

Tag Management Service

Service Overview

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1 Tag Management Service

Tag Management Service (TMS) is a visualized service for quickly tagging and categorizing cloud services across fast and unified cross-regions.

Tags are used to identify cloud resources. When you have cloud resources of the same type, you can use tags to classify cloud resources by dimension, for example, usage, owner, or environment.

Figure 1-1 Example tags

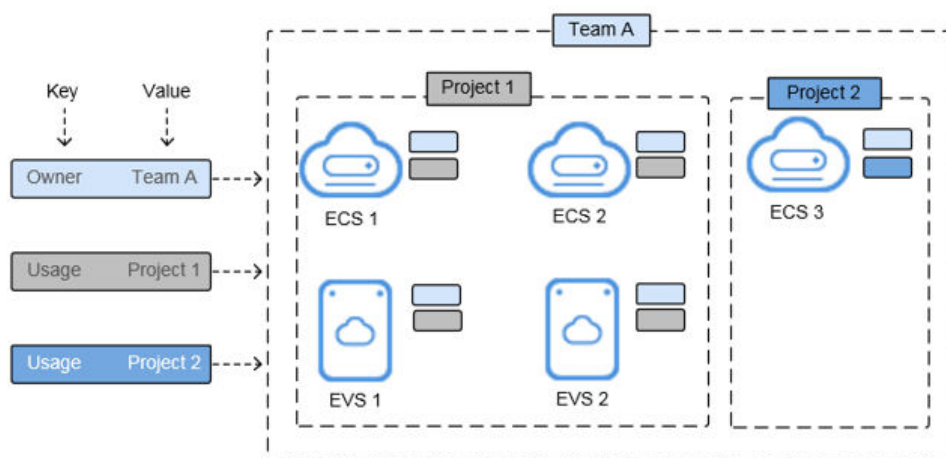


Figure 1-1 shows how tags work. In this example, you assign two tags to each cloud resource. Each tag contains a key and a value that you define. The key of one tag is **Owner**, and that of another tag is **Usage**. Each tag has a value.

You can quickly search for and filter specific cloud resources based on the tags added to them. For example, you can define a set of tags for cloud resources in an account to identify their owners and usage, making resource management easier.

TMS provides the following functions:

- Managing resources: Add tags to resources as needed to classify resources. TMS provides you with a visualized table to manage resource tags, including editing tags in batches.

- Searching for resources: Search for resources across services and regions regions by tag or by tag set.
- Predefined tag management: You can create, import, or export predefined tags. By predefining tags, you can plan tags according to your services to effectively manage tags.

 **NOTE**

TMS is free of charge.

2 Region and AZ

Concept

A region and availability zone (AZ) identify the location of a data center. You can create resources in a specific region and AZ.

- Regions are divided based on geographical location and network latency. Public services, such as Elastic Cloud Server (ECS), Elastic Volume Service (EVS), Object Storage Service (OBS), Virtual Private Cloud (VPC), Elastic IP (EIP), and Image Management Service (IMS), are shared within the same region. Regions are classified into universal regions and dedicated regions. A universal region provides universal cloud services for common tenants. A dedicated region provides specific services for specific tenants.
- An AZ contains one or more physical data centers. Each AZ has independent cooling, fire extinguishing, moisture-proof, and electricity facilities. Within an AZ, computing, network, storage, and other resources are logically divided into multiple clusters. to support high-availability systems.

Selecting a Region

If your target users are in Europe, select the **EU-Dublin** region.

Selecting an AZ

When deploying resources, consider your applications' requirements on disaster recovery (DR) and network latency.

- For high DR capability, deploy resources in different AZs within the same region.
- For lower network latency, deploy resources in the same AZ.

