

# Elastic Load Balance

## Best Practices

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# 1 Billing Overview

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

- Billing Mode

There is only pay-per-use billing mode. Pay-per-use is a postpaid mode. You can use load balancers first and then pay as you go. For details about the billing mode, see [Overview](#).

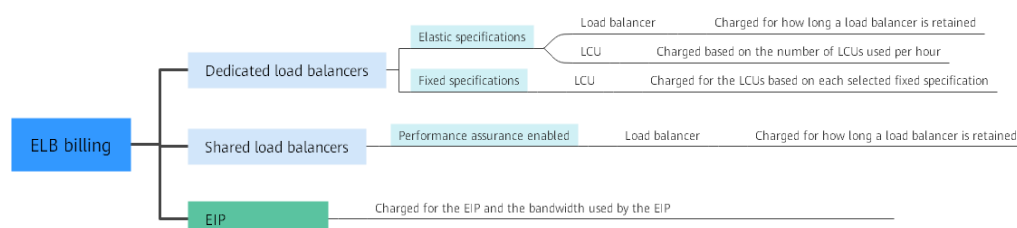
- Billing Items

For dedicated load balancers, you will be billed for how long you use each load balancer and how many load balancer capacity units (LCUs) you use.

[Billing Items \(Dedicated Load Balancers\)](#) and [Billing Items \(Shared Load Balancers\)](#) describe the billing factors and formulas for each billing item.

For details about the billing examples and the billing for each item, see [Billing Examples](#).

**Figure 1-1** ELB billing items



- Bills

You can choose **Billing > Bills** to check the load balancer transactions and bills. For details, see [Bills](#).

- Arrears

If your account is insufficient to pay your amount due, your account will go into arrears. To continue using your cloud services, top up your account in time. For details, see [Arrears](#).

- Stopping Billing

If you no longer need to use your cloud services, you can unsubscribe from or delete them to stop the billing. For details, see [Stopping Billing](#).

- Cost Management

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

# 2 Billing Mode

## 2.1 Overview

### Billing Modes

There is only pay-per-use billing mode.

- Pay-per-use is a postpaid billing mode. You pay as you go and pay for what you use. The load balancer usage 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

|                                    |                                                                                                          |
|------------------------------------|----------------------------------------------------------------------------------------------------------|
| <b>Billing Mode</b>                | Pay-per-use                                                                                              |
| <b>Payment</b>                     | Postpaid                                                                                                 |
| <b>Billing Usage Period</b>        | Calculated by the second but billed every hour. You are charged for how long you use each load balancer. |
| <b>Specification Type</b>          | <ul style="list-style-type: none"><li>• Elastic</li><li>• Fixed</li></ul>                                |
| <b>Changing the Specifications</b> | Supported                                                                                                |
| <b>Application Scenarios</b>       | Recommended when the resource demands are likely to fluctuate and you want more flexibility.             |

The billing items of load balancers vary by specification type. For details, see [Table 2-2](#) and [Table 2-3](#).

**Table 2-2** Billing items of dedicated load balancers

| Billing Mode | Specification Type | LCU | Load Balancer |
|--------------|--------------------|-----|---------------|
| Pay-per-use  | Elastic            | √   | √             |
|              | Fixed              | √   | ×             |

**Table 2-3** Billing items of shared load balancers

| Billing Mode | Specification Type | LCU | Load Balancer |
|--------------|--------------------|-----|---------------|
| Pay-per-use  | -                  | ×   | √             |

 **NOTE**

- √ indicates that the billing item is involved. × indicates that the billing item is not involved.
- If you bind an EIP to a load balancer, you will also be charged for the EIP and the bandwidth used by the EIP.

For details about EIP pricing, see [Elastic IP Pricing Details](#).

## 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 load balancers.

### 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.

### Billing Items

[Table 2-4](#) lists the billing items of pay-per-use load balancers.

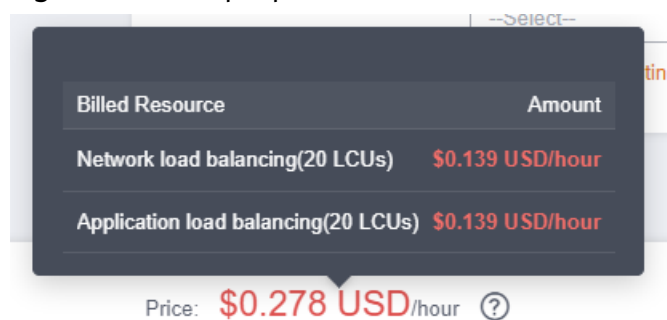
**Table 2-4** Billing items

| Load Balancer Type | Specification Type | LCU | Load Balancer |
|--------------------|--------------------|-----|---------------|
| Dedicated          | Elastic            | √   | √             |
|                    | Fixed              | √   | ×             |

| Load Balancer Type | Specification Type | LCU | Load Balancer |
|--------------------|--------------------|-----|---------------|
| Shared             | Fixed              | ×   | √             |

If you purchase a dedicated load balancer with fixed specifications, deploy it in two AZs, and select small I for both application load balancing (HTTP/HTTPS) and network load balancing (TCP/UDP), the prices are as shown in the following figure.

**Figure 2-1** Example prices



You are charged for:

- Network load balancing: 20 LCUs (10 LCUs for each AZ).
- Application load balancing: 20 LCUs (10 LCUs for each AZ).

#### NOTE

- If you deploy a dedicated load balancer in multiple AZs, its performance will multiply as the number of AZs increases. The number of LCUs is calculated as follows: Number of LCUs = LCUs of the selected specification × Number of the selected AZs.
- If you bind an EIP to this load balancer, you will also be charged for the EIP and the bandwidth used by the EIP. For details about EIP pricing, see [EIP Pricing Details](#).

## Billed Usage Period

Pay-per-use load balancer usage is calculated by the second and billed every hour. The billing starts when the load balancer is created and ends when it is deleted.

#### NOTE

The billing starts from the creation time on the load balancer **Summary** page.

