase	Calculated by the second but billed every hour
Billing Items	Instance specifications (vCPUs and memory) and EIP	Instance specifications (vCPUs and memory) and EIP
Changing the Billing Mode	Yearly/Monthly can be changed to pay-per-use. The change takes effect only after the yearly/monthly subscription expires.	Pay-per-use can be changed to yearly/monthly.

Billing Mode	Yearly/Monthly	Pay-per-use
Changing the Specifications	Supported	Supported
Application Scenarios	Recommended for resources expected to be in use long-term. A cost-effective option for scenarios where the resource usage duration is predictable.	Recommended when the resource demands are likely to fluctuate and you want more flexibility.

2.2 Yearly/Monthly Billing

If you expect to use DDM instances for a longer period, you can save money by selecting yearly/monthly billing. This section describes the billing rules for yearly/monthly DDM instances.

Application Scenarios

If you want to ensure DDM instance 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

Billing Items

The following table lists billing items of yearly/monthly DDM instances.

Table 2-2 Items billed on a yearly/monthly basis

Billing Item	Description	Billing Factor	Billing Formula
(Mandatory) DB instance	Instance specifications include vCPUs, memory, and the number of nodes.	vCPUs, memory, and number of nodes Instance types of different specifications provide different compute and storage.	**Specifications unit price x Required duration x Number of nodes** See **Specifications** in **DDM Pricing Details**.

Billing Item	Description	Billing Factor	Billing Formula
(Optional) EIP bandwidth	● DDM instances can be accessed through a public network, and traffic fees are generated accordingly. ● You are not charged for the traffic generated in the cloud.	EIPs are required if your resources need to access a public network. Billing items: bandwidth fee, traffic fee, and IP address retention fee. Billed by bandwidth.	**Billed by fixed bandwidth** For details about the unit price, see **EIP Pricing Details**.

Assume that you want to purchase a general-enhanced DDM instance with 8 vCPUs and 16 GB of memory in the CN-Hong Kong region. The DDM instance contains two nodes and is available for one month. At the bottom of the **Buy DDM Instance** page, you can view price details.

Figure 2-1 Example prices

This price is an estimate and may differ from the final price. Pricing details

Price: $746.40 USD ⑦
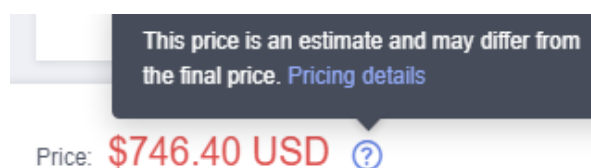
Billed Usage Period

A yearly/monthly DDM instance 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 DDM instance 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 Examples

Assume that you purchased and started a yearly/monthly DDM instance for one month on March 08, 2023, 15:50:04, and renewed it for another month before it expired. The following usage periods will be billed:

● Billed usage period 1: March 08, 2023, 15:50:04 to April 08, 2023, 23:59:59

● Billed usage period 2: April 08, 2023, 23:59:59 to May 08, 2023, 23:59:59.

You need to prepay for each billed usage period.

Assume that you purchased a yearly/monthly DDM instance in CN-Hong Kong at 15:50:04 on March 8, 2023 with the following specifications:

The subscription was for one month and would be manually renewed for another month before it expired. That would include two usage periods:

- Billed usage period 1: March 08, 2023, 15:50:04 to April 08, 2023, 23:59:59
  - Instance specifications: General-enhanced, 8 vCPUs | 16 GB
  - Nodes: 2
  - EIP bandwidth: 6 Mbit/s
- Billed usage period 2: April 08, 2023, 23:59:59 to May 08, 2023, 23:59:59.
  - Instance specifications: General-enhanced, 8 vCPUs | 16 GB
  - Nodes: 2
  - EIP bandwidth: 6 Mbit/s

The billing items include instance specifications (vCPUs, memory, and number of nodes), and EIP bandwidth.

You will be billed for both usage periods. DDM resources are billed individually. The billing formula is shown in **Table 2-3**.

Table 2-3 Formulas for billing yearly/monthly DDM instances

| Resource	Formula	Unit Price
Instance specifications (vCPUs and memory)	Specifications unit price x Required duration x Number of nodes	See **Specifications** in **DDM Pricing Details**.
EIP bandwidth	Billed by fixed bandwidth	See **EIP Pricing Details**.

Figure 2-2 shows the billing calculation.

> **NOTICE**
>
> The price in the figure is for reference only. The actual prices are subject to **DDM Pricing Details**.
>
> Prices are calculated to two decimal places, with the third and later decimal places are truncated rather than rounded off.

Figure 2-2 Billing calculation example for a yearly/monthly instance (in CN-Hong Kong)
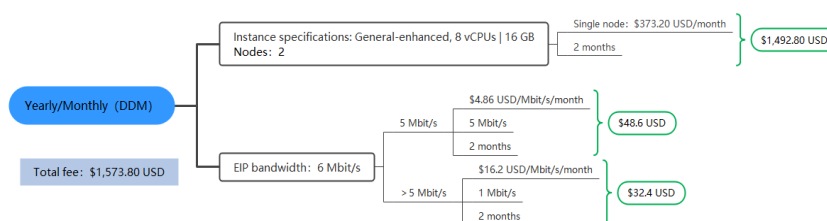
Price Change After Specification Change

If the specifications of a yearly/monthly DDM instance 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 specifications, you need to pay the difference in price.
- If you downgrade the specifications, Huawei Cloud will refund you the difference.

You are not advised to downgrade your DDM instance to a lower specification because the instance performance may be affected.

Assume that you purchased a yearly/monthly DDM instance (general-enhanced, 8 vCPUs and 16 GB of memory) for one month in China-Hong Kong on April 8, 2023, and upgraded the specification to general-enhanced, 16 vCPUs, 32 GB of memory, and 2 nodes on April 18, 2023. The unit price of the original specification was $373.20 USD per month, and that for the new specification was $746.40 USD per month. The price difference will be calculated as follows:

Price difference for the specification upgrade = Price for the new specifications × Remaining period x Number of nodes - Price for the original specifications × Remaining period x Number of nodes

The remaining period in the formula is the remaining days of each calendar month divided by the maximum number of days in each calendar month.

