Elastic Load Balance

billing

Issue 01

Date 2025-09-16

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Contents

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 Modes

  There are yearly/monthly and pay-per-use billing modes. Each one has different advantages and disadvantages. Yearly/Monthly: You pay upfront for the amount of time you expect to use load balancers for. You will need to make sure your account has sufficient balance. Pay-per-use is a postpaid mode. You can use load balancers first and then pay as you go. For details about the two billing modes, see **Overview**.

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

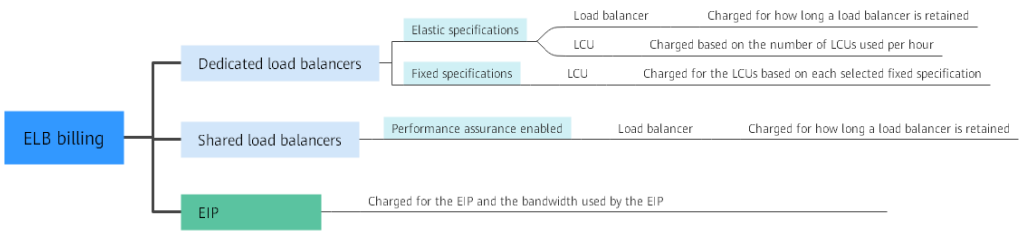
- Billing Items

  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. For shared load balancers, you will be billed for how long you use each load balancer, as described in **Figure 1-1**.

  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



- Renewing Subscriptions

  Yearly/Monthly load balancer cannot run after their subscription expires. If you want to continue using a load balancer after it expires, you need to

renew the subscription within the specified period. Otherwise, the load balancer will be automatically released, and data may be lost. You can renew your subscriptions manually or automatically. For more details, see **Renewing Subscriptions**.

- 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 are yearly/monthly and pay-per-use billing modes. Each one has different advantages and disadvantages.

- 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 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 lists the differences between the billing modes.

Table 2-1 Billing modes

Billing Mode	Yearly/Monthly	Pay-per-use
Payment	Prepaid	Postpaid
Billing Usage Period	Billed by the subscription term you purchase. You make a one-off payment for using the load balancer for a certain period of time.	Calculated by the second but billed every hour. You are charged for how long you use each load balancer.
Specification Type	Fixed	• Elastic • Fixed

Changing the Specifications	Supported	Supported
Application Scenarios	Recommended for resources expected to be in long-term use. 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.

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	√	×
Yearly/ Monthly	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 Yearly/Monthly

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

Application Scenarios

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

- Long-term workloads with stable resource requirements, such as official websites 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

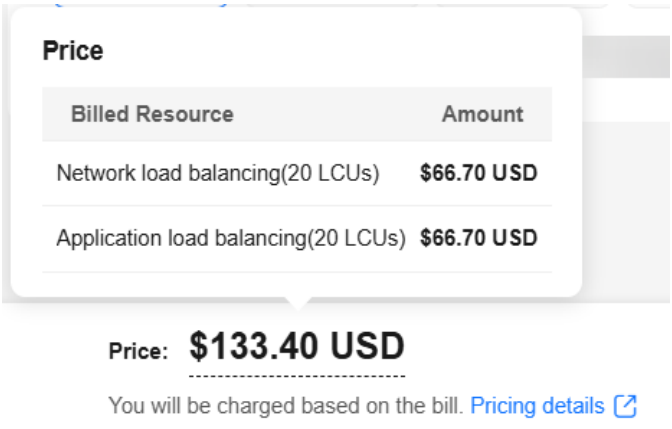
Table 2-4 lists the billing items of yearly/monthly load balancers.

Table 2-4 Billing items

Load Balancer Type	Specification Type	LCU Price	Load Balancer Price
Dedicated	Fixed	√	×

If you want to purchase a one-month dedicated load balancer with fixed specifications, deploy it in two AZs, and select application load balancing – small I and network load balancing – small I, the prices will be displayed as follows:

Figure 2-1 Example prices



You are charged for:

- Network load balancing: number of LCUs of each fixed specification.
- Application load balancing: number of LCUs of each fixed specification.

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 **Elastic IP Pricing Details**.

Billed Usage Period

A yearly/monthly load balancer is billed for the purchased duration. The billing starts from 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 load balancer on Mar 08, 2023, 15:50:04, the billed usage period is from March 08, 2023, 15:50:04 to April 08, 2023, 23:59:59.

Billing Example

Suppose you purchased a one-month load balancer with fixed specifications on March 08, 2023, 15:50:04, deployed it in two AZs, selected application load balancing – small I and network load balancing – small I, and renewed the subscription for one more month before the initial subscription expired. The following usage periods will be billed:

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

You will be billed for both usage periods. **Table 2-5** shows the billing formula.

Table 2-5 Formulas for billing yearly/monthly load balancers

Resource Specification	Formula	Unit Price
Application load balancing	Unit price of each fixed specification × Required duration	For details, see **Elastic Load Balance Pricing Details**.
Network load balancing	Unit price of each fixed specification × Required duration	For details, see **Elastic Load Balance Pricing Details**.

NOTICE

The prices in the figure are for reference only. The actual calculation is subject to the prices in the **ELB Pricing Details**.

Price Change After Specification Change

If the specifications of a yearly/monthly load balancer 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.

NOTE

Downgrading specifications will temporarily affect services.

- Network load balancing: New connections may fail to be established.
- Application load balancing: New connections may fail to be established and some persistent connections may be interrupted.