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

## Billing Examples

Suppose you purchased a pay-per-use load balancer with **fixed specifications** at 9:30:00 on April 18, 2023, deployed it in **one AZ**, and selected small I for both

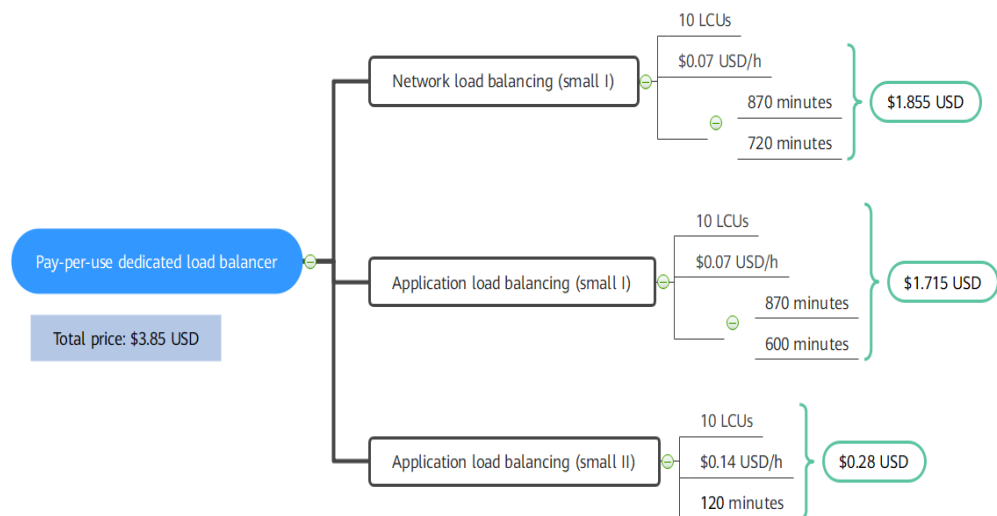
application load balancing and network load balancing types. Later you upgraded small I to small II for application load balancing at 10:00:00 on April 19, 2023 and deleted the load balancer at 12:00:00 on April 19, 2023.

The total price you need to pay is calculated as shown in the below table.

**Table 2-5** Billing details of the load balancer

| Billing Item                         | Required Duration                                                                                                                                                          | Pricing Details (USD)                                                                                                                  | Total Price (USD)      |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| Network load balancing (10 LCUs)     | <ul style="list-style-type: none"><li>2023/04/18 9:30:00 – 2023/04/19 00:00:00<br/>870 minutes</li><li>2023/04/19 00:00:00 – 2023/04/19 12:00:00<br/>720 minutes</li></ul> | <ul style="list-style-type: none"><li><math>870/60 \times 0.07 = 1.015</math></li><li><math>720/60 \times 0.07 = 0.84</math></li></ul> | $1.015 + 0.84 = 1.855$ |
| Application load balancing (10 LCUs) | <ul style="list-style-type: none"><li>2023/04/18 9:30:00 – 2023/04/19 00:00:00<br/>870 minutes</li><li>2023/04/19 00:00:00 – 2023/04/19 10:00:00<br/>600 minutes</li></ul> | <ul style="list-style-type: none"><li><math>870/60 \times 0.07 = 1.015</math></li><li><math>600/60 \times 0.07 = 0.7</math></li></ul>  | $1.015 + 0.7 = 1.715$  |
| Application load balancing (20 LCUs) | 2023/04/19 10:00:00 – 2023/04/19 12:00:00<br>120 minutes                                                                                                                   | $(120/60) \times 0.14 = 0.28$                                                                                                          | 0.28                   |

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

**Figure 2-2** Total price for a pay-per-use dedicated load balancer**NOTICE**

The prices in the figure are for reference only. The actual calculation is subject to the prices in the [ELB Pricing Detail](#).

## Price Change After Specification Change

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

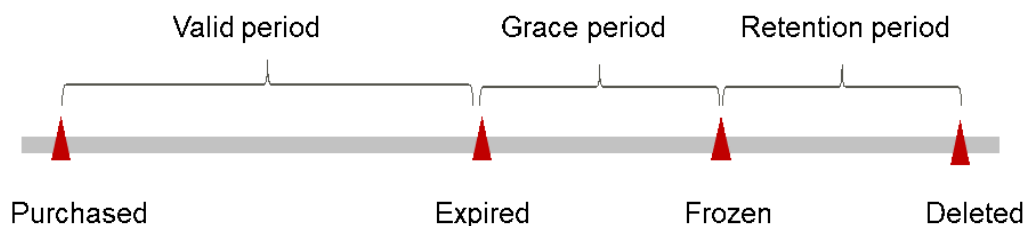
If you change specifications within a given hour, multiple records will be generated. Different records record the billing for different specifications.

Assume that you purchased a pay-per-use load balancer at 9:00:00, deployed it in two AZs, and selected small I for both application load balancing and network load balancing. Later you upgraded small I to small II for both application load balancing and network load balancing. The following items are billed:

- Usage of a small I application load balancer and small I network load balancer from 9:00:00 to 9:30:00
- Usage of a small II application load balancer and small II network load balancer from 9:30:00 to 10:00:00

## Impact of Arrears

[Figure 2-3](#) shows the statuses a pay-per-use load balancer can have throughout its lifecycle. After a load balancer is purchased, it enters the valid period and runs normally during this period. If your account goes into arrears, the load balancer enters a grace period and then a retention period.

**Figure 2-3** Lifecycle of a pay-per-use load balancer

### Arrears Reminder

The system will bill you for pay-per-use load balancers 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 your account is insufficient to pay your amount due, your account goes into arrears, and pay-per-use load balancers enter the grace period. You are still responsible for expenditures generated during the grace period. You can view the charges on the **Billing > Billing Center > Overview** page and pay any past due balance as needed.

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

After the retention period ends, your load balancers will be released and data cannot be restored.