In this example, Remaining period = 12 (Remaining days in April)/30 (Maximum number of days in April) + 8 (Remaining days in May)/31 (Maximum number of days in May) = 0.6581

Cost of upgrade = $746.40 USD x 0.6581 x 2 - $373.20 USD x 0.6581 x 2 = $491.20 USD

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

Impact of Expiration

Figure 2-3 describes the status of each stage of a yearly/monthly DDM instance. After a DDM instance is purchased, it enters the valid period and runs normally during this period. If the DDM instance is not renewed after it expires, before being deleted, it first enters a grace period and then a retention period.

Figure 2-3 Lifecycle of a yearly/monthly instance
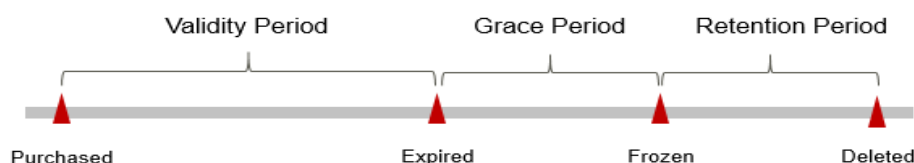
Expiration Reminder

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

Impact of Expiration

If your yearly/monthly DDM instance is not renewed after it expires, it changes to the **Expired** state and enters a grace period. During the grace period, you can access the DDM instance but cannot:

- Change instance specifications

- Change the billing mode to pay-per-use

- Unsubscribe from the instance

- Create a read replica

- Change storage

If the yearly/monthly DDM instance 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 DDM instance while it is in the retention period.

If the yearly/monthly DDM instance is not renewed by the time the retention period ends, it will be released and data cannot be restored.

📖 **NOTE**

- During the retention period, you cannot access and use your DDM instance but data in the instance will be retained. The retention period for Huawei Cloud International website is 15 days.

- During the grace period, you can access and use only some resources of your DDM instance. The grace period for Huawei Cloud International website is 15 days.

- Expired yearly/monthly DDM instances need to be deleted and cannot be unsubscribed.

- 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 section describes the per-pay-use billing rules of DDM.

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.

Billing Items

The following table lists billing items of pay-per-use DDM instances.

Table 2-4 Items billed on a yearly/monthly basis

Billing Item	Description	Billing Factor	Billing Formula
(Mandatory) DB instance	Instance specifications include vCPUs, memory, and the number of nodes.	vCPUs, memory, and number of nodes Instance types of different specifications provide different compute and storage.	**Specifications unit price x Required duration x Number of nodes** See **Specifications** in **DDM Pricing Details**.
(Optional) EIP bandwidth	• DDM instances can be accessed through a public network, and traffic fees are generated accordingly. • You are not charged for the traffic generated in the cloud.	EIPs are required if your resources need to access a public network. Billing items: bandwidth fee, traffic fee, and IP address retention fee. EIP for a pay-per-use DDM instance: billed by bandwidth, traffic, or shared bandwidth. You are also charged for IP reservation if you do not bind the EIP to any instance.	**Billed by fixed bandwidth** For details about the unit price, see **EIP Pricing Details**.

Assume that you want to purchase a general-enhanced DDM instance with 8 vCPUs and 16 GB of memory in the CN-Hong Kong region. The DDM instance contains two nodes and is available for one month. At the bottom of the **Buy DDM Instance** page, you can view price details.

Figure 2-4 Example prices
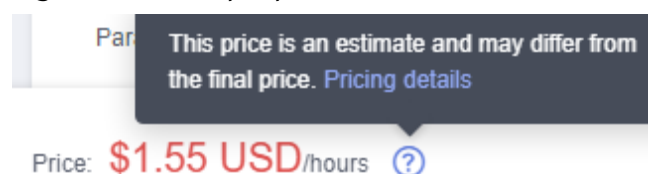
> **NOTICE**
>
> The prices in the figure are just examples. The actual prices are those displayed on **DDM Price Calculator**.

Billed Usage Period

Pay-per-use DDM instance usage is calculated by the second and billed every hour. The billing starts when the DDM instance is launched and ends when the DDM instance is deleted.

> **NOTE**
>
> It takes a certain time to create a DDM instance. The billing starts from the **Completed** time on the **Instant Tasks** page in the task center.

For example, if you purchased a pay-per-use DDM instance at 8:45:30 and deleted it at 8:55:30, you were billed for the 600 seconds from 8:45:30 to 8:55:30.

Billing Examples

Assume that you purchased a pay-per-use DDM instance (instance specifications: 8 vCPUs, 16 GB of memory, and 2 nodes) at 10:00:30 on April 18, 2023 and then deleted it at 10:45:46 on April 18, 2023. The following usage period will be billed:

Usage of 2,716 seconds from 10:00:30 to 10:45:46 (between 10:00:00 and 11:00:00)

The prices displayed in the pricing details are per hour, so you need to divide it by 3,600 to obtain the price for each second and then multiple the per-second price by the total number of seconds.

Table 2-5 Billing formulas

Resource Type	Billing Formula	Unit Price
Instance specifications (vCPUs and memory)	Specifications unit price x Required duration x Number of nodes	For details, see **DDM Pricing Details**.
EIP bandwidth	Billed by fixed bandwidth **NOTE** If your pay-per-use EIP has no instance bound, you will be billed for the EIP reservation price.	See **EIP Pricing Details**.

shows the billing calculation.

> **NOTICE**
>
> The price in the figure is for reference only. The actual prices are subject to **DDM Pricing Details**.

