Application Operations Management

Billing

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HUAWEI CLOUD COMPUTING TECHNOLOGIES CO., LTD.

Huawei Cloud Computing Technologies Co., Ltd.

Address: Huawei Cloud Data Center Jiaoxinggong Road
Qianzhong Avenue
Gui'an New District
Gui Zhou 550029
People's Republic of China

Website: https://www.huaweicloud.com/intl/en-us/

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1 Billing Overview

In this document, you will learn about how Application Operations Management (AOM) 2.0 is billed, what are the billing items, and what happens if your account goes into arrears.

📖 **NOTE**

> For pricing details, go to **Price Calculator**.

- **Billing Modes**

  AOM supports pay-per-use billing. You can start using resources first and then pay as you go. For details, see **2.1 Overview**.

- **Billing Items**

  You will be billed based on reported custom metrics, metric storage duration, and data dump volume. For details, see **3 Billing Items**.

- **Bills**

  To learn about your expenditures, go to **Billing Center** > **Billing**, and view the transactions and detailed bills related to AOM. For details, see **4 Bills**.

- **Arrears**

  If there is not a sufficient account balance to pay for your bill and there is no other payment method configured, your account will go into arrears. To continue using your cloud services, top up your account in a timely manner. For details, see **5 Arrears**.

- **Billing Termination**

  If you no longer need to use AOM, unsubscribe from it or delete its resources to avoid unnecessary fees. For details, see **6 Billing Termination**.

2 Billing Modes

2.1 Overview

AOM supports pay-per-use billing. You will be billed based on reported custom metrics, metric storage duration, and data dump volume. You can start using resources first and then pay as you go.

This allows you to adjust resource usage easily. You neither need to prepare for resources in advance, nor end up with excessive or insufficient preset resources.

2.2 Pay-per-Use Billing

Pay-per-use allows you to use resources before paying for them. It is recommended when you do not want to pay in advance or do not need the resources for long. This section describes the billing rules of AOM.

Scenario

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

Billing Items

You will be billed based on reported custom metrics, metric storage duration, and data dump volume.

Table 2-1 Billing items

Billing Item	Description
Reported custom metrics	The number of reported custom metrics refers to the number of sampling points. It is calculated based on the **open-source Prometheus data model**. A sampling point data record contains the metric name, label set, sampling timestamp, and value. Sampling points are logically organized on a time line. For example, the **kube_node_status_allocatable_cpu_cores** metric monitors the number of CPU cores that can be allocated to each node in a Kubernetes cluster. If your cluster contains three nodes, the sampling points are distributed on three different timelines. If the sampling period of each node is 15s, the total number of reported sampling point data records within 1 minute can be calculated as follows: 3 x (60/15) = 12. Scenarios where custom metrics are reported: **8.3 Why Are Additional Fees Incurred After Prometheus Instances Are Connected?**
Metric storage duration	By default, metrics can be stored for 15 days for free. You will be billed for excess days of storage.
Data dump volume	Amount of data that is dumped.

Billing Cycle

The system settles the usage-based fees generated on the previous day at a fixed time every day. It generates a bill for the previous day from 13:00 to 22:00 every day, sends the bill to you, and automatically deducts the fees from your account balance. The settlement time varies depending on actual situations. Pay-per-use resources are settled every day (UTC +08:00).

📖 **NOTE**

> AOM generates a bill for each Prometheus instance. If your cloud account has multiple pay-per-use instances, multiple bills are generated.

Impact of Changing Prometheus Instances

Scenario: Changing Prometheus instance A to B for custom metric reporting

Impact: If you purchase a pay-per-use Prometheus instance to which custom metrics are reported and then change the instance type, the old bill will be ended while a new bill is generated based on the price of the new instance.

If you change the Prometheus instance type multiple times within a day, multiple bills will be generated. Different bills record the billing for different specifications.

For example, you use Prometheus_A at 09:00:00 and change it to Prometheus_B at 09:30:00. There will be two bills generated between 09:00:00 and 10:00:00.