#### NOTE

- For details about the grace period and retention period, see [What Is a Grace Period of Huawei Cloud? How Long Is It?](#) and [What Is a Retention Period of Huawei Cloud? How Long Is It?](#)
- For details about topping up your account, see [Making Repayments](#).

# 3 Billing Items (Dedicated Load Balancers)

## Billing

You will be charged for how many LCUs you use and how long a load balancer is retained in your account, as described in [Table 3-1](#).

For details about the pricing, see [ELB Price Calculator](#). Resources may vary depending on regions. The actual prices are subject to those displayed on the ELB console.

**Table 3-1** Billing items

| Billing Item  | Description                                                                                                                                                                                                                          | Billing Mode | Formula                               |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------------------|
| LCU           | You are charged based on <b>the number of LCUs used by a load balancer per hour</b> .<br><br>An LCU measures the dimensions on which a dedicated load balancer routes the traffic. See LCU prices in <a href="#">LCU Pricing</a> .   | Pay-per-use  | <b>Unit price × Number of LCUs</b>    |
| Load Balancer | You are charged for <b>how long a dedicated load balancer is retained in your account</b> . If the load balancer is retained in your account for less than 1 hour, you will be charged for the actual duration, accurate to seconds. | Pay-per-use  | <b>Unit price × Required duration</b> |

The billing items of dedicated load balancers vary by specification type. For details, see [Table 3-2](#).

**Table 3-2** Billing items

| Billing Mode | Specification Type | LCU | Load Balancer |
|--------------|--------------------|-----|---------------|
| Pay-per-use  | Elastic            | √   | √             |
|              | Fixed              | √   | ×             |

 **NOTE**

- √ indicates that the billing item is involved. × indicates that the billing item is not involved.
- If you bind an EIP to a load balancer, you will also be charged for the EIP and the bandwidth used by the EIP.

## LCU Pricing

An LCU measures the dimensions on which a dedicated load balancer routes the traffic. See LCU price in [Table 3-3](#).

The unit price of LCU varies depending on the specifications. See the actual price of LCU on the console. **LCU price (USD) = Unit price × Number of LCUs.**

**Table 3-3** LCU pricing

| Billing Mode | Specification Type | Application Scenario    | Description                                                                |
|--------------|--------------------|-------------------------|----------------------------------------------------------------------------|
| Pay-per-use  | Elastic            | For fluctuating traffic | You are charged for how many LCUs you use.                                 |
|              | Fixed              | For stable traffic      | You are charged for the LCUs based on each fixed specification you select. |

 **NOTE**

- If you deploy a dedicated load balancer in multiple AZs, its performance will multiply as the number of AZs increases. For details about AZs, see [Region and AZ](#).
- Note the following when calculating the number of LCUs:
  - LCU quantity refers to the number of LCUs corresponding to a specification in a single AZ. For details, see [LCU Billing for Fixed Specifications](#).
  - If you select multiple AZs for a load balancer, the number of LCUs is calculated as follows: Number of LCUs = LCUs of the selected specification × Number of the selected AZs.

## LCU Billing for Elastic Specifications

An LCU has four dimensions: **new connections**, **maximum concurrent connections**, **processed bytes**, and **rule evaluations**.

You can calculate the number of LCUs by taking the maximum LCUs consumed across the four dimensions.

### NOTE

The number of LCUs is rounded up to the nearest integer.

**Table 3-4** LCU dimensions

| Dimension                                     | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| New connections                               | Number of new connections per second.                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Maximum concurrent connections                | The maximum number of concurrent connections that a load balancer can handle per minute within one hour.                                                                                                                                                                                                                                                                                                                                                                              |
| Processed bytes                               | The number of bytes processed by a load balancer in GB.                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Rule evaluations (application load balancing) | <p>The product of the number of rules processed by a load balancer and the number of queries per second (QPS). The first 10 processed rules are free.</p> <ul style="list-style-type: none"><li>When there are more than 10 processed rules, the number of rule evaluations is calculated as follows:<br/>Rule evaluations = QPS × (Number of processed rules – 10).</li><li>When there are 10 or less processed rules, the number of rule evaluations is equal to the QPS.</li></ul> |

**Table 3-5** lists the LCU performance supported by different protocols.

**Table 3-5** LCU performance supported by different protocols

| Protocol   | New Connections per Second | Maximum Concurrent Connections per Minute | Processed Bytes | Rule Evaluations per Second |
|------------|----------------------------|-------------------------------------------|-----------------|-----------------------------|
| TCP        | 800                        | 100,000                                   | 1 GB            | N/A                         |
| UDP        | 400                        | 50,000                                    | 1 GB            | N/A                         |
| TLS        | 50                         | 3,000                                     | 1 GB            | N/A                         |
| HTTP/HTTPS | 25                         | 3,000                                     | 1 GB            | 1,000                       |

## Billing Examples

### A pricing example for a network load balancer

Assume your network load balancer establishes 1,000 new TCP connections per second and handles a maximum of 180,000 concurrent connections per minute. The bytes processed by your load balancer are 1,000 KB per second.

The price per LCU in the current region is \$0.00833 USD. The LCU price is calculated as the table shown below.

**Table 3-6** LCU calculation

| Dimension                                 | Example                                                                           | LCUs                         | Rounded Up LCUs |
|-------------------------------------------|-----------------------------------------------------------------------------------|------------------------------|-----------------|
| New connections per second                | 1,000 new TCP connections                                                         | $1,000 \div 800 = 1.25$      | 2               |
| Maximum concurrent connections per minute | 180,000 maximum concurrent connections                                            | $180,000 \div 100,000 = 1.8$ | 2               |
| Processed bytes per hour                  | $1,000 \text{ KB/s} \times 60\text{s} \times 60 \text{ minutes} = 3.6 \text{ GB}$ | $3.6 \div 1 = 3.6$           | 4               |

In this example, the processed bytes dimension consumes the most LCUs (**4** LCUs). Therefore, the LCU price is calculated based on the number of LCUs consumed by processed bytes.