Figure 2-5 Billing calculation example for a pay-per-use instance (in CN-Hong Kong)
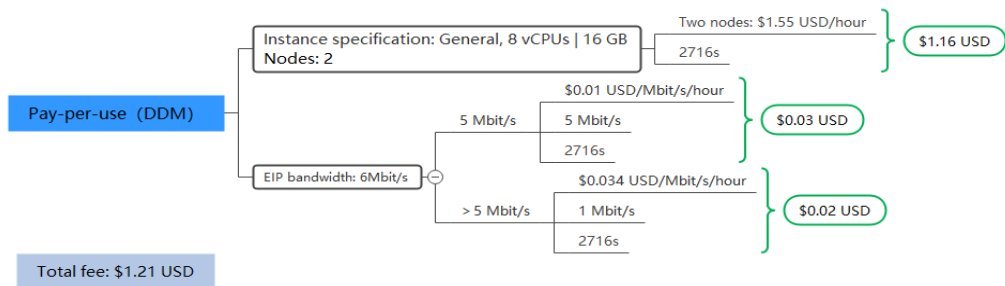
Price Change After Specification Change

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

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

Assume that you purchased a pay-per-use DDM instance (8 vCPUs | 16 GB) at 9:00:00 and changed the instance specifications to 16 vCPUs | 32 GB at 9:30:00. Two billing records were generated from 9:00:00 to 10:00:00.

- DDM instance (8 vCPUs | 16 GB) usage from 9:00:00 to 9:30:00
- DDM instance (16 vCPUs | 32 GB) usage from 9:30:00 to 10:00:00

Impacts of Arrears

Figure 2-6 shows the statuses a pay-per-use DDM instance can have throughout its lifecycle. After a DDM instance is purchased, it enters the valid period and runs normally during this period. If your account goes into arrears, the DDM instance enters a grace period and then a retention period.

Figure 2-6 Lifecycle of a pay-per-use instance
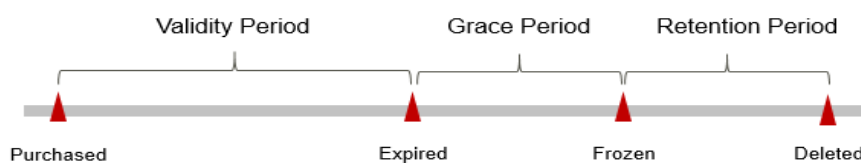
Arrears Reminder

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

Impacts of Arrears

If there is no top-up account with sufficient balance and no other payment method configured to pay for the resources used, your account goes into arrears, and the pay-per-use DDM instance enters 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 DDM instance status turns to **Frozen** and it enters a retention period. You cannot perform any operations on a pay-per-use DDM instance in the **Frozen** status.

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

> **NOTE**
>
> - During the retention period, you cannot access and use your DDM instance but data in the instance will be retained. The retention period for Huawei Cloud International website is 15 days.
> - During the grace period, you can access and use only some resources of your DDM instance. The grace period for Huawei Cloud International website is 15 days.
> - For details about top-up, see **Topping Up an Account**.

3 Billing Examples

Billing Scenario

At 16:00:00 on March 18, 2023, you purchased a pay-per-use DDM instance at CN-Hong Kong. The DDM instance configuration is as follows:

- Instance specifications: General-enhanced, 8 vCPUs | 16 GB
- Nodes: 2
- EIP bandwidth: 6 Mbit/s

After a period of time, the current instance no longer met service requirements. The specifications were upgraded to 16 vCPUs and 32 GB of memory at 9:00:00 on March 20, 2023. As you intended to use the DDM instance for a long time, you changed the billing mode from pay-per-use to yearly/monthly at 10:30:00 on March 20, 2023. The subscription duration was one month. How much would you be billed for the DDM instance in March and April?

Billing Analysis

The total price of this DDM instance involves both pay-per-use and yearly/monthly usage:

- Pay-per-use usage: March 18, 2023, 16:00:00 to March 20, 2023, 10:30:00
  - March 18, 2023, 16:00:00 to March 20, 2023, 9:00:00
    - Instance specifications: General-enhanced, 8 vCPUs | 16 GB
    - Nodes: 2
    - EIP bandwidth: 6 Mbit/s
  - March 20, 2023, 9:00:00 to March 20, 2023, 10:30:00
    - Instance specifications: General-enhanced, 16 vCPUs | 32 GB
    - Nodes: 2
    - EIP bandwidth: 6 Mbit/s
- Yearly/Monthly usage: March 20, 2023, 10:30:00 to April 20, 2023, 23:59:59

- Instance specifications: General-enhanced, 16 vCPUs | 32 GB
- Nodes: 2
- EIP bandwidth: 6 Mbit/s
- Billing period: 1 month

NOTICE

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

**Price in the pay-per-use phase**

1. You would be billed for the DDM instance from 16:00:00 on March 18, 2023 to 9:00:00 on March 20, 2023, based on 8 vCPUs and 16 GB memory. The billed duration would be 41 hours. The billed duration of each resource was as follows.