Suppose you purchased a one-month dedicated load balancer with fixed specifications on April 08, 2023, deployed it in an AZ, selected network load balancing – small I, and later you upgraded the specification to network load balancing – small II on April 18, 2023. The price for the original specification is ¥200/month, and that for the new specification is ¥400/month. The price difference will be calculated as follows:

Price difference for the specification upgrade = Price for the new specifications × Remaining period - Price for the original specifications × Remaining period

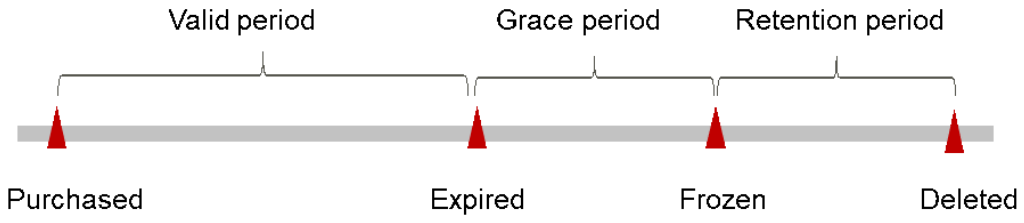
The remaining period is the remaining days of each calendar month divided by the maximum number of days in each calendar month. In this example, remaining period = 12 (Remaining days in April) / 30 (Maximum number of days in April) + 8 (Remaining days in May) / 31 (Maximum number of days in May) = 0.6581. Cost of specification upgrade = ¥400 × 0.6581 – ¥200 × 0.6581 = ¥131.62

For more information, see **Prices for Changing Resource Specifications**.

Impact of Expiration

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

Figure 2-2 Lifecycle of a yearly/monthly load balancer



Expiration Reminder

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

- The system will send you a reminder 30 days, 15 days, 7 days, 3 days, and 1 day before a yearly resource expires.
- The system will send you a reminder 15 days, 7 days, 3 days, and 1 day before a monthly resource expires.

Impact of Expiration

If your yearly/monthly load balancer 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 load balancer but cannot:

- Change the specification of the load balancer.
- Change the bandwidth size.

If the yearly/monthly load balancer 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 resource while it is in the retention period.

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

NOTE

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

2.3 Pay-per-Use Billing

Pay-per-use billing means you pay nothing up front and are not tied into any contract or commitment. This 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 2-6 lists the billing items of pay-per-use load balancers.

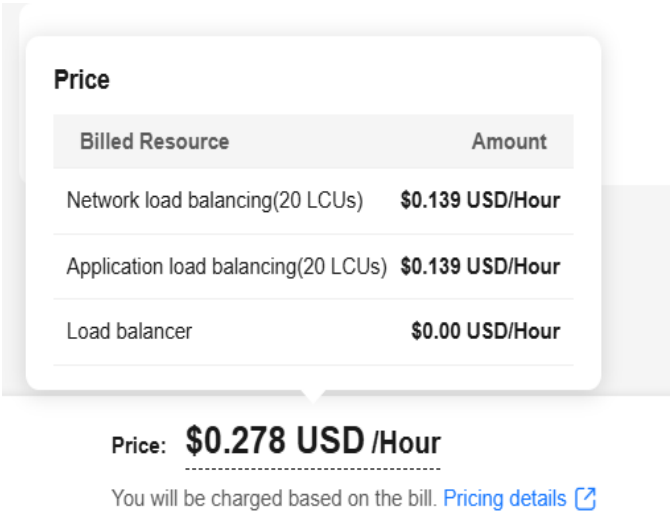
Table 2-6 Billing items

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 and network load balancing, the prices are as shown in the following figure.

Figure 2-3 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.

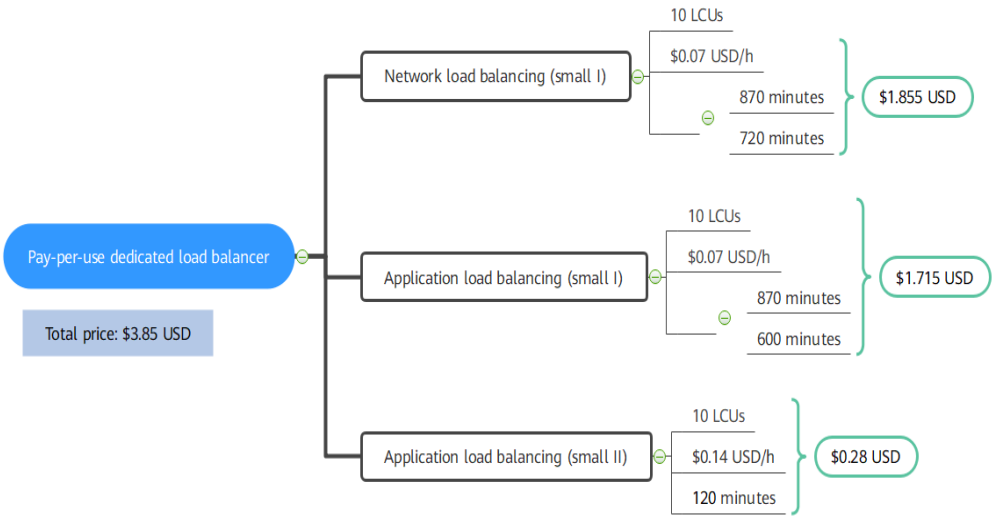
The total price you need to pay is calculated as shown in the below table.