The total LCU price for using this network load balancer for one hour is calculated as follows:

LCU price = Unit price x Number of LCUs = \$0.00833 USD x 4 = \$0.03332 USD

### A pricing example for an application load balancer

Assume your application load balancer establishes 1,000 new HTTP/HTTPS connections per second and handles a maximum of 180,000 concurrent connections per minute. A client sends an average of 400 requests per second and the bytes processed by this load balancer is 1,000 KB per second. You have configured 20 forwarding rules for your load balancer to route requests.

The price per LCU in the current region is \$0.00833 USD. The LCU price is calculated as the table shown below.

**Table 3-7** LCU calculation

| Dimension                                 | Example                                                                                                                                  | LCUs                      | Rounded Up LCUs |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------|
| New connections per second                | 1,000 new connections                                                                                                                    | $1,000 \div 25 = 40$      | 40              |
| Maximum concurrent connections per minute | 180,000 maximum concurrent connections                                                                                                   | $180,000 \div 3,000 = 60$ | 60              |
| Processed bytes per hour                  | $1,000 \text{ KB/s} \times 60\text{s} \times 60 \text{ minutes} = 3.6 \text{ GB}$                                                        | $3.6 \div 1 = 3.6$        | 4               |
| Rule evaluations per second               | Rule evaluations are calculated as:<br>Rule evaluations = QPS $\times$ (Number of processed rules - 10) = $400 \times (20 - 10) = 4,000$ | $4,000 \div 1,000 = 4$    | 4               |

In this example, the maximum concurrent connection dimension consumes the most LCUs (**60** LCUs). So the LCU price is calculated based on the LCUs consumed by the maximum concurrent connections.

The total LCU price for using this application load balancer for one hour is calculated as follows:

LCU price = Unit price  $\times$  Number of LCUs =  $\$0.00833 \text{ USD} \times 60 = \$0.4998 \text{ USD}$

## LCU Billing for Fixed Specifications

You are charged for the LCUs based on each fixed specification you select. You can select either application load balancing (HTTP/HTTPS) or network load balancing (TCP/UDP/TLS), or both.

You can refer to [Specifications of Dedicated Load Balancers](#) to learn about each fixed specification and select one that best meets your service requirements.

### Pay-per-use

The following table lists the number of LCUs of each fixed specification.

**Table 3-8** LCUs of each fixed specification

| Specification | LCUs in an AZ (TCP/UDP/TLS) | LCUs in an AZ (HTTP/HTTPS) |
|---------------|-----------------------------|----------------------------|
| Small I       | 10                          | 10                         |

| Specification | LCUs in an AZ (TCP/UDP/TLS) | LCUs in an AZ (HTTP/HTTPS) |
|---------------|-----------------------------|----------------------------|
| Small II      | 20                          | 20                         |
| Medium I      | 40                          | 40                         |
| Medium II     | 80                          | 100                        |
| Large I       | 200                         | 200                        |
| Large II      | 400                         | 400                        |

 **NOTE**

- LCU quantity refers to the number of LCUs corresponding to a specification in a single AZ.
- If you select multiple AZs for a load balancer, the number of LCUs is calculated as follows: Number of LCUs = LCUs of the selected specification × Number of the selected AZs.

## Load Balancer Pricing

You are charged for how long each load balancer is retained in your account. If the load balancer is used for less than 1 hour, you will be charged for the actual duration, accurate to seconds. The billing cycle is from the time when the dedicated load balancer is created to the time when it is deleted.

Only load balancers with elastic specifications in pay-per-use billing mode are charged.

# 4 Billing Items (Shared Load Balancers)

## Billing

Shared load balancers are billed as described in [Table 4-1](#).

For details about load balancer pricing, see [ELB Pricing Details](#). You can use the [price calculator](#) to quickly estimate the price for the load balancers that you select.

**Table 4-1** Billing items

| Billing Item  | Description                                                                                                                                                                                                                       | Billing Mode | Formula                               |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------------------|
| Load balancer | You are charged for <b>how long a shared load balancer is retained in your account</b> . If the load balancer is retained in your account for less than 1 hour, you will be charged for the actual duration, accurate to seconds. | Pay-per-use  | <b>Unit price × Required duration</b> |

### NOTE

Shared load balancers are available in CN-Hong Kong, AP-Singapore, CN East-Shanghai1, LA-Mexico City1, and LA-Sao Paulo1.

### NOTE

- Shared load balancers are billed based on the billing mode you can select on the console.
- If you bind an EIP to a shared load balancer, you will also be charged for the EIP and the bandwidth used by the EIP.

For details about EIP pricing, see [Elastic IP Pricing Details](#).

## Billing Examples

Assume that you purchased a shared load balancer at 09:30:00 on April 18, 2023 and deleted it at 12:00:00 on April 19, 2023.

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

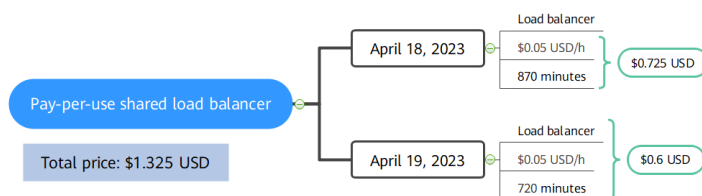
**Table 4-2** Billing details

| Billing Item  | Required Duration                                                                                                                                                          | Pricing Details (USD)                                                                                                                 | Total Price (USD)     |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| Load balancer | <ul style="list-style-type: none"><li>2023/04/18 9:30:00 – 2023/04/19 00:00:00<br/>870 minutes</li><li>2023/04/19 00:00:00 – 2023/04/19 12:00:00<br/>720 minutes</li></ul> | <ul style="list-style-type: none"><li><math>870/60 \times 0.05 = 0.725</math></li><li><math>720/60 \times 0.05 = 0.6</math></li></ul> | $0.725 + 0.6 = 1.325$ |

### NOTICE

The prices in the figure are for reference only. The actual calculation is subject to the prices in the [Elastic Load Balance Pricing Details](#).