   Figure 3-1 Fees of the first billing usage period
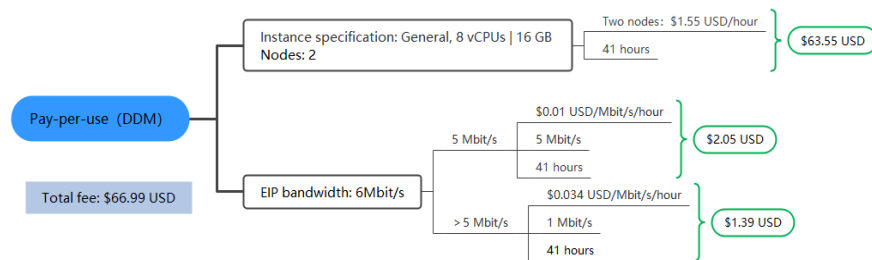
2. You would be billed for the DDM instance from 9:00:00 on March 20, 2023 to 10:30:00 on March 20, 2023 based on 16 vCPUs and 32 GB of memory. The billing period would be 1.5 hours. The billed duration of each resource was as follows.
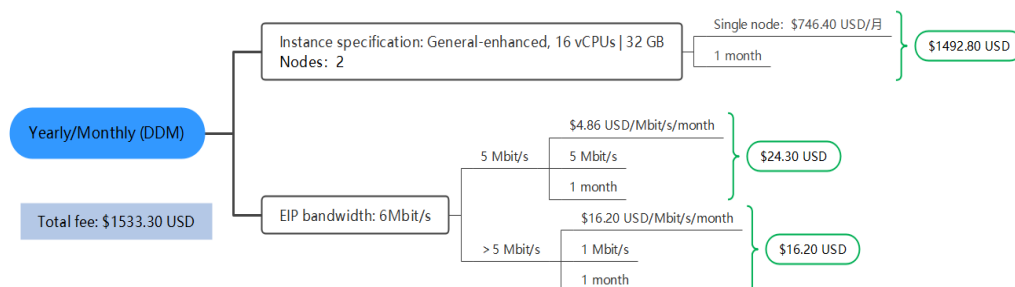
   Figure 3-2 Fees of the second billing usage period
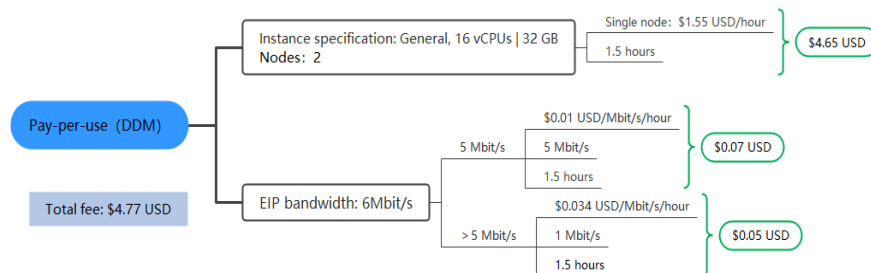
Price in the yearly/monthly phase

From 10:30:00 on March 20, 2023 to 23:59:59 on April 20, 2023, the billing mode was yearly/monthly. The billing period was 1 month. The price was calculated as follows.

Figure 3-3 Yearly/Monthly fee

From March to April, the total expenditure generated by the DDM instance was $1605.06 USD (66.99 + 4.77 + 1533.30).
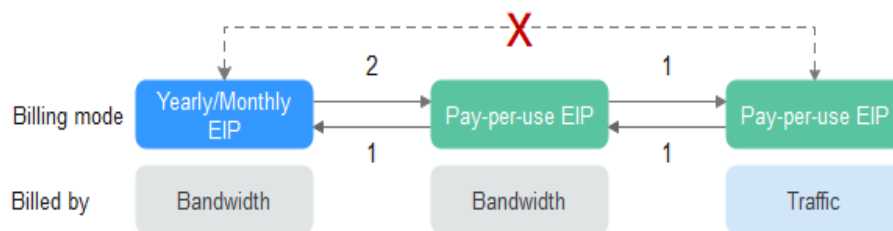
4 Billing Mode Changes

4.1 Overview

You can change the billing mode if it no longer meets your needs. **Table 4-1** lists the changeable DDM instance billing items.

Table 4-1 Changeable DDM instance billing items

Billing Item	Change Description	Reference
Instance specifications (vCPUs and memory)	Changing the billing mode of a DDM instance includes the changes to compute resources (vCPUs and memory). ● Change from pay-per-use to yearly/monthly to enjoy lower prices. ● Change from yearly/monthly to pay-per-use to use the DDM instance more flexibly. **NOTE** Such a change takes effect only after the yearly/monthly subscription ends.	● **Pay-per-Use to Yearly/Monthly** ● **Yearly/Monthly to Pay-per-Use**

Billing Item	Change Description	Reference
EIP	- A yearly/monthly EIP can be changed to a pay-per-use EIP billed by bandwidth after the yearly/monthly subscription ends. - A pay-per-use EIP billed by bandwidth can be changed to a yearly/monthly EIP. - Pay-per-use EIPs billed by bandwidth can be changed to pay-per-use EIPs billed by traffic, and pay-per-use EIPs billed by traffic can be changed to pay-per-use EIPs billed by bandwidth. For details, see **Figure 4-1**.	**Pay-per-Use to Yearly/Monthly** **Yearly/Monthly to Pay-per-Use**

Figure 4-1 EIP billing mode change

1: The change takes effect immediately.
2: The change takes effect only after the yearly/monthly subscription period expires.
x: The billing mode cannot be changed.

4.2 Pay-per-Use to Yearly/Monthly

If you have a pay-per-use DDM instance that you expect to use for a long time, you can change it to yearly/monthly billing to reduce costs. Doing so will create an order. After you pay for the order, yearly/monthly billing will be applied immediately.

Assume that you purchased a pay-per-use DDM instance at 15:29:16 on April 18, 2023 and changed it to yearly/monthly billing at 16:30:30 on the same day. After you paid for the order, yearly/monthly billing was applied immediately. On the **Billing Center** > **Billing** page, three line items were generated.

- Pay-per-use expenditures for 15:29:16 to 16:00:00 on April 18, 2023
- Pay-per-use expenditures for 16:00:00 to 16:30:30 on April 18, 2023
- A single, yearly/monthly expenditure generated on April 18, 2023, 16:30:30

Constraints

Resources such as EIPs that are used by a DDM instance may not support the change with this instance. For details about their billing mode change rules and handling methods, see **Table 4-2**.

Table 4-2 EIP billing mode change rules

Change	Change Description
From pay-per-use (billed by bandwidth) to yearly/monthly	Directly change it on the console. For details, see **From Pay-per-Use (Billed by Bandwidth) to Yearly/Monthly**.
From pay-per-use EIP (billed by traffic) to yearly/monthly	Perform two steps to change it on the console: 1. Change the EIP from billed by traffic to billed by bandwidth 2. Change the EIP to yearly/monthly billing
From billing by traffic (pay-per-use) to billing by bandwidth (pay-per-use)	Directly change it on the console. For details, see **Pay-per-Use EIPs: From Billing By Traffic to By Bandwidth**
From billing by bandwidth (pay-per-use) to billing by traffic (pay-per-use)	Directly change it on the console. For details, see **Pay-per-Use EIPs: From Billing By Traffic to By Bandwidth**

> **NOTICE**
>
> After the change is successful, the new billing mode is applied immediately.