- The first bill corresponds to Prometheus_A fees generated during 09:00:00–09:30:00.
- The second bill corresponds to Prometheus_B fees generated during 09:30:00–10:00:00.

Arrears Impact

Arrears Alert

The system will deduct fees for pay-per-use resources at the end of each billing cycle. You will be notified by email, SMS, or internal messages when your account is in arrears.

Arrears Impact

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

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

If you do not pay the arrears after the retention period expires, your resources will be released and deleted, and their data cannot be restored.

⚲ NOTE

- Both the grace and retention periods are 15 days.
- For details about top-up, see **Top-Up and Repayment**.

3 Billing Items

Billing Description

You will be billed based on reported custom metrics, metric storage duration, and data dump volume. For details, see **Table 3-1**.

> 📖 **NOTE**
>
> Only reported custom metrics will be billed. All basic metrics are free of charge, including **VM**, **container**, **ModelArts**, and **IoTDA** metrics.

Table 3-1 Pay-per-use prices of billing items

Billing Item	Description	Price
Reported custom metrics	The number of reported custom metrics refers to the number of sampling points. It is calculated based on the **open-source Prometheus data model**. A sampling point data record contains the metric name, label set, sampling timestamp, and value. Sampling points are logically organized on a time line. For example, the **kube_node_status_allocatable_cpu _cores** metric monitors the number of CPU cores that can be allocated to each node in a Kubernetes cluster. If your cluster contains three nodes, the sampling points are distributed on three different timelines. If the sampling period of each node is 15s, the total number of reported sampling point data records within 1 minute can be calculated as follows: 3 x (60/15) = 12. Scenarios where custom metrics are reported: **8.3 Why Are Additional Fees Incurred After Prometheus Instances Are Connected?**	• 0–150 million metrics: $0.1 USD/million metrics/day • 150–600 million metrics: $0.07 USD/million metrics/day • 600–1200 million metrics: $0.05 USD/million metrics/day • > 1200 million metrics: $0.04 USD/million metrics/day
Metric storage duration	By default, metrics are stored for 15 days for free. You will be billed after 15 days.	$0.002 USD/million metrics/day
Data dump volume	Amount of data that is dumped.	$0.037 USD/GB

Billing Examples

The following uses reported custom metrics as an example.

> **NOTICE**
>
> The prices mentioned in the following are only for reference. For details, see **Price Calculator**.

Assume that you have one server and 800 million metrics are reported every day. You will be billed based on three price ranges. The fee is calculated as follows:

- 0–150 million metrics: $0.1 USD x 150

- 150–600 million metrics: $0.07 USD x 450

- 600–1200 million metrics: $0.05 USD x 200

Total daily fee: $0.1 USD x 150 + $0.07 USD x 450 + $0.05 USD x 200 = $56.5 USD

Billing Comparison Between AOM 2.0 and AOM 1.0

Table 3-2 Billing comparison between AOM 2.0 and AOM 1.0

Billing Item		AOM 1.0	AOM 2.0
Logs	Log read/write traffic	Log functions are provided by LTS. Charging data records (CDRs) are reported by LTS instead of AOM. You will not be billed twice.	Same as AOM 1.0
	Log index traffic		
	Log storage space		
Monitoring center	Host monitoring	Pay-per-use	Basic metrics are free of charge, but custom metrics are not.
	CCI instance monitoring	Pay-per-use	
	Metrics in real-time monitoring	Pay-per-use	
	Custom metrics	Pay-per-use	
	API calls (metrics query)	Pay-per-use	Free
	Events and alarms	Pay-per-use	Free
	Metric storage	Free for 7 days	Free for 15 days
	Data dump volume	Free	Pay-per-use

4 Bills

You can view the bill of a resource in the **Billing** section of Billing Center to learn about its usage and billing information in a certain period.

Bill Reporting Period

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

For example, for a cloud server deleted at 08:30:00 on June 18, 2023, its fees generated between 08:00:00 and 09:00:00 on that day were usually deducted at 00:00:00 on June 19, 2023.