**Figure 4-1** Example for calculating the total price for a shared load balancer



# 5 Billing Examples

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## Billing Scenarios

Suppose you purchased a pay-per-use dedicated load balancer at 15:30:00 on April 18, 2023 and configure it as follows:

- **AZ:** 2 central AZs
- **Specifications:** fixed; application load balancing (small I) and network load balancing (small I)
- **EIP:** Auto assign
- **EIP Type:** Dynamic BGP
- **Billed By:** Bandwidth
- **Bandwidth:** 6 Mbit/s

After a period of time, you found that the current specifications no longer met your service requirements and upgraded the specifications to application load balancing (small II) and network load balancing (small II) at 09:00:00 on April 20, 2023. In this case, how much will the load balancer be billed in April?

### NOTE

If you bind an EIP to your load balancer, you will also be charged for the EIP and the bandwidth used by the EIP.

For details about EIP pricing, see [Elastic IP Pricing Details](#).

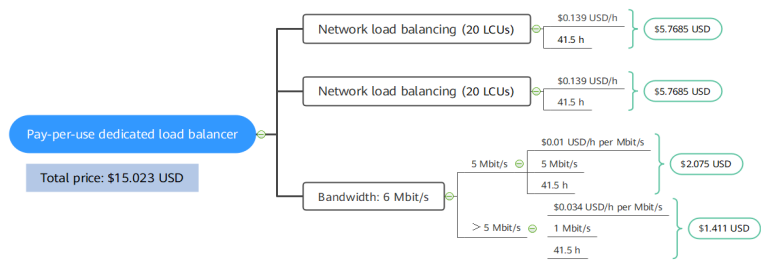
## Billing Analysis

In this example, you are billed by two usage periods: small I usage from April 18, 2023, 15:30:00 to April 20, 2023, 10:30:00, and small II usage from April 20, 2023, 10:30:00 to April 30, 2023, 23:59:59.

### Pay-per-use billing

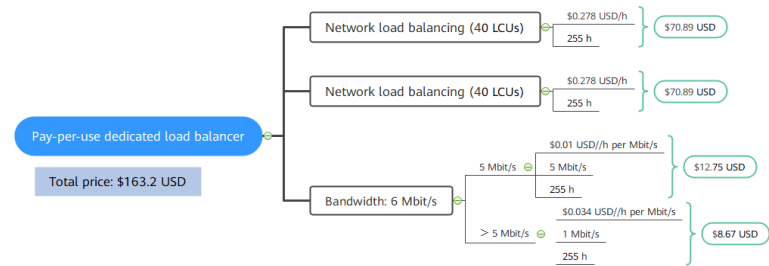
From April 18, 2023, 15:30:00 to April 20, 2023, 09:00:00, the small I load balancer was used for 41.5 hours, so the price would be calculated as shown in the following figure.

Figure 5-1 Total price for the small I load balancer



From April 20, 2023, 09:00:00 to April 30, 2023, 23:50:59, the small II load balancer was used for 255 hours, so the price is calculated as shown in the following figure.

Figure 5-2 Total price for the small II load balancer



The total price for this load balancer in April is \$178.223 USD (\$15.023 USD + \$163.2 USD).

# 6 Bills

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

## Bill Generation

- **Pay-per-use:** 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. For details, see [Bill Run for Pay-per-Use Resources](#). The ELB usage is billed by hour.

You are not charged immediately after a record is generated. For example, if a pay-per-use load balancer (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, 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 a Specific Load Balancer

**Step 1** Log in to the management console and choose **Networking > Elastic Load Balance** from the service list.

The load balancer list page is displayed.

**Step 2** Click the icon shown in the figure below to copy the load balancer ID.

**Figure 6-1** Copying the load balancer ID

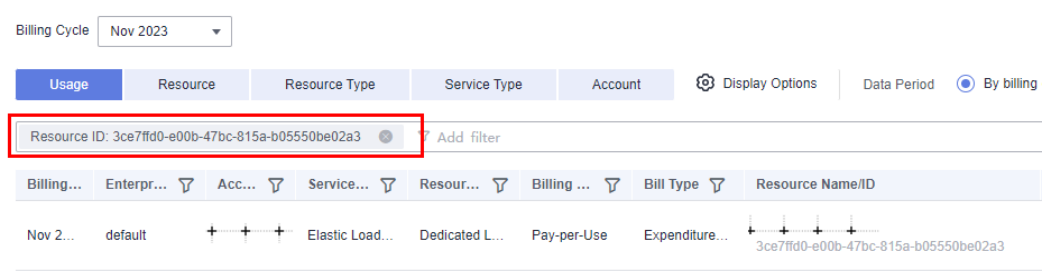
| <input type="checkbox"/> | Name/ID                                          | Moni...                                                                             | Status                                                                                      | Type      | Specifications                                                                                |
|--------------------------|--------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | elb-test<br>3ce7ffd0-e00b-47bc-815a-b05550be02a3 |  |  Running | Dedicated | Network load balancing(TCP/UDP)   Small I<br>Application load balancing(HTTP/HTTPS)   Small I |

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

The **Dashboard** page is displayed.

**Step 4** Choose **Billing > Expenditure Details** in the left navigation pane. Select **Resource ID** as the filter criteria and enter the resource ID obtained in step [Step 2](#).

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 Resource Usage

Assume you purchased a pay-per-use dedicated load balancer with fixed specifications at 10:09:06 on April 8, 2023, deployed it in two AZs, selected small I for both application load balancing and network load balancing to route requests over the private network, and finally deleted at 12:09:06 on April 8, 2023.

- ELB expenditure items  
Pay-per-use load balancer usage is calculated by the second and billed on an hourly basis. You can check the expenditure items against the actual usage. For details, see [Table 6-1](#).