Changing the Billing Mode from Pay-per-Use to Yearly/Monthly

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

Step 2 Click ⊚ in the upper left corner and select a region and a project.

Step 3 Click ☰ in the upper left corner of the page and choose **Databases** > **Distributed Database Middleware**.

Step 4 In the instance list, locate a pay-per-use instance whose billing mode you want to change and choose **More** > **Change to Yearly/Monthly** in the **Operation** column.

Alternatively, click the instance name to go to the **Basic Information** page. In the **Instance Information** area, click **Change to Yearly/Monthly** on the right of **Billing Mode**.

Step 5 Select a renewal duration and determine whether to enable **Auto-renew**. Click **Pay Now**.

Figure 4-2 Changing to yearly/monthly
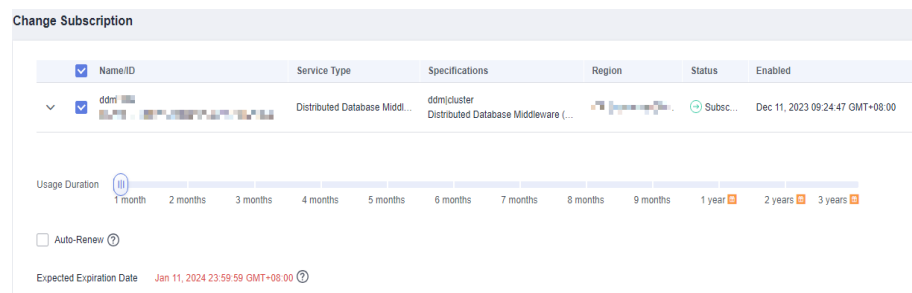
Step 6 Select a payment method and click **Confirm**.

Step 7 View the results on the **Instances** page.

In the upper right corner of the instance list, click [C] to refresh the list. The instance status will become **Available** after the change is successful. The billing mode changes to **Yearly/Monthly**.

----End

4.3 Yearly/Monthly to Pay-per-Use

After creating a yearly/monthly DDM instance, you can change it to pay-per-use for more flexibility, and you can recoup part of what you paid for the subscription.

Assume that you purchased a yearly/monthly DDM instance at 15:29:16 on April 18, 2023 and changed it to pay-per-use billing at 16:30:00 on May 18, 2023. On the **Billing Center** > **Billing** page, bills information is generated as follows:

● Yearly/Monthly billing: 15:29:16 on April 18, 2023 to 23:59:59 on May 18, 2023

● Pay-per-use billing: 00:00:00 on May 19, 2023 - End time of pay-per-use billing. A bill was generated every hour.

> **NOTICE**
>
> The pay-per-use billing mode will be applied only after the yearly/monthly billed duration ends and auto-renew will be not in effect.

Constraints

Resources such as EIPs that are used by a DDM instance may not support the change with this instance. For details about their billing mode change rules and handling methods, see **Table 4-3**.

Table 4-3 EIP billing mode change rules

Change	Change Description
From yearly/monthly to pay-per-use upon expiration (billed by bandwidth)	Directly change it on the console. For details, see **From Yearly/Monthly to Pay-Per-Use upon Expiration (Billed by Bandwidth)**.
From yearly/monthly to pay-per-use upon expiration (billed by bandwidth)	Perform two steps to change it on the console: 1. Change the EIP to pay-per-use billed by bandwidth. 2. Change the EIP billed by traffic.

> **NOTICE**
>
> Pay-per-use billing will be applied only after the yearly/monthly billing ends.

Changing the Billing Mode from Yearly/Monthly to Pay-per-Use

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

Step 2 Click ⦿ in the upper left corner and select a region and a project.

Step 3 Click ☰ in the upper left corner of the page and choose **Databases** > **Distributed Database Middleware**.

Step 4 In the instance list, locate a yearly/monthly instance whose billing mode you want to change and choose **More** > **Change to Pay-per-use** in the **Operation** column.

Alternatively, click the instance name to go to the **Basic Information** page. In the **Instance Information** area, click **Change to Pay-per-use** on the right of **Billing Mode**.

Step 5 In the displayed dialog box, click **Yes**.

Step 6 Confirm the instance billing information and click **Change to Pay-per-Use**.

----End

5 Renewing Subscriptions

5.1 Overview

When to Renew Subscriptions

If a yearly/monthly DDM instance is about to expire but you want to continue using it, you need to renew the DDM instance subscription within a specified period, or resources, such as vCPUs and memory, will be automatically released, and data will be lost and cannot be restored.

Only yearly/monthly DDM instance subscriptions can be renewed. If you use a pay-per-use instance, just ensure that your account has a valid payment method configured or a top-up account with a sufficient balance.

If your subscription is renewed before it expires, all resources are retained and your DDM instance is not affected. For details about DDM instance statuses after they have expired and the associated impacts, see **Impact of Expiration**.

How to Renew Subscriptions

You can renew a yearly/monthly DDM instance manually or automatically.

Table 5-1 Renewing a yearly/monthly DDM instance

Method	Description
Manually Renewing a DDM Instance	You can renew a yearly/monthly DDM instance on the console any time before it is automatically deleted.
Auto-renewing a DDM Instance	You can enable auto-renewal to automatically renew the DDM instance before it expires. This prevents resources from being deleted in case you forget to renew a subscription.

You can renew your subscription across the lifecycle of your yearly/monthly DDM instance, as shown in **Figure 5-1**.