You can choose **Billing & Costs** > **Bills** > **Billing** > **Transactions and Detailed Bills** > **Transaction Bills**, and set **Billing Mode** to **Pay-per-Use** and **Service Type** to **Application Operations Management (AOM)** to view **Expenditure Time** (that is, the actual usage time).

Viewing Transactions and Detailed Bills

Step 1 Log in to the management console.

Step 2 Choose **Billing & Costs** > **Bills** > **Billing** > **Transactions and Detailed Bills**.

- On the **Transaction Bills** tab page, select a billing cycle and set **Service Type** to **Application Operations Management (AOM)** to view AOM transaction bills.

- On the **Bill Details** tab page, select a billing cycle, specify a statistical dimension and period, and set **Service Type** to **Application Operations Management (AOM)** to view AOM bill details.

----End

5 Arrears

If there is not a sufficient account balance to pay for your bill and there is no other payment method configured, your account will go into arrears. To continue using your cloud services, top up your account in a timely manner.

Arrears Reason

In pay-per-use mode, your account goes into arrears when the account balance is insufficient.

Arrears Impact

If your account is insufficient to pay your amount, your account goes into arrears. However, your resources will not be stopped immediately; instead, they enter the grace period. You will need to pay the fees incurred during the grace period. To view details, go to the **Billing Center** > **Overview** page. Huawei Cloud will deduct the fees after you top up your account.

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

If you do not pay the outstanding amount after the retention period expires, your resources will be released and data cannot be restored.

Figure 5-1 Life cycle of a pay-per-use AOM resource
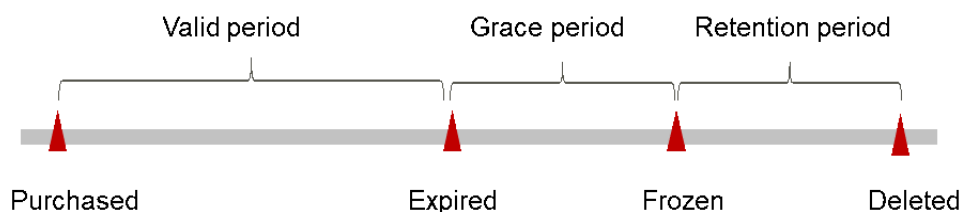
☐ **NOTE**

Both the grace and retention periods are 15 days.

Avoiding and Handling Arrears

Top up your account in time. For details, see **Top-Up and Repayment**.

Enable balance alert on the **Billing Center** > **Overview** page. When the total amount of the available quota, general cash coupons, and cash coupons is lower than the threshold, you will be notified by SMS or email.

If your account is in arrears, top up in time.

6 Billing Termination

For pay-per-use resources, reported metrics and logs will be automatically stored on AOM 2.0 for one month. One month later, the system will automatically delete them and the billing will then stop. To continue using these metrics and logs, store them in the following ways:

- Logs: **Dump logs** to OBS buckets for long-term storage.

  □ NOTE

  > Charging data records (CDRs) are reported by LTS instead of AOM. You will not be billed twice.

- Metrics: Forward metrics to Distributed Message Service (DMS) or Webhook topics for storage through **data subscription**.

7 Cost Management

Enterprises are paying more and more attention to the cost of using cloud. How can you manage costs when using AOM? This section describes cost composition, allocation, analysis, and optimization to maximize return on investments.

Cost Composition

There are two cost components when you use AOM.

- Resource costs: depend on AOM billing items. For details, see **3 Billing Items**.
- O&M costs: labor costs incurred during the use of AOM.

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 ensures that departments, business teams, and owners are accountable for their respective cloud costs. Allocate costs to different teams or projects so that your organization has a clear picture of their respective costs.

Huawei Cloud **Cost Center** supports cost collection and reallocation with multiple tools.

- **By linked account**

 An enterprise master account can manage the accounting of associated member accounts. For details, see **Viewing Costs by Linked Account**.