Table 6-1 ELB expenditure items

|                    |                                                                                                                                                                                                                                                                                                                                                  |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cloud Service      | Elastic Load Balance (ELB)                                                                                                                                                                                                                                                                                                                       |
| Load Balancer Type | Dedicated                                                                                                                                                                                                                                                                                                                                        |
| Billing Mode       | Pay-per-use                                                                                                                                                                                                                                                                                                                                      |
| Expenditure Time   | From 10:09:06 on April 08, 2023 to 12:09:06 on April 08, 2023, three transaction records would be generated for the following usage periods: <ul style="list-style-type: none"><li>• 2023/04/08 10:09:06 – 2023/04/08 11:00:00</li><li>• 2023/04/08 11:00:00 – 2023/04/08 12:00:00</li><li>• 2023/04/08 12:00:00 – 2023/04/08 12:09:06</li></ul> |

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>List Price</b>        | List price on the official website = Usage × Unit price<br>In this example, the load balancer was used for 3,054 seconds in the first period, and the unit price can be obtained on the <a href="#">Elastic Load Balance Pricing Details</a> page. For example, if the unit price is \$0.278 USD/hour, the list price for the first period = $(3,054 \div 3,600) \times 0.278 = \$0.23583667$ USD. Similarly, you can calculate the ELB list price for the other usage periods. |
| <b>Discounted Amount</b> | Discounts offered for cloud services, for example, commercial discounts, partner authorized discounts, and promotional discounts.                                                                                                                                                                                                                                                                                                                                               |
| <b>Truncated Amount</b>  | Huawei Cloud billing is calculated to the 8th decimal place. However, the amount due is truncated to the 2nd decimal place. The third and later decimal places are referred to as the truncated amounts.<br>Take the first usage period as an example. The truncated amount is \$0.00083667 USD.                                                                                                                                                                                |
| <b>Amount Due</b>        | Amount due = List price – Discounted amount – Truncated amount<br>Take the first usage period as an example. If the discounted amount is 0, the amount due is \$0.23 USD ( $0.23583667 - 0 - 0.00583667$ ).                                                                                                                                                                                                                                                                     |

- ELB expenditure details

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

**Table 6-2** ELB expenditure details

|                           |                                                                                                            |
|---------------------------|------------------------------------------------------------------------------------------------------------|
| <b>Cloud Service</b>      | Elastic Load Balance (ELB)                                                                                 |
| <b>Load Balancer Type</b> | Dedicated                                                                                                  |
| <b>Billing Mode</b>       | Pay-per-use                                                                                                |
| <b>Resource Name/ID</b>   | Specifies the load balancer name and ID.<br>Example: <b>elb-927f, 3ce7ffd0-e00b-47bc-815a-b05550be02a3</b> |
| <b>Specifications</b>     | Specifies the specifications of the load balancer.<br><b>Dedicated load balancer 2 AZ</b>                  |

|                          |                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Usage Type</b>        | <b>l7_lcu_duration</b> and <b>l4_lcu_duration</b>                                                                                                                                                                                                                                                                                                  |
| <b>Unit Price</b>        | <p>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.</p> <p>You can search for the unit price for pay-per-use load balancers on the <a href="#">ELB Pricing Details</a> page.</p> |
| <b>Unit</b>              | USD/h (Displayed on the <a href="#">ELB Pricing Details</a> page)                                                                                                                                                                                                                                                                                  |
| <b>Usage</b>             | Depends on the unit of the unit price, which, for a load balancer, is USD/hour. ELB usage is billed by the hour. In this example, the total usage is 2 hours.                                                                                                                                                                                      |
| <b>Usage Unit</b>        | Hour                                                                                                                                                                                                                                                                                                                                               |
| <b>List Price</b>        | <p>List price on the official website = Usage × Unit price</p> <p>In this example, the load balancer is used for two hours, and the unit price is obtained on the <a href="#">ELB Pricing Details</a> page. If the unit price is \$0.278 USD/hour, the list price = 2 × \$0.278 USD = \$0.556 USD.</p>                                             |
| <b>Discounted Amount</b> | Discounts offered for cloud services, for example, commercial discounts, partner authorized discounts, and promotional discounts.                                                                                                                                                                                                                  |
| <b>Amount Due</b>        | Amount that should be paid for used cloud services after discounts are applied.                                                                                                                                                                                                                                                                    |

# 7 Arrears

If your account is insufficient to pay your amount due, your account goes into arrears. To continue using your cloud services, top up your account in a timely manner.

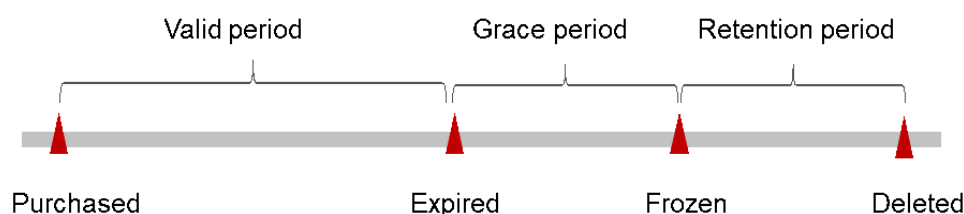
## Arrears Reason

For a pay-per-use load balancer, the account balance is insufficient due to continuous expenditure deduction.

## Impact of Arrears

- Pay-per-use  
If your account is insufficient to pay your amount due, your account goes into arrears, and pay-per-use load balancers 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 your account is still in arrears after the grace period ends, your load balancers enter the retention period and their status turns to **Frozen**. You cannot perform any operations on them.  
If you do not bring your account balance current before the retention period ends, your load balancers will be released and data cannot be restored.

**Figure 7-1** Lifecycle of a pay-per-use load balancer



## Avoiding and Handling Arrears

- Pay-per-use load balancers cannot be unsubscribed. If you do not need these load balancers anymore, delete them by referring to .

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

If your account is in arrears, address the issue in a timely manner.