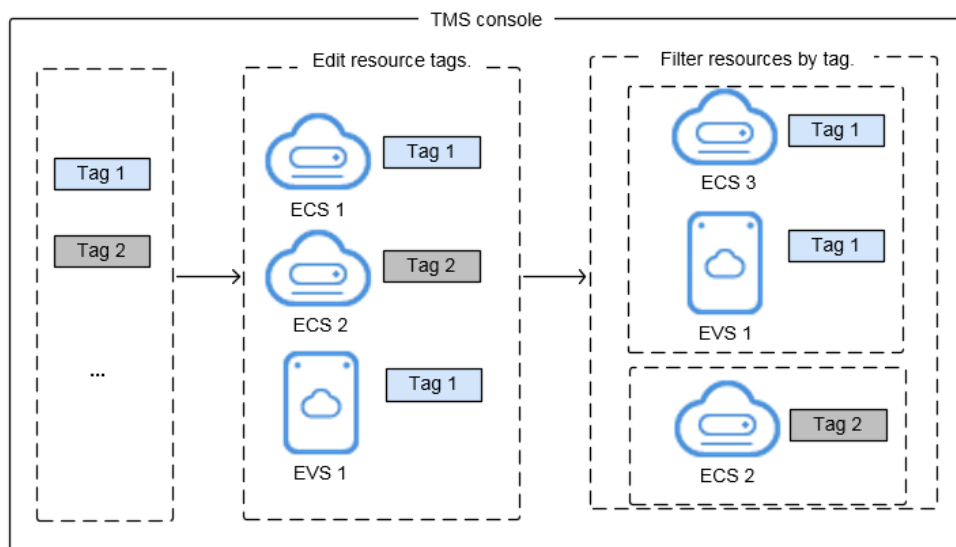
3 Application Scenarios

TMS is useful in the following typical application scenarios:

Central Management of Resources

For users who have many cloud resources, TMS allows them to quickly locate all of their resources with specific tags. TMS also provides a unified tag management platform, on which users can check, modify, or delete tags.

Figure 3-1 Central management of resources



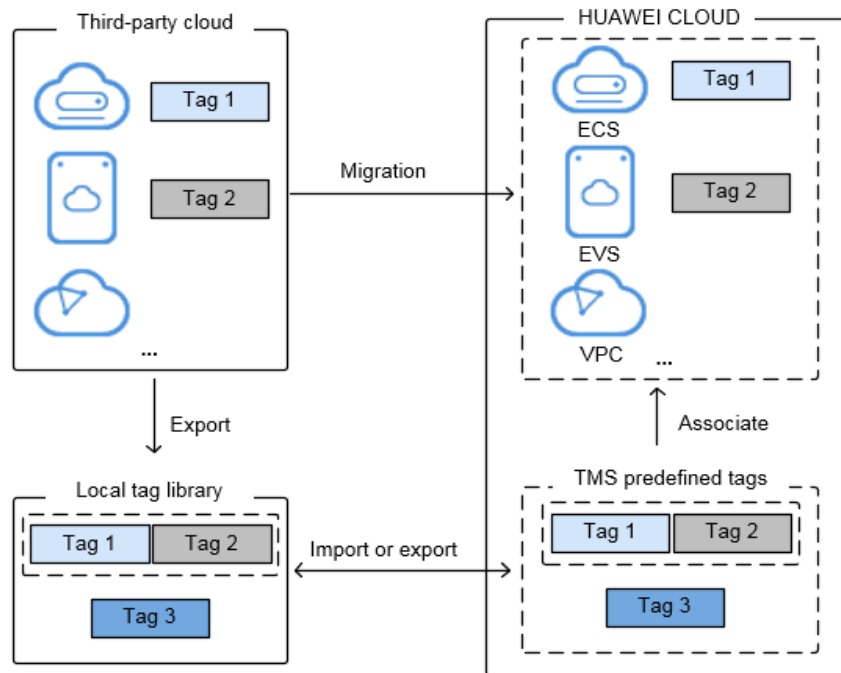
Quick Identification of Resources Migrated and to Be Migrated

For users who need to migrate large numbers of resources, TMS allows for the import and export of predefined tags. This improves the accuracy and efficiency of resource migration while eliminating the need to set tags each time.

- **Creating predefined tags:** You can create predefined tags on TMS before migrating resources. After resources are migrated, they can be associated directly with predefined tags.

- Importing and exporting predefined tags: If you have inventory tags, you can quickly import them to the predefined tag library of TMS. After resources are migrated, you can associate those resources with predefined tags. In addition, you can export predefined tags for editing.