Figure 5-1 Instance lifecycle
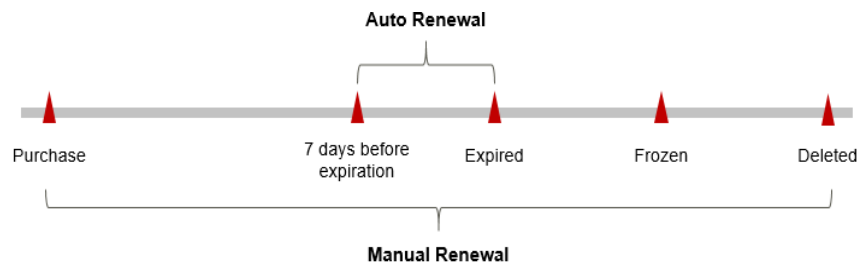
- A DDM instance is in the **Available** state after it is provisioned.

- When a DDM instance subscription expires, the status will change from **Available** to **Expired**.

- If an expired DDM instance is not renewed, it enters a grace period. If it is not renewed by the time the grace period expires, the DDM instance 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

  - During the retention period, you cannot access and use your DDM instance but data in the instance will be retained. The retention period for Huawei Cloud International website is 15 days.

  - During the grace period, you can access and use only some resources of your DDM instance. The grace period for Huawei Cloud International website is 15 days.

You can enable auto-renewal any time before a DDM instance 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 expired. You can change the auto-payment date for renewal as required.

5.2 Manually Renewing a DDM Instance

You can renew a yearly/monthly DDM instance on the console any time before it is automatically deleted.

Renewing a DDM Instance on the Console

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

Step 2 Click ⊙ in the upper left corner and select a region and a project.

Step 3 Click ☰ in the upper left corner of the page and choose **Databases** > **Distributed Database Middleware**.

Step 4 On the **Instances** page, locate the DDM instance you want to renew and click **Renew** in the **Operation** column.

Alternatively, click the instance name to go to the **Basic Information** page. In the **Instance Information** area, click **Renew** in the **Billing Mode** field.

Step 5   On the displayed page, renew the DDM instance.

----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   Select the search criteria.

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

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

Step 4   Manually renew one or more instances.
- Individual renewal: Locate a DDM instance that you want to renew and click **Renew** in the **Operation** column.
- Batch renewal: Select multiple DDM instances that you want renew and click **Batch Renew** in the upper left corner.

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 Instances**. Confirm the price and click **Pay**.

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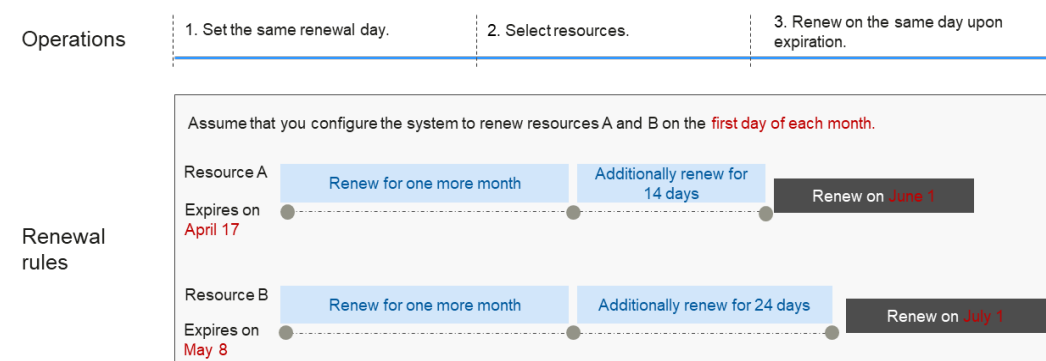
----End

Setting the Same Renewal Day for Yearly/Monthly Instances

If the DDM instances have different expiry dates, you can set the same renewal day.

In **Figure 5-2**, a user sets the same renewal day for two resources that will expire at different dates.

Figure 5-2 Setting the same renewal day for resources with different expiry dates

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

5.3 Auto-renewing a DDM Instance

Auto-renewal can prevent DDM instances 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 a DDM instance expires and the billing cycle.

- The auto-renewal period of a DDM instance depends on the subscription term.

  - Monthly subscriptions renew each month.

  - Yearly subscriptions renew each year.

- You can enable auto-renewal any time before a DDM instance 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 expired.

- After auto-renewal is enabled, you can still renew the DDM instance manually if you want to. After a manual renewal is complete, auto-renewal is still valid, and fees start to be deducted seven days before the new subscription expires.

- 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**.
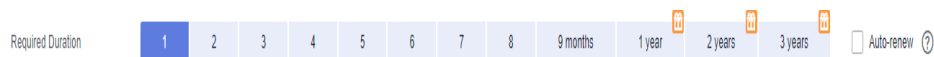
Prerequisites

The yearly/monthly DDM instance is not expired.

Enabling Auto-Renewal During Purchase

You can enable auto-renewal on the **Buy DDM Instance** page, as shown in **Figure 5-3**. For details, see **Buying a DDM Instance**.

Figure 5-3 Enabling auto-renewal

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.

The **Renewals** page is displayed.

Step 3 Select the search criteria.

- On the **Auto Renewals** page, you can view the instances that auto-renewal has been enabled for.

- You can enable auto-renewal for DDM instances on the **Manual Renewals**, **Pay-per-Use After Expiration**, and **Renewals Canceled** pages.

Step 4 Enable auto-renewal for yearly/monthly DDM instances.

- Enabling auto-renewal for a single DDM instance: Select the instance for which you want to enable auto-renewal and click **Enable Auto-Renew** in the **Operation** column.
- Enabling auto-renewal for multiple DDM instances at a time: Select the instances for which you want to enable auto-renewal and click **Enable Auto-Renew** above the list.

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

----End

6 Bills

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

Bill Generation

Transaction records for yearly/monthly subscriptions are generated immediately after being paid for.

A pay-per-use DB instance is billed by the hour, day, or month, depending on the DB instance's usage type. 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 DB instance (which is 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. On the **Bills** page of the Billing Center, select the **Bill Details** tab. **Expenditure Time** in the bill indicates the time when the pay-per-use resource is used.

Viewing Bills of a Specific Resource

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

Step 2 Click ⓥ in the upper left corner and select a region and a project.