Table 2-7 Billing details of the load balancer

Billing Item	Required Duration	Pricing Details (USD)	Total Price (USD)
Network load balancing (10 LCUs)	• 2023/04/18 9:30:00 – 2023/04/19 00:00:00 870 minutes • 2023/04/19 00:00:00 – 2023/04/19 12:00:00 720 minutes	• 870/60 × 0.07 = 1.015 • 720/60 × 0.07 = 0.84	1.015 + 0.84 = 1.855
Application load balancing (10 LCUs)	• 2023/04/18 9:30:00 – 2023/04/19 00:00:00 870 minutes • 2023/04/19 00:00:00 – 2023/04/19 10:00:00 600 minutes	• 870/60 × 0.07 = 1.015 • 600/60 × 0.07 = 0.7	1.015 + 0.7 = 1.715
Application load balancing (20 LCUs)	2023/04/19 10:00:00 – 2023/04/19 12:00:00 120 minutes	(120/60) × 0.14= 0.28	0.28

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

Figure 2-4 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 Details**.

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.

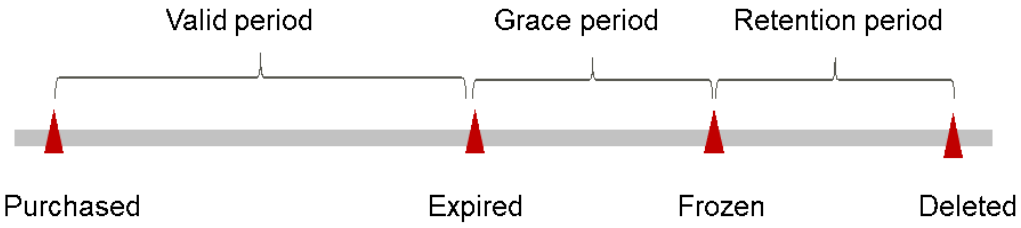
Assume that you purchased a pay-per-use load balancer at 9:00:00, deployed it in two AZs, and selected small I for both application load balancing and network load balancing. Later you upgraded small I to small II for both application load balancing and network load balancing. The following items are 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 2-5 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 2-5 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 **Topping Up an Account**.

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 **the number of LCUs used by a load balancer per hour**. An LCU measures the dimensions on which a dedicated load balancer routes the traffic. See LCU prices in **LCU Pricing**.	Pay-per-use and yearly/monthly	**Unit price** × **Number of LCUs**
Load Balancer	You are charged for **how long a dedicated load balancer is retained in your account**. 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	**Unit price** × **Required duration**

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	√	×
Yearly/ Monthly	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.

  For details about EIP pricing, see **Elastic IP Pricing Details**.

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.
Yearly/ Monthly	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)	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. • When there are more than 10 processed rules, the number of rule evaluations is calculated as follows: Rule evaluations = QPS × (Number of processed rules – 10). • When there are 10 or fewer processed rules, the number of rule evaluations is equal to the QPS.

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 ÷ 800 = **1.25**	2
Maximum concurrent connections per minute	180,000 maximum concurrent connections	180,000 ÷ 100,000 = **1.8**	2
Processed bytes per hour	1,000 KB/s × 60s × 60 minutes = 3.6 GB	3.6 ÷ 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 ÷ 25 = **40**	40
Maximum concurrent connections per minute	180,000 maximum concurrent connections	180,000 ÷ 3,000 = **60**	60
Processed bytes per hour	1,000 KB/s × 60s × 60 minutes = 3.6 GB	3.6 ÷ 1 = **3.6**	4
Rule evaluations per second	Rule evaluations are calculated as: Rule evaluations = QPS × (Number of processed rules – 10) = 400 × (20 – 10) = 4,000	4,000 ÷ 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 x Number of LCUs = $0.00833 USD x 60 = $0.4998 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
Small II	20	20
Medium I	40	40
Medium II	80	100
Large I	200	200
Large II	400	400

Yearly/Monthly

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

Table 3-9 LCUs of each fixed specification

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

- If your shared load balancers were created after February 10, 2023, guaranteed performance were enabled for them by default, and you need to pay for the load balancers. Shared load balancers created before February 10, 2023 are free of charge and guaranteed performance is not enabled for them. You can manually enable guaranteed performance by referring to **Enabling Guaranteed Performance for a Shared Load Balancer**. Once this feature is enabled, you will need to pay for the load balancers.

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 **how long a shared load balancer is retained in your account**. 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 and yearly/monthly	**Unit price × Required duration**

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.

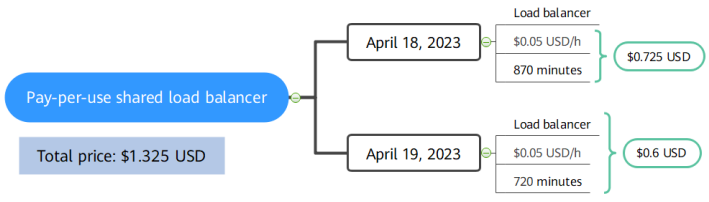
Table 4-2 Billing details

Billing Item	Required Duration	Pricing Details (USD)	Total Price (USD)
Load balancer	• 2023/04/18 9:30:00 – 2023/04/19 00:00:00 870 minutes • 2023/04/19 00:00:00 – 2023/04/19 12:00:00 720 minutes	• 870/60 × 0.05 = 0.725 • 720/60 × 0.05 = 0.6	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

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**.