Figure 3-2 Quick identification of resources migrated and to be migrated



4 TMS and Other Services

- Services that support TMS

TMS allows you to manage resource tags centrally. For which services are supported by TMS, you need to go to the TMS console to check it out.

A cloud service can have multiple resource types. You can select a resource type as required on the TMS console and manage the tags of this type of resources in a centralized manner.

- Related services

Table 4-1 Relationships with other services

Function	Service	Reference
With CTS, you can record operations associated with TMS for later query, audit, and backtrack operations.	Cloud Trace Service (CTS)	Key TMS Operations

5 Constraints and Limitations

The following are basic constraints on using tags:

Table 5-1 Constraints

Item	Specifications
Maximum number of key-value pairs you can add for each resource	10
Tags of each resource	For each resource, each tag key must be unique, and each tag key can have only one tag value.
Maximum number of predefined tags that you can create for an account	500
Predefined tags	If the created predefined tag is the same as an existing predefined tag, the existing predefined tag is overwritten. If only keys are the same and values are different, both the tags are available.
Tag keys	A tag key can contain a maximum of 36 characters, including digits, letters, underscores (_), and hyphens (-).
Tag values	A tag value can contain a maximum of 43 characters, including digits, letters, underscores (_), periods (.), and hyphens (-).

 **NOTE**

Not all resources are supported by TMS. For which services and resources are supported, you can go to the service console to check it out..

6 Accessing TMS

Huawei Cloud provides a web-based service management platform.

- APIs
To integrate TMS into a third-party system for secondary development, call APIs to access TMS. For details, see [Tag Management Service API Reference](#).
- Management console
The management console is a web user interface for you to manage your compute, storage, and other cloud resources. Users who have signed up with the public cloud can access TMS by selecting **Tag Management Service** under **Management & Governance** on the management console.

7 User Permissions

Permissions for the system are divided into user management and resource management permissions.

- User management refers to the management of users, user groups, and user group permissions.
- Users with resource management permissions can manage the operations performed on cloud service resources.

To use resource tags, you must have the corresponding permissions on the cloud service. Otherwise, the tag operations on cloud resources may not take effect.

Contact the system administrator to assign the corresponding cloud service permissions to the user group to which you belong.

NOTE

If you need to perform operations on tags of cloud resources on TMS console, you must have related permissions for viewing, creating, and deleting resource tags and required permissions for the services to which the resources belong. Modify a resource tag involves a process of deleting the old tag and then creating a new tag (with the same tag key but different tag values). So, to modify a cloud resource tag, you must have both related TMS permissions and service permissions to delete and create tags.

- For system-defined permissions: If you need to add or delete tags for ECS resources on TMS console, both **TMS FullAccess** permissions and **ECS FullAccess** permissions are required.
- For custom permissions: If you need to view ECS resources and tags on the TMS console, not only **tms:resourceTags:list** permissions, but **ecs:servers:getTags** and **ecs:servers:get** permissions are required.

8 Permissions

If you need to assign different permissions to personnel in your enterprise to access your cloud resources, Identity and Access Management (IAM) is a good choice for fine-grained permissions management. IAM provides identity authentication, permissions management, and access control, helping you securely access your Huawei Cloud resources.

With IAM, you can use your Huawei Cloud account to create IAM users for your employees, and assign permissions to the users to control their access to specific resource types. For example, if you need to grant some users the permissions to view TMS resources, but don't want these users to delete predefined tags, you can create users using IAM and assign TMS ReadOnlyAccess permissions to these users.

If your Huawei Cloud account does not require IAM for permissions management, you can skip this section.

IAM is a free service. You only pay for the resources in your account. For more information about IAM, see [IAM Service Overview](#).

TMS Permissions

New IAM users do not have any permissions assigned by default. You need to first add them to one or more groups and attach policies or roles to these groups. The users then inherit permissions from the groups and can perform specified operations on cloud services based on the permissions they have been assigned.

TMS is a global service deployed for all regions. When you set the authorization scope to **Global services**, users have permission to access TMS resources in all regions.

You can grant permissions by using roles and policies.