Step 3 Click ☰ in the upper left corner of the page, choose **Databases** > **GaussDB(for MySQL)**.

Step 4 On the **Instances** page, click your instance name to go to the **Basic Information** page.

Step 5 Click the icon shown in the figure below to copy the instance name.

Figure 6-1 Copying the instance name
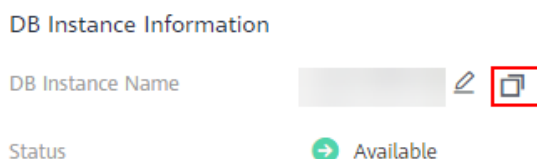
Step 6 On the top menu bar, choose **Billing & Costs** > **Bills**. The **Bills** page is displayed.
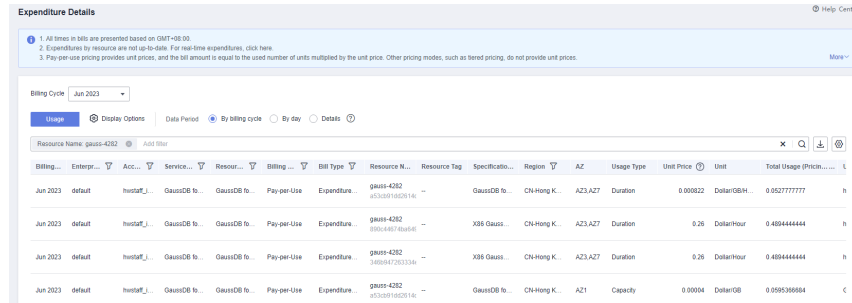
Step 7 On the **Bill Details** tab, select **Resource Name** as the filter criteria, enter the obtained instance name, and click the 🔍 icon.

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 pay-per-use DB instance at 10:09:06 on April 8, 2023 and deleted it later that day, at 12:09:06.

- Transaction Records

  Pay-per-use DB instance usage is calculated by the second and but billed on an hourly basis. You can check the transaction records against the actual usage. The billed resources are billed separately. Take storage as an example. For details, see **Table 6-1**.

Table 6-1 GaussDB(for MySQL) transaction records

Service Type	GaussDB(for MySQL)
Resource Type	Storage
Billing Mode	Pay-per-use
Expenditure Time	For the period of time from 10:09:06 to 12:09:06 on April 8, 2023, 3 transaction records would be generated for the resource usage in the following periods: - 10:09:06 - 11:00:00 - 11:00:00 - 12:00:00 - 12:00:00 -12:09:06

List Price	List price on the official website = Usage x Unit price x Capacity
	The DB instance was used for 3,054 seconds in the first period, and the unit price can be obtained on the **GaussDB(for MySQL) Pricing Details**.
	For example, if the storage was $0.000822 USD/GB/hour. The list price for the first period = (3054 ÷ 3600) x 0.000822 x 40 = $0.0278932 USD. Similarly, you can calculate the storage list price for the other periods.
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.
	From June 2021, the amounts before bill generation are no longer truncated. Only the total amount shown in the monthly bill is rounded off to the 2nd decimal place.
	Take the first period as an example. The truncated amount is $0.0078932 USD.
Amount Due	Amount due = List price – Discount amount – Truncated amount
	Take the first period as an example. If the discount amount is 0, the amount due is $0.02 USD (0.0278932 – 0 – 0.0078932).

- GaussDB(for MySQL) 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 6-2** illustrates the GaussDB(for MySQL) DB instance bill details, which can be used to check against the actual usage.

  Table 6-2 GaussDB(for MySQL) bill details

Service Type	GaussDB(for MySQL)
Resource Type	Storage
Billing Mode	Pay-per-use
Resource Name/ID	Specific DB instance name and ID.
	Example: gauss-ec81, df37e4ff6a2d4600b923e2a6555a6d70in07.volume

Specifications	Storage
Usage Type	Duration for a pay-per-use DB instance
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. No unit price is provided in other pricing modes, for example, tiered pricing. You can search for the unit price for pay-per-use DB instances on the **GaussDB(for MySQL) Pricing Details** page.
Unit	Displayed on the **GaussDB(for MySQL) Pricing Details** page. Example: USD/GB/hour
Usage	Depends on the unit of the unit price, which is USD/GB/hour. Storage usage is billed by the hour. Example: 2 hours.
Usage Unit	Hour
List Price	List price on the official website = Usage x Unit price x Capacity The DB instance was used for 2 hours in total, and the unit price was obtained on the **GaussDB(for MySQL) Pricing Details** page. The list price = 2 x 0.000822 x 40 = $0.06576 USD (The storage was 40 GB and unit price was $0.000822 USD/GB/hour)
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.

7 Arrears

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

Arrears Reason

If your DDM instance is not billed at a yearly/monthly basis, your account falls into arrears any time you 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 DDM instances even if your account is in arrears. However, you cannot perform operations such as purchasing new DDM instances, upgrading the instance specifications, or renewing DDM instances, because they will generate new expenditures.

- Pay-Per-Use

  If you are unable to pay a bill for a pay-per-use instance using the configured payment method, the instance enters a grace period. After you top up your account, Huawei Cloud will bill you for expenditures generated by the instance 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 DDM instance enters the retention period and the status turns to **Frozen**. You cannot perform any operations on the DB instance.

  After the retention period ends, the compute resources (vCPUs and memory) and EIPs will be released and data cannot be restored.

Figure 7-1 Lifecycle of a pay-per-use instance
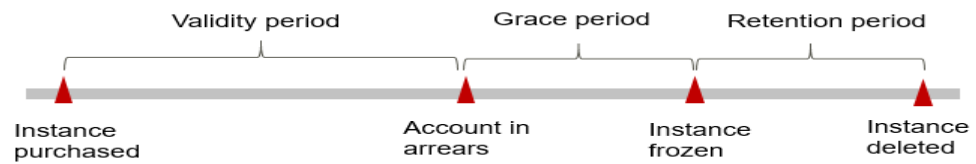
 NOTE

- During the retention period, you cannot access and use your DDM instance but data in the instance will be retained. The retention period for Huawei Cloud International website is 15 days.