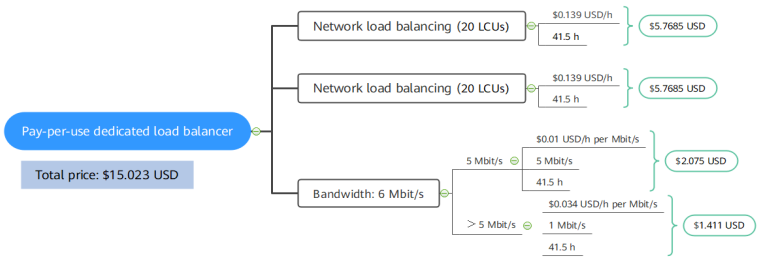
Billing Analysis

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

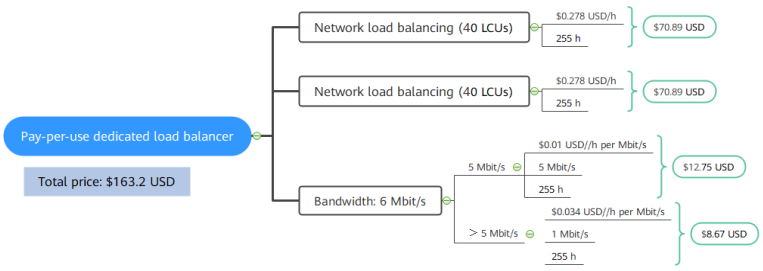
From April 18, 2023, 15:30:00 to April 20, 2023, 09:00:00, the small I load balancer was used for 41.5 hours, so the price would be calculated as shown in the following figure.

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 Changing the Billing Mode

6.1 Overview

You can also change the billing mode of your load balancer later if it no longer meets your needs. **Table 6-1** lists whether the billing mode can be changed.

Table 6-1 Billing modes that can be changed

Billing Mode	Specifications	Description	Reference
Pay-per-use	Elastic	Cannot be changed.	-
	Fixed	Can be changed to yearly/monthly.	**Changing Pay-per-Use to Yearly/Monthly**
Yearly/Monthly	Fixed	Can be changed to pay-per-use upon expiration.	**Changing Yearly/Monthly to Pay-per-Use**

6.2 Changing Pay-per-Use to Yearly/Monthly

After you have purchased a pay-per-use load balancer, if you need to use the load balancer for a long time, you can change the billing mode to yearly/monthly. Doing so will create an order. After you pay for the order, yearly/monthly billing will be applied immediately.

NOTE

Changing the billing mode from pay-per-use to yearly/monthly does not interrupt services.

Suppose you bought a pay-per-use load balancer at 15:29:16 on April 18, 2025 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 & Costs** > **Bills** page, three billing records were generated for:

- Pay-per-use expenditures for the period from 15:29:16 to 16:00:00 on April 18, 2025
- Pay-per-use expenditures for the period from 16:00:00 to 16:30:30 on April 18, 2025
- Yearly/monthly expenditure for the period from April 18, 2025, 16:30:30

Prerequisites

The billing mode of the load balancer is pay-per-use.

Procedure

1. Go to the **load balancer list page**.
2. On the load balancer list page, locate the target load balancer, and choose **More** > **Change to Yearly/Monthly** in the **Operation** column.
3. Click **Change**.
4. On the **Change Subscription** page, configure the renewal duration and click **Pay**.

   NOTE

   If **Auto-renew** is selected, the load balancer will be automatically renewed as follows:
   - Monthly subscription: The load balancers will be renewed each month.
   - Yearly subscription: The load balancers will be renewed each year.
5. Confirm the order, select a payment method, and click **Confirm**.

NOTE

When you change the billing mode of a dedicated load balancer from pay-per-use to yearly/monthly, you can choose to change the billing mode of its EIP from pay-per-use to yearly/monthly.

6.3 Changing Yearly/Monthly to Pay-per-Use

After creating a load balancer, you can change its billing mode from yearly/monthly to pay-per-use to save costs and use the load balancer more flexibly.

Changing Yearly/Monthly to Pay-per-Use Immediately

1. Go to the **load balancer list page**.
2. On the displayed page, locate the target load balancer and choose **More** > **Change to Pay-per-Use Immediately** in the **Operation** column.
3. On the **Change to Pay-Per-Use** page, confirm the information and click **Change to Pay-Per-Use**.

Changing Yearly/Monthly to Pay-per-Use upon Expiration

1. Go to the **load balancer list page**.
2. Locate the load balancer and choose **More** > **Change to Pay-per-Use upon Expiration** in the **Operation** column.

3. On the **Change to Pay-per-Use After Expiration** page, confirm the information and click **Change to Pay-per-Use**.

NOTE

Yearly/Monthly billing can only be changed to pay-per-use billing in certain regions. You can check which regions support this function on the console.

7 Renewing Subscriptions

7.1 Overview

When to Renew Subscriptions

If a yearly/monthly load balancer is about to expire but you want to continue using it, you need to renew the subscription within a specified period, or the load balancer will be automatically released, and data will be lost and cannot be restored.

Only yearly/monthly load balancer subscriptions can be renewed. If you use pay-per-use load balancers, ensure that your account has sufficient balance to pay your amount due. For details, see **Topping Up an Account**.

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

How to Renew Subscriptions

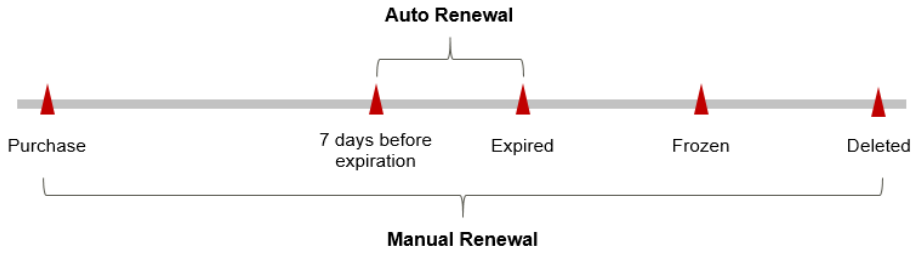
You can renew a yearly/monthly load balancer manually or automatically.