# 8 Stopping Billing

## Pay-per-Use Load Balancers

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

## Searching for Load Balancers from Bills and Stopping Billing

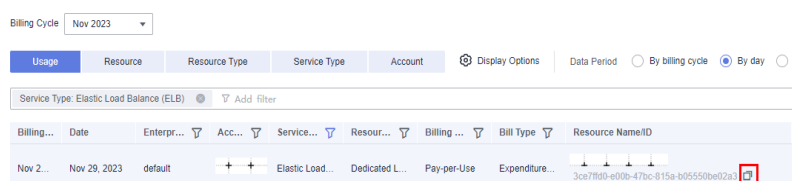
To ensure that all related resources are deleted, you can search the billing records by resource ID, and then delete the resources you identify.

Search for the billed load balancer by ID.

**Step 1** Go to the [Billing Center > Expenditure Details](#) page.

**Step 2** Click the icon shown in the figure below to copy the load balancer ID.

**Figure 8-1** Copying the load balancer ID

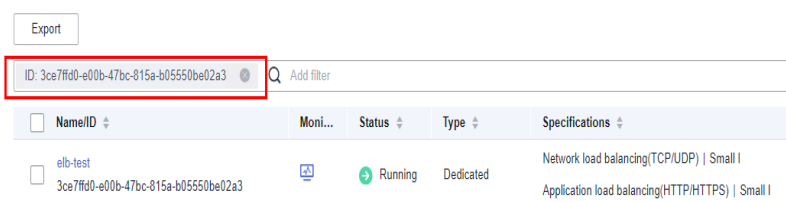


**Step 3** Log in to the management console and choose **Networking > Elastic Load Balance** from the service list.

The load balancer list page is displayed.

**Step 4** Select the region where the resource is located, choose **ID** from the drop-down list and enter the copied resource ID to search for the resource.

**Figure 8-2** Searching for the load balancer



- Step 5** Choose **More > Delete** in the **Operation** column to delete the load balancer and check that it no longer appears in the list.

 **NOTE**

You are billed one hour after the resource usage is calculated, so a bill may still be generated after the pay-per-use load balancer is deleted. For example, if you delete a load balancer (which is billed on an hourly basis) at 08:30, the expenditures for the hour from 08:00 to 09:00 are usually not billed until about 10:00.

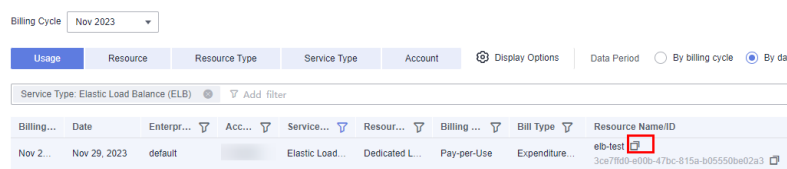
**----End**

Search for the load balancer by name.

- Step 1** Go to the **Billing Center > Expenditure Details** page.

- Step 2** Click the icon shown in the figure below to copy the load balancer name.

**Figure 8-3** Copying the load balancer name

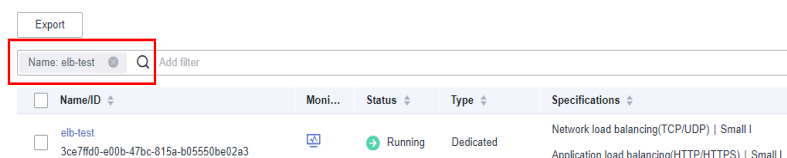


- Step 3** Log in to the management console and choose **Networking > Elastic Load Balance** from the service list.

The load balancer list page is displayed.

- Step 4** Select the region where the load balancer is located, choose **Name** from the drop-down list and enter the copied name. Click the  icon to search for the resource.

**Figure 8-4** Searching for the load balancer



- Step 5** Choose **More > Delete** in the **Operation** column to delete the load balancer and check that it no longer appears in the list.

 **NOTE**

You are billed one hour after the resource usage is calculated, so a bill may still be generated after the pay-per-use load balancer is deleted. For example, if you delete a load balancer (which is billed on an hourly basis) at 08:30, the expenditures for the hour from 08:00 to 09:00 are usually not billed until about 10:00.

**----End**

# 9 Cost Management

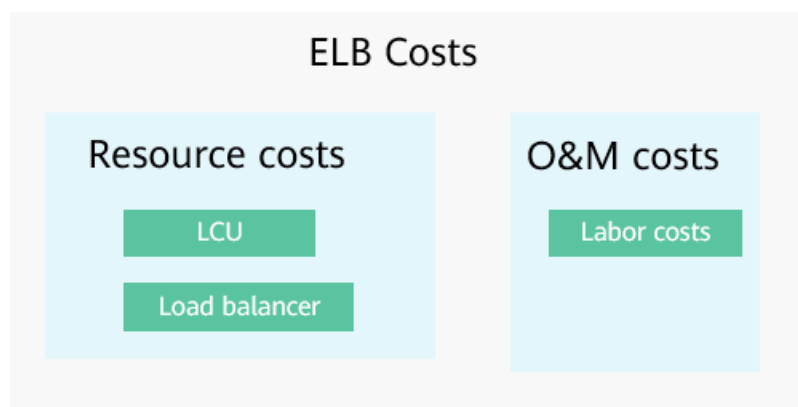
As you migrate more of your services to the cloud, managing cloud costs becomes more important. For example, you may be more concerned with cost management when using ELB. The following describes how you can manage costs in terms of cost composition, allocation, analysis, and optimization to maximize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

## Cost Composition

ELB costs consist of two parts:

- Resource costs: cost of resources and resource packages, depending on the billing items of ELB as described in [Billing Items \(Dedicated Load Balancers\)](#) and [Billing Items \(Shared Load Balancers\)](#).
- O&M costs: labor costs incurred during the use of ELB.

**Figure 9-1** ELB costs



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

## 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 that they 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.