- During the grace period, you can access and use only some resources of your DDM instance. The grace period for Huawei Cloud International website is 15 days.

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**.

If a DDM instance is no longer used, you can delete it 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. Then, any time an expenditure quota drops to below the threshold you specify, Huawei Cloud automatically notifies you by SMS or email.

8 Billing Termination

Yearly/Monthly DDM Instances

When you purchase a yearly/monthly DDM instance, 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 DDM instance, 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 DDM Instances

When you buy a DDM instance billed at a pay-per-use basis, you can delete the instance if it is no longer used.

## Searching for DDM Instances from Bills and Stopping Billing

To ensure that all DDM instances are deleted, you can search the billing records by instance name, and then delete the DDM instances you identify in this way.

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

Step 2 On the top menu bar, choose **Billing & Costs** > **Bills**. The **Bills** page is displayed.

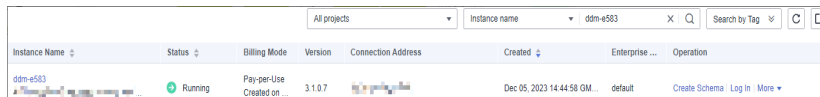**Step 3** On the **Bill Details** tab, click the icon shown in the following figure to copy the resource name.

Figure 8-1 Copying an instance name
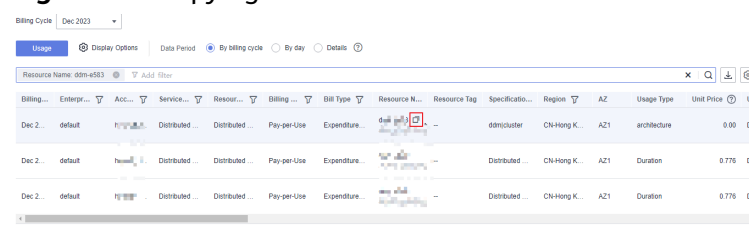
Step 4 Click ☰ in the upper left corner of the page and choose **Database** > **Distributed Database Middleware**.

Step 5 Enter the name of the instance copied in **Step 3** in the search box and click 🔍 .

Figure 8-2 Searching for an instance

Step 6 Locate the target instance and click **More** > **Delete** in the **Operation** column. Ensure that the instance has been removed from the list.

📖 **NOTE**

The system usually deducts fees of the last settlement period within one hour after the products are used. As a result, after a pay-per-use resource is deleted, the bill information may still exist. For example, if you delete a pay-per-use DDM instance at 08:30, the expenditures for that hour from 08:00 to 09:00 are usually not billed until about 10:00.
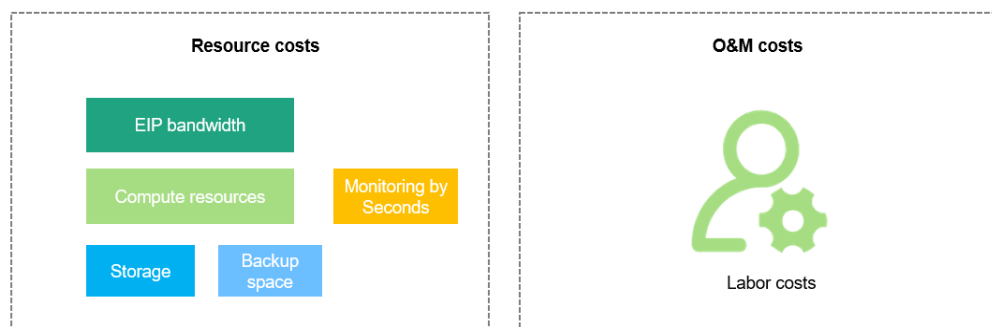
----End

9 Cost Management

The following describes how to manage DDM costs to help maximize return on your investment.

9.1 Cost Composition

GaussDB(for MySQL) costs consist of two parts:

- Resource costs: compute resource cost and storage resource cost. For details, see **Billing Modes**.

- O&M costs: labor costs incurred during the use of DB instances.

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

9.2 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.
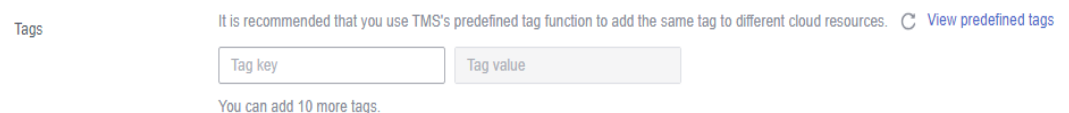
- **By linked account**

  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 9-1 Selecting an enterprise project

Enterprise Project	--Select-- ▼	↻ View Project Management

- **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 9-2 Adding a tag

  Create predefined tags in TMS.

  ↓

  Activate the tags in Cost Center.

  ↓

  Add the tags for cloud resources.

  ↓

  View costs by tag in Cost Center.

Tags	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 Tag value
	You can add 10 more tags.

  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**.

9.3 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**.

9.4 Cost Optimization

You can identify resources with high costs based on the analysis results in the cost center, determine the causes of high costs, and take optimization measures accordingly.

Resource Optimization

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 the results of **Cost Analysis** and take optimization measures accordingly.

- View DDM monitoring metrics on Cloud Eye, such as the CPU and memory usage. If the current configuration is more than you need, you can downgrade the instance specifications.
- Monitor idle DDM resources and delete idle instances in a timely manner.

Billing Mode Selection

Different types of services have different requirements on resource usage periods, so the most economical billing mode for one resource may not be the best option for another resource.

- For mature services that tend to be stable for the long term, select yearly/monthly billing.
- For short-term, unpredictable services that experience traffic bursts and cannot afford to be interrupted, select pay-per-use billing.
- Monitor the lifecycle of instances and renew yearly/monthly resources that are about to expire in a timely manner.