Table 7-1 Renewing a yearly/monthly load balancer

Method	Description
Manually Renewing a Load Balancer	You can renew a yearly/monthly load balancer on the console anytime before it is automatically released.
Auto-renewing a Load Balancer	You can enable auto-renewal to automatically renew a load balancer before it expires. This prevents the load balancer from being released in case you forget to renew the subscription.

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

Figure 7-1 Selecting a renewal method



- A load balancer is in the running state after it is provisioned.
- When a load balancer expires, its status will change from **Running** to **Expired**.
- If the load balancer is not renewed, it enters a grace period. If it is not renewed by the time the grace period expires, the load balancer 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 released.

NOTE

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

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

7.2 Manually Renewing a Load Balancer

You can renew a yearly/monthly load balancer on the console anytime before it is automatically released.

Renewing a Load Balancer on the Console

1. Go to the **load balancer list page**.
2. On the load balancer list, select the yearly/monthly load balancers you want to renew.
3. Click **More** > **Renew** in the **Operation** column

   NOTE

   You can renew multiple yearly/monthly load balancers at a time.

   1. Select multiple yearly/monthly load balancers to be renewed.
   2. On the top of the load balancer list, click **Renew**.
   3. In the displayed dialog box, confirm the information and click **Yes**.

4. Select a renewal duration and optionally select **Renew on the standard renewal date**. For details, see **Setting the Same Renewal Day for Yearly/Monthly Load Balancers**. Confirm the fee and click **Pay**.
5. Select a payment method and make your payment. Once the order is paid, the renewal is complete.

Renewing a Load Balancer in Billing Center

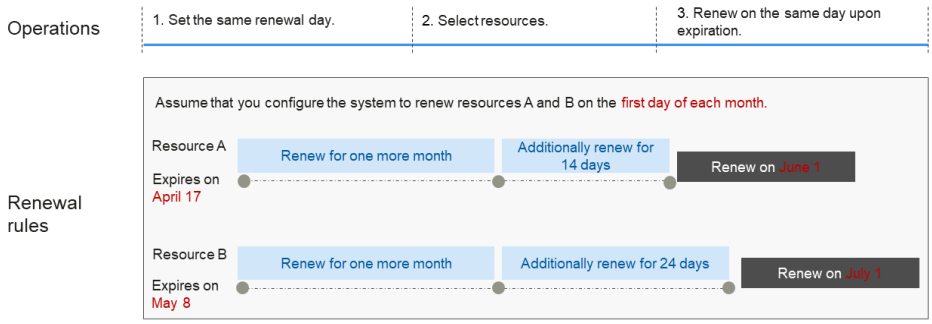
1. Go to the **Renewals** page.
2. Set the search criteria.
3. On the **Manual Renewals**, **Auto Renewals**, **Pay-per-Use After Expiration**, and **Renewals Canceled** tab pages, you can view the resources to be renewed.
4. You can move all resources that need to be manually renewed to the **Manual Renewals** tab. For details, see **Restoring to Manual Renewal**.
5. Manually renew the resources.
   a. Individual renewal: Click **Renew** in the **Operation** column for the desired resource.
   b. Batch renewal: Check the boxes for the desired resources, and click **Batch Renew** in the upper left corner.
6. Select a renewal duration and optionally select **Renew on the standard renewal date**. For details, see **Setting the Same Renewal Day for Yearly/Monthly Load Balancers**. Confirm the fee and click **Pay**.
7. Select a payment method and confirm the payment. After you pay the order, the renewal is complete.

Setting the Same Renewal Day for Yearly/Monthly Load Balancers

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

In **Figure 7-2**, a user sets the same renewal day for two resources that will expire at different dates.

Figure 7-2 Setting the same renewal day for resources with different expiry dates



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

7.3 Auto-renewing a Load Balancer

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

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

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

Prerequisites

The yearly/monthly load balancer is not expired.

Enabling Auto-Renewal During Purchase

You can enable auto-renewal when buying a load balancer. For details, see **Creating a Dedicated Load Balancer**.

The auto-renewal period of a load balancer depends on the subscription term.

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

Enabling Auto-Renewal on the Renewals Page

1. Go to the **Renewals** page.
2. Set the search criteria.
   a. On the **Auto Renewals** page, you can view resources for which auto-renewal has been enabled.
   b. You can enable auto-renewal for resources on the **Manual Renewals**, **Pay-per-Use After Expiration**, and **Renewals Canceled** tabs.
3. Enable auto-renewal for yearly/monthly load balancers.
   a. Enabling auto-renewal for a single resource: Select the load balancer for which you want to enable auto-renewal and choose **More** > **Enable Auto-Renewal** in the **Operation** column.

b. Enabling auto-renewal for multiple resources at a time: Select the load balancers for which you want to enable auto-renewal and click **Enable Auto-Renewal** above the list.

4. Select a renewal period, specify the auto-renewal times, and click **OK**.
5. If auto-renewal is enabled on the **Renewals** page, the auto-renewal period is subject to the selected renewal period and number of auto-renewals. For example, if you set the **New Auto-Renew Period** to **3 months** and **Auto-renewals** to **Unlimited**, your subscription is automatically renewed for three months before it expires.