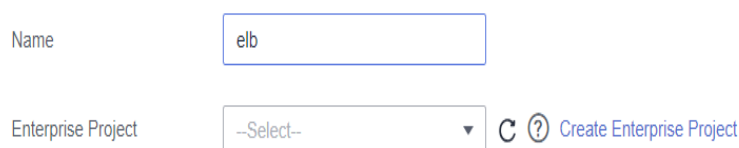
- **By linked account**

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 businesses. When purchasing cloud resources, select an enterprise project so that the costs of the resources will be allocated to the selected enterprise project. For details, see [Viewing Costs by Enterprise Project](#).

**Figure 9-2** Selecting an enterprise project for a load balancer

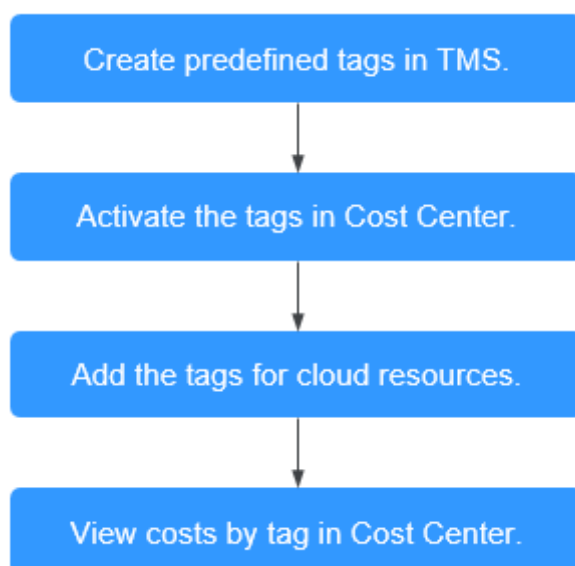


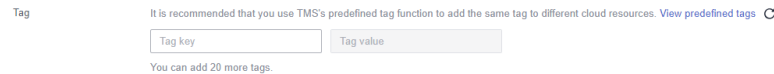
Name

Enterprise Project    [Create Enterprise Project](#)

- **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 9-3** Adding a tag to a load balancer

For details, see .

- **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 .

## Cost Analysis

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

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

For details, see [Performing Cost Analysis to Explore Costs and Usage](#) and [Enabling Cost Anomaly Detection to Identify Anomalies](#).

## Cost Optimization

- **Cost control**

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

Suppose you want to create a monthly budget of \$2,000 USD for pay-per-use load balancers 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 9-4 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

\* Budget Duration **Recurring** Expiring

\* Start Time

\* Allocation **Fixed** Monthly Dynamic

\* Budgeted Amount

(USD)

Figure 9-5 Defining the budget scope

**Budget Scope**

Alerts are unavailable for the current month cost of mo

|                            |         |   |
|----------------------------|---------|---|
| Service Type               | Include | ▲ |
| Elastic Load Balance (ELB) |         | 1 |
| Linked Account             | All     | ▼ |
| Region                     | All     | ▼ |
| PayerAccount Name          | All     | ▼ |
| Specifications             | All     | ▼ |
| Usage Type                 | All     | ▼ |
| Cost Tag                   | All     | ▼ |
| Cost Categories            | All     | ▼ |
| Enterprise Project         | All     | ▼ |
| Business Entity            | All     | ▼ |
| Bill Type                  | All     | ▼ |
| Billing Mode               | Include | ▲ |
| Pay-per-Use                |         | 1 |
| AZ                         | All     | ▼ |

Show Less

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

(Optional) Alert Thresholds ☒

Thresholds    Alerts are sent when the actual cost is higher than 80% (\$1,600.00) of the forecasted cost.

[Add threshold](#)

Recipients [Select From Contacts](#)

For details, see .

- **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 the analyses on the [Cost Analysis](#) page and use Cloud Eye to monitor resource usage. By doing this, you can determine the causes of high costs and take optimization measures accordingly. You can:

- Monitor resource usage and evaluate whether the current configuration is more than you need, such as new connections that a load balancer can establish.
- Detect idle resources to avoid waste, for example, detect unbound EIPs.

- **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 short-term, unpredictable services that experience traffic bursts and cannot afford to be interrupted, select pay-per-use billing.

- **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 instance clusters that use different billing modes, are distributed across AZs, and have different instance specifications. Use this service when there is a clear distinction between peak and off-peak workloads.
- **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.

# 10 FAQs

---

## 10.1 When Do I Need Public Bandwidth for ELB?

To access a load balancer over the Internet, you need to bind an EIP to the load balancer and set a bandwidth when buying the EIP. If you access backend servers through their EIPs, the EIP and bandwidth of the load balancer are not used. If you access the load balancer within a VPC, no bandwidth is required.

## 10.2 Will I Be Billed for Both the Bandwidth Used by the Load Balancer and the Bandwidth Used by Backend Servers?

This depends on your services. If backend servers are only accessed from within a VPC, you do not need to bind an EIP to each backend server and assign bandwidth because requests from the clients are received and routed to backend servers by the load balancer. You only need to bind an EIP to each backend server if they need to provide services accessible from the Internet. In that case, you need to pay for the bandwidth used by your load balancer and also the bandwidth used by the backend servers.

## 10.3 Can I Modify the Bandwidth of a Load Balancer?

Yes. You can modify the bandwidth of a load balancer by referring to [Modifying the Bandwidth](#).

## 10.4 What Functions Will Become Unavailable If a Load Balancer Is Frozen?

A load balancer may be frozen for either of the following reasons:

- Insufficient account balance

- Public security

When a dedicated load balancer is frozen, the following functions will be affected:

1. The load balancer will no longer distribute incoming traffic.
2. The health check function will be stopped. Health check results of backend servers displayed on the console are the results that were obtained before the load balancer was frozen.
3. The load balancer will stop reporting monitoring data to Cloud Eye.
4. The following operations cannot be performed through API calls:
  - a. Modifying load balancer parameters except **Name** and **Tag**
  - b. If a load balancer is frozen due to public security reasons, it cannot be deleted. The associated resources, such as listeners, backend server groups, health checks, forwarding policies, forwarding rules, and backend servers, cannot be added, deleted, or modified.