- **By enterprise project**

  Before allocating costs, enable Enterprise Project Management Service (EPS) and plan your enterprise projects based on your organizational structure or service needs. Select an enterprise project when purchasing a pay-per-use cloud resource so that the costs of that resource will be categorized to the selected enterprise project. For details, see **Viewing Costs by Enterprise Project**.

- **By cost tag**

  Huawei Cloud assigns tags to your cloud resources so they can be sorted by purpose, owner, environment, or other dimensions. The following shows the procedure for managing costs by predefined tags.
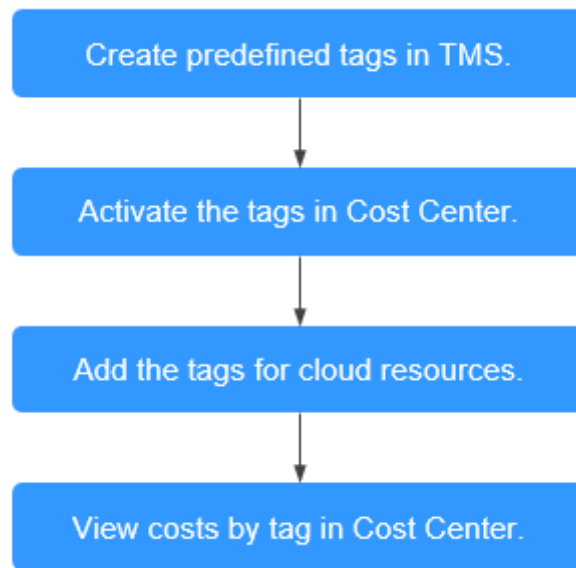
For details, see **Viewing Costs by Cost Tag**.

- **By cost category**

    You can use **Cost Categories** provided by **Cost Center** to split shared costs. Shared costs include the costs for the resources (compute, network, storage, or resource packages) shared across departments, and the costs that cannot be directly split by cost tag or enterprise project. These costs are not directly attributable to one owner, and hence cannot be categorized into one cost category. By defining split rules, you can fairly split these costs among teams or business units. For details, see **Viewing Cost By Cost Category**.

Cost Analysis

To precisely control and optimize your costs, you need a clear understanding of what parts of your enterprise incur costs. **Cost Center** visualizes your original costs or amortized costs using various dimensions and display filters. Analyze the trends and drivers of your service usage and costs from a variety of perspectives and scopes.

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 at a specified interval.

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

- **Resource optimization**

  You can monitor the usage of resources (such as the CPU, memory, and bandwidth) to evaluate whether your configurations are reasonable. Look for opportunities to save costs. You can also identify resources with high costs based on the results of **Cost Analysis** and optimize configurations accordingly.

8 Billing FAQs

8.1 Common Billing FAQs

How Do I View the Statistics of Reported Custom Metric Samples?

Go to the **Resource Usage** page of AOM to view such statistics. For details, see **Resource Usage Statistics**.

How Do I View Prometheus Metrics?

> 📖 **NOTE**
>
> Only the default Prometheus instance, and Prometheus instance for CCE or cloud services support the function of viewing metrics.

Step 1 Log in to the AOM 2.0 console.

Step 2 In the navigation pane on the left, choose **Prometheus Monitoring** > **Instances**.

Step 3 In the instance list, click a desired Prometheus instance. The instance details page is displayed.

Step 4 In the navigation pane on the left, choose **Service Discovery**. On the **Metrics** tab page, view the metric names and types of the current Prometheus instance.

----End

How Do I Discard Custom Metrics?

> 📖 **NOTE**
>
> ● Discard custom metrics when they are no longer used. After metrics are discarded, you will not be billed for them.
> ● Only the default Prometheus instance, and Prometheus instance for CCE or cloud services support the function of discarding metrics.

Step 1 Log in to the AOM 2.0 console.

Step 2 In the navigation pane on the left, choose **Prometheus Monitoring** > **Instances**.