8 Bills

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

Bill Generation

- Yearly/Monthly: Transaction records for yearly/monthly subscriptions are generated immediately after being paid for.
- 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.

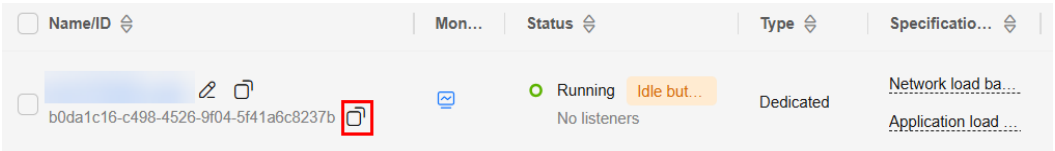
Viewing Bills of a Specific Load Balancer

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 8-1 Copying the resource ID

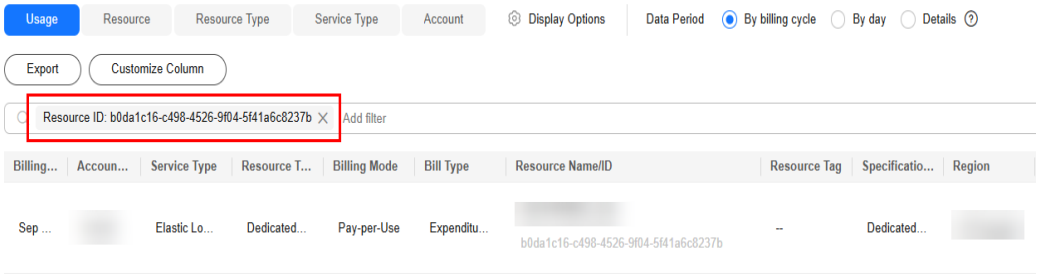


Step 3 On the top menu bar, choose **Billing** > **Bills**.

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 8-2 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 8-1**.

  Table 8-1 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: • 2023/04/08 10:09:06 – 2023/04/08 11:00:00 • 2023/04/08 11:00:00 – 2023/04/08 12:00:00 • 2023/04/08 12:00:00 – 2023/04/08 12:09:06

List Price	List price on the official website = Usage × Unit price 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 **Elastic Load Balance Pricing Details** page. For example, if the unit price is $0.278 USD/hour, the list price for the first period = (3,054 ÷ 3,600) × 0.278 = $0.23583667 USD. Similarly, you can calculate the ELB list price for the other usage periods.
Discounted Amount	Discounts offered for cloud services, for example, commercial discounts, partner authorized discounts, and promotional discounts.
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. Take the first usage period as an example. The truncated amount is $0.00083667 USD.
Amount Due	Amount due = List price – Discounted amount – Truncated amount 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 8-2** illustrates the ELB bill details, which can be used to check against the actual usage.

  Table 8-2 ELB expenditure details

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

Usage Type	**l7_lcu_duration** and **l4_lcu_duration**
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 load balancers on the **ELB Pricing Details** page.
Unit	USD/h (Displayed on the **ELB Pricing Details** page)
Usage	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.
Usage Unit	Hour
List Price	List price on the official website = Usage × Unit price In this example, the load balancer is used for two hours, and the unit price is obtained on the **ELB Pricing Details** page. If the unit price is $0.278 USD/hour, the list price = 2 × $0.278 USD = $0.556 USD.
Discounted Amount	Discounts offered for cloud services, for example, commercial discounts, partner authorized discounts, and promotional discounts.
Amount Due	Amount that should be paid for used cloud services after discounts are applied.

9 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

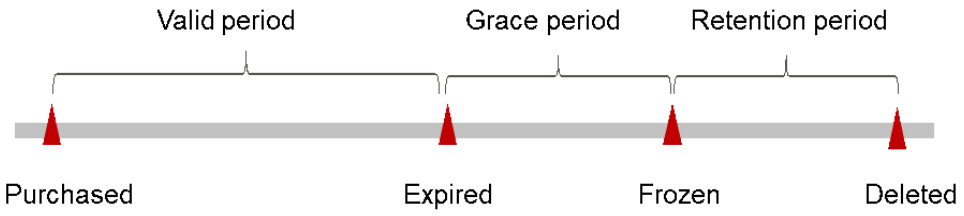
- Pay-per-use

  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 9-1 Lifecycle of a pay-per-use load balancer

  NOTE

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

Avoiding and Handling Arrears

Top up your account immediately after your account is in arrears. For details, see **Topping Up an Account**.

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

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.

10 Stopping Billing

Yearly/Monthly Load Balancers

When you purchase a yearly/monthly load balancer, 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 yearly/monthly resource, but the subscription has not yet expired, you can unsubscribe from it. Depending on what coupons were used for the purchase, Huawei Cloud may issue you a refund. For details about unsubscription rules, see **Unsubscriptions**.
- If you have enabled auto-renewal, disable it before the auto-renewal deduction date (seven days before the expiration date by default) to avoid unexpected fees.

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

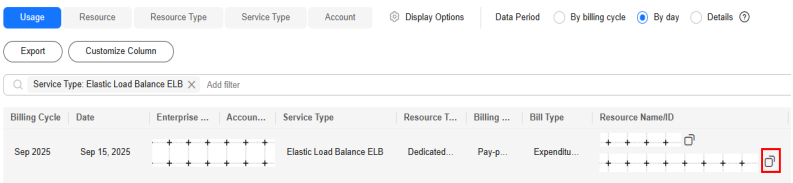
To ensure that all related resources are deleted, you can search the billing records by resource ID, and then delete the resources you identify.