- **Roles:** A coarse-grained authorization strategy provided by IAM to assign permissions based on users' job responsibilities. Only a limited number of service-level roles are available for authorization. When using roles to grant permissions, you must also assign other roles which the permissions depend on to take effect. Roles are not ideal for fine-grained authorization and least privilege access.
- **Policies:** A fine-grained authorization strategy that defines permissions required to perform operations on specific cloud resources under certain

conditions. This type of authorization is more flexible and is ideal for least privilege access. The administrator can restrict a user to only specified operations on TMS using IAM policies. For example, if the user is granted a fine-grained permission to only view predefined tags, the user cannot perform other operations on predefined tags (such as creating or deleting predefined tags) with this permission. A majority of fine-grained policies contain permissions for specific APIs. For the API actions supported by TMS, see [Permissions Policies and Supported Actions](#).

Table 8-1 lists all the system-defined policies and roles for TMS. Some TMS policies depend on the policies of other services to take effect. When you assign TMS permissions to users, you also assign dependent policies for the TMS permissions to take effect.

Table 8-1 System-defined permissions for TMS

Role/Policy Name	Description	Type	Dependencies
TMS FullAccess	Full permissions for TMS.	System - defined policy	-
TMS ReadOnlyAccess	Read-only permissions for TMS.	System - defined policy	-

Role/Policy Name	Description	Type	Dependencies
TMS Administrator	Full permissions for TMS. Users with these permissions can query, create, delete, import, or export predefined tags, and create, delete, modify, or query resource tags.	System - defined role	Dependent on the following policies: <ul style="list-style-type: none"> ● Tenant Guest: a global/project-level policy that grants read-only permissions for all cloud services (except IAM). ● Server Administrator: A project-level policy, which must be assigned in the same project as the TMS Administrator policy. ● Tenant Administrator: A global/project-level policy that grants permissions of all cloud service administrators (except the IAM administrator permissions). ● IMS Administrator: a project-level policy, which must be assigned in the same project as the TMS Administrator policy ● AutoScaling Administrator: a project-level policy, which must be assigned in the same project as the TMS Administrator policy ● VPC Administrator: a project-level policy, which must be assigned in the same project as the TMS Administrator policy ● VBS Administrator: a project-level policy, which must be assigned in the same project as the TMS Administrator policy

Table 8-2 lists the common operations supported by system-defined permissions for TMS.

Table 8-2 Common operations supported by system-defined permissions

Operation	TMS FullAccess	TMS ReadOnlyAccess	TMS Administrator
Querying the cloud resource list	Supported (permissions of corresponding services for querying resources required)	Supported (permissions of corresponding services for querying resources required)	Supported (Tenant Guest required)
Creating a key	Supported	Not supported	Supported (Tenant Guest required)
Viewing resource tags	Supported	Supported	Supported (Tenant Guest required)
Creating resource tags	Supported (permissions of corresponding services for creating tags required)	Not supported	Supported (Tenant Guest and corresponding project policies of cloud resources required. For example, if you need to manage VPC tags, select Tenant Guest in the same project.)
Modifying resource tags	Supported (permissions of corresponding services for creating, deleting, and viewing tags required)	Not supported	Supported (Tenant Guest and corresponding project policies of cloud resources required. For example, if you need to manage VPC tags, select Tenant Guest in the same project.)
Deleting resource tags	Supported (permissions of corresponding services for deleting tags required)	Not supported	Supported (Tenant Guest and corresponding project policies of cloud resources required. For example, if you need to manage VPC tags, select Tenant Guest in the same project.)
Querying predefined tags	Supported	Supported	Supported

Operation	TMS FullAccess	TMS ReadOnlyAccess	TMS Administrator
Creating predefined tags	Supported	Not supported	Supported
Deleting predefined tags	Supported	Not supported	Supported
Exporting predefined tags	Supported	Supported	Supported
Importing predefined tags	Supported	Not supported	Supported

 **NOTE**

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Related Documents

- To learn about the IAM service, see [What Is IAM?](#)
- For details about how to create a user or a user group and how to grant TMS permissions, see [Creating a User and Granting Permissions](#).
- For details about permission policies and supported actions for TMS, see [Permissions Policies and Supported Actions](#).