Step 3 In the instance list, click a desired Prometheus instance. The instance details page is displayed.

Step 4 In the navigation pane on the left, choose **Service Discovery**. On the **Metrics** tab page, view the metric names and types of the current Prometheus instance.

Step 5 Discard custom metrics as required.

- To discard a metric, locate it and click ⊖ in the **Operation** column.
- To discard multiple metrics, select them and click **Discard** in the displayed dialog box.

📖 **NOTE**

A maximum of 100 metrics can be discarded each time.

----End

How Do I Restore Discarded Custom Metrics?

📖 **NOTE**

- If you need the discarded custom metrics again, restore them. Then they will be billed based on the latest billing rules.
- Only the default Prometheus instance, and Prometheus instance for CCE or cloud services support the function of restoring discarded metrics.

Step 1 Log in to the AOM 2.0 console.

Step 2 In the navigation pane on the left, choose **Prometheus Monitoring** > **Instances**.

Step 3 In the instance list, click a desired Prometheus instance. The instance details page is displayed.

Step 4 In the navigation pane on the left, choose **Service Discovery**. On the **Metrics** tab page, view the metric names and types of the current Prometheus instance.

Step 5 Click **Add Metric**. In the metric list, select the custom metrics to be restored and click **Confirm**.

----End

8.2 What Is the Billing Policy of Logs?

When using AOM for the first time, you are provided with the basic edition by default. You can enjoy a free tier, for example, 500 MB log read and write traffic. If the resource quota included in the package is used up, you will be billed on a pay-per-use basis.

AOM uses some log functions of **Log Tank Service (LTS)**, but will not charge you for using these functions. Instead, LTS reports service detail records (SDRs) and charges you for them. To stop billing, see **How Can I Stop Log Collection When My Free Quota Is Used Up to Avoid Extra Expenses?**

For more information, see **AOM Pricing Details**.

8.3 Why Are Additional Fees Incurred After Prometheus Instances Are Connected?

CCE Container Scenario

Generally, after you purchase a CCE cluster and deploy a workload, **basic metrics** about clusters, pods, containers, and nodes are collected by default. These metrics are reported free of charge.

Fees may be generated due to:

1. Prometheus instances have built-in service discovery functions, which collect and report custom metrics to AOM.

Table 8-1 Fees about built-in ServiceMonitor

ServiceMonitor	Fees Generated or Not	Default Value (Disabled: Custom Metrics Are Not Collected.)
etcd-server	Some custom metrics are involved, incurring fees.	Disabled
kube-controller	Some custom metrics are involved, incurring fees.	Disabled
kube-scheduler	Some custom metrics are involved, incurring fees.	Disabled
kubernetes-service-endpoints	Some custom metrics are involved, incurring fees.	Disabled

Table 8-2 Fees about built-in PodMonitor

PodMonitor	Fees Generated or Not	Default Value (Disabled: Custom Metrics Are Not Collected.)
istio	Some custom metrics are involved, incurring fees.	Disabled
kubernetes-pods	Some custom metrics are involved, incurring fees.	Disabled

2. You configure ServiceMonitor or PodMonitor to collect and report metrics to AOM, incurring fees. For example, custom middleware MySQL, Nginx, and service metrics in container scenarios.

Cloud Service Scenario

After **cloud services** are connected to AOM, some of them will incur fees. Details are as follows:

- Cloud services not billed: ModelArts, IoT Device Access (IoTDA), Intelligent EdgeFabric (IEF), and Cloud Service Engine (CSE).
- Cloud services billed: all services except ModelArts, IoTDA, IEF, and CSE.

ECS Scenario

In the ECS scenario, self-built middleware will incur fees.

If Node Exporter is installed in the ECS scenario, some metrics will incur fees.

Other Scenarios

Metrics other than **VM**, **container**, **ModelArts**, **IEF**, **CSE**, **IoTDA**, and **Node Exporter** metrics may incur fees when they are reported to AOM.