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 10-1 Copying the load balancer ID

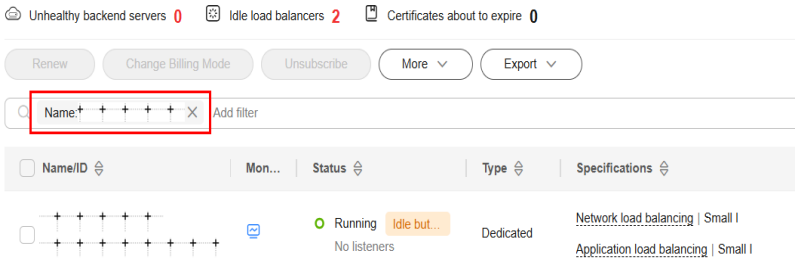


Step 3 Log in to the management console and choose **Networking** > **Elastic Load Balance** from the service list.

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 10-2 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.

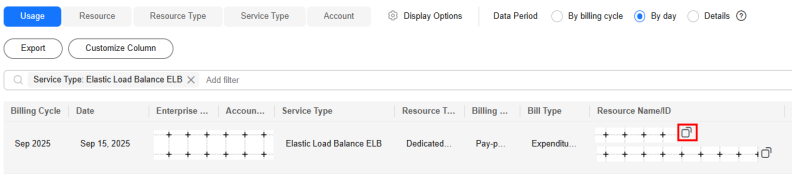
----End

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 10-3 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 to search for the resource.

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

11 Cost Management

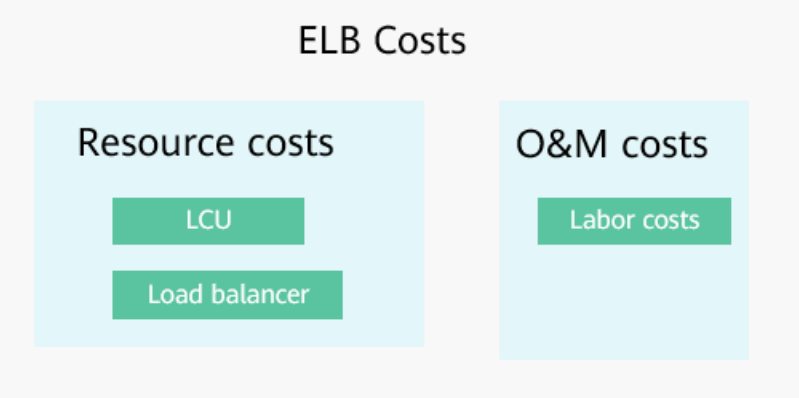
As you migrate more of your services to the cloud, managing cloud costs becomes more important. For example, you may be more concerned with cost management when using ELB. The following describes how you can manage costs in terms of cost composition, allocation, analysis, and optimization to maximize 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 11-1 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 11-2 Selecting an enterprise project for a load balancer

- **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).

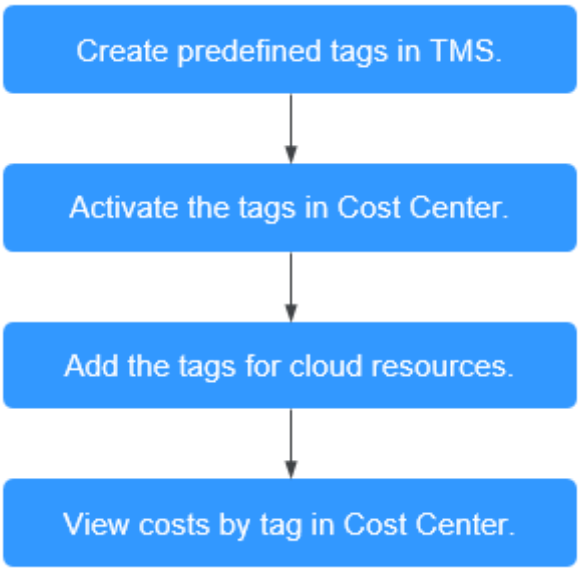
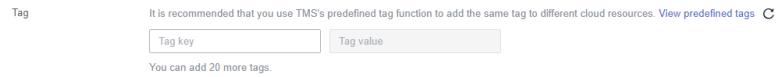
  

Figure 11-3 Adding a tag to a load balancer



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 more information, see **Allocating Costs By Cost Category**.

Cost Analysis

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

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

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

Cost Optimization

- **Cost control**

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

  Suppose you want to create a monthly budget of $2,000 USD for 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 11-4 Basic budget information

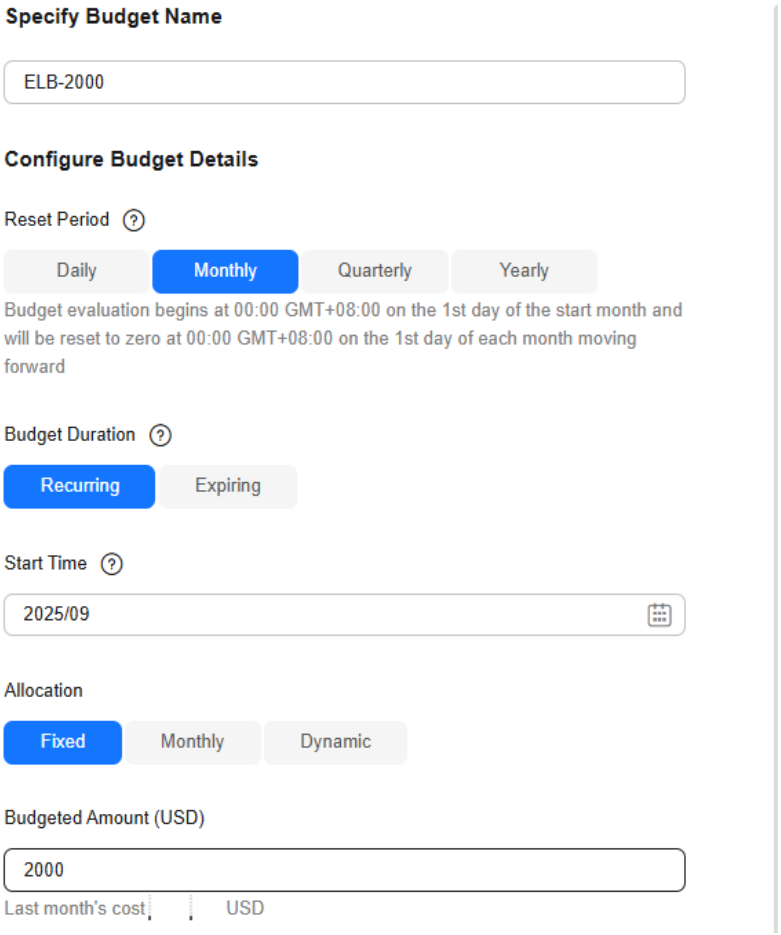


Figure 11-5 Defining the budget scope

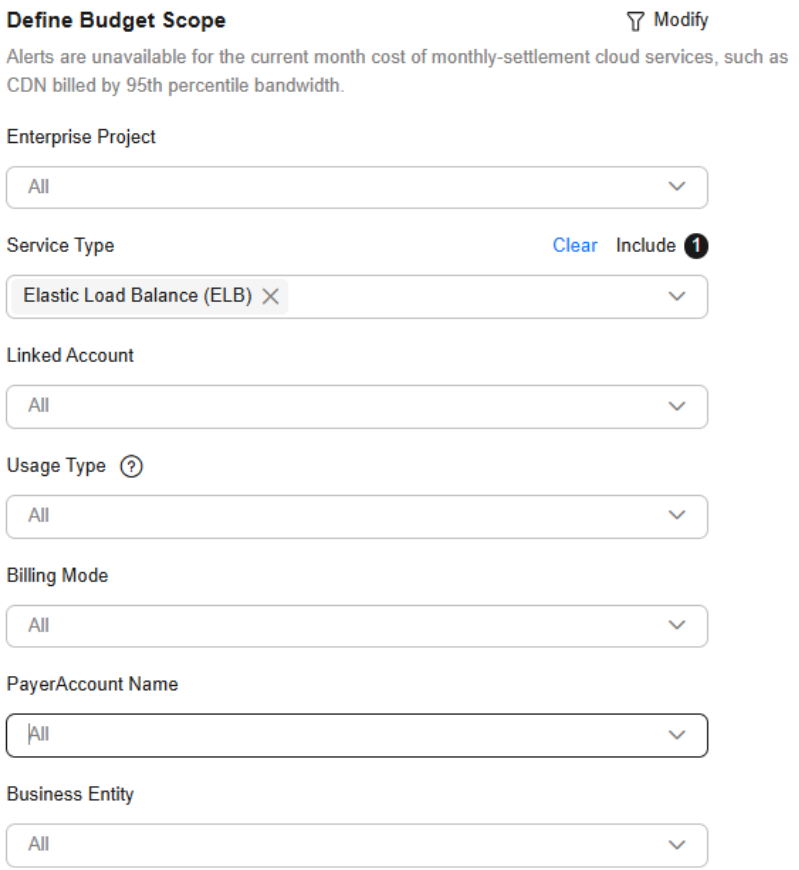
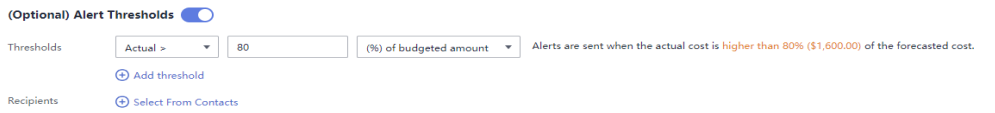


Figure 11-6 Setting a budget alert



For details, see **Enabling Forecasting and Creating Budgets to Track Cost and Usage**.

- **Resource rightsizing**

  Cloud Eye helps you monitor resource usage, identify idle resources, and find opportunities to save costs. You can also identify resources with high costs based on 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.
  - **Auto Launch Group**: In just a few clicks, you can deploy instance clusters that use different billing modes, are distributed across AZs, and have different instance specifications. Use this method when stable computing power needs to be quickly delivered and spot instances need to be used to reduce costs.
  - **Resource Formation Service**: Resource stacks with multiple cloud resources and dependencies can be deployed and maintained with just a few clicks. Use this service to deliver the entire system or clone an environment.
  - **Application Operations Management**: Groups of O&M operations can be defined as services to make it much easier to execute various O&M tasks. Use this service for scheduled O&M, batch O&M, and cross-region O&M.

12 FAQs

12.1 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.

12.2 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.

12.3 Do I Need to Adjust the Bandwidth of Shared Load Balancers Based on the Bandwidth Used by Backend Servers?

- If a public network load balancer is used, the bandwidth used by its EIP depends on the incoming traffic. It is not determined by the bandwidth used by backend servers. However, you may need to adjust its bandwidth if there is a surge in incoming traffic, which will cause the load balancer to automatically scale up.
- If the load balancer is used on a private network, there is no need to adjust.

12.4 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**.

12.5 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.

