

**Direct Connect**

# **API Reference**

|              |            |
|--------------|------------|
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# Contents

**1 Before You Start..... 1**

1.1 Introduction..... 1

1.2 API Calling..... 1

1.3 Endpoints..... 1

1.4 Constraints..... 1

1.5 Concepts..... 2

**2 API Overview..... 4**

**3 Calling APIs..... 5**

3.1 Making an API Request..... 5

3.2 Authentication..... 9

3.3 Response..... 11

**4 API Usage..... 13**

**5 API..... 14**

5.1 Connection..... 14

5.1.1 Querying Details About a Connection..... 14

5.1.2 Updating a Connection..... 21

5.1.3 Deleting a Connection..... 29

5.1.4 Querying the Connection List..... 30

5.1.5 Querying the Hosted Connection List..... 38

5.1.6 Creating a Hosted Connection..... 44

5.1.7 Querying Details About a Hosted Connection..... 50

5.1.8 Updating a Hosted Connection..... 55

5.1.9 Deleting a Hosted Connection..... 60

5.2 Virtual Gateway..... 61

5.2.1 Querying Details About a Virtual Gateway..... 61

5.2.2 Updating a Virtual Gateway..... 64

5.2.3 Deleting a Virtual Gateway..... 68

5.2.4 Querying Virtual Gateways..... 70

5.2.5 Creating a Virtual Gateway..... 74

5.3 Virtual Interface..... 79

5.3.1 Querying Details About a Virtual Interface..... 79

5.3.2 Updating a Virtual Interface..... 87

5.3.3 Deleting a Virtual Interface..... 97

5.3.4 Querying the Virtual Interface List.....98

5.3.5 Creating a Virtual Interface..... 108

5.3.6 Updating a Virtual Interface Peer..... 120

5.3.7 Deleting a Virtual Interface Peer..... 124

5.3.8 Creating a Virtual Interface Peer..... 125

5.3.9 Performing a Virtual Interface Switchover Test..... 131

5.3.10 Querying the Switchover Test Records of a Virtual Interface..... 134

5.4 Tag management..... 138

5.4.1 Querying Tags by Resource Type..... 139

5.4.2 Querying Resource Tags..... 140

5.4.3 Adding a Resource Tag.....143

5.4.4 Adding or Deleting Tags in Batches..... 145

5.4.5 Deleting a Resource Tag..... 147

5.4.6 Querying Resources by Tag..... 149

5.5 Quota Management..... 156

5.5.1 Querying Resource Quotas..... 156

**6 Public Parameters..... 159**

6.1 Common Status Codes..... 159

6.2 Error Codes ..... 160

**A Appendixes..... 166**

A.1 Obtaining a Project ID..... 166

**B Change History..... 168**

# 1 Before You Start

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## 1.1 Introduction

Welcome to Direct Connect API Reference. Direct Connect allows you to connect your on-premises data center to the cloud over a dedicated network connection that features stable performance, high transmission speed, low network latency, and secure data transmission. Direct Connect allows you to maximize legacy IT facilities and leverage cloud services to build a flexible, scalable hybrid cloud computing environment.

This document describes how to use application programming interfaces (APIs) to perform operations on Direct Connect resources, such as creating, querying, modifying, or deleting connections. For details about all supported operations, see [API Overview](#).

Before you access Direct Connect by calling APIs, get yourself familiar with product concepts. For details, see "Service Overview" in *Direct Connect User Guide*.

## 1.2 API Calling

Direct Connect supports Representational State Transfer (REST) APIs that can be called using HTTPS. For details, see [Calling APIs](#).

## 1.3 Endpoints

An endpoint is the **request address** for calling an API. Endpoints vary depending on services and regions. For Direct Connect endpoints, see [Regions and Endpoints](#).

## 1.4 Constraints

For more constraints, see API descriptions.

## 1.5 Concepts

- Account

An account is created upon successful signing up. The account has full access permissions for all of its cloud services and resources. It can be used to reset user passwords and grant user permissions. The account is a payment entity, which should not be used directly to perform routine management. For security purposes, create Identity and Access Management (IAM) users and grant them permissions for routine management.

- User

An IAM user is created by an account in IAM to use cloud services. Each IAM user has its own identity credentials (password and access keys).

API authentication requires information such as the account name, username, and password.

- Region

A region is a geographic area in which cloud resources are deployed. Availability zones (AZs) in the same region can communicate with each other over an intranet, while AZs in different regions are isolated from each other. Deploying cloud resources in different regions can better suit certain user requirements or comply with local laws or regulations.

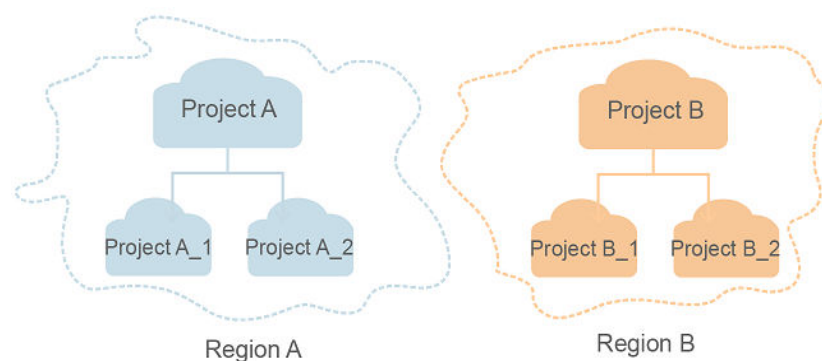
- AZ

An AZ comprises of one or more physical data centers equipped with independent ventilation, fire, water, and electricity facilities. Computing, network, storage, and other resources in an AZ are logically divided into multiple clusters. AZs within a region are interconnected using high-speed optical fibers to allow you to build cross-AZ high-availability systems.

- Project

A project corresponds to a region. Default projects are defined to group and physically isolate resources (including computing, storage, and network resources) across regions. Users can be granted permissions in a default project to access all resources under their accounts in the region associated with the project. If you need more refined access control, create subprojects under a default project and create resources in subprojects. Then you can assign users the permissions required to access only the resources in the specific subprojects.

**Figure 1-1** Project isolation model



- Enterprise Project

Enterprise projects group and manage resources across regions. Resources in different enterprise projects are logically isolated. An enterprise project can contain resources of multiple regions, and resources can be added to or removed from enterprise projects.

For details about enterprise projects and about how to obtain enterprise project IDs, see *Enterprise Management User Guide*.

# 2 API Overview

These APIs allow you to use all Direct Connect functions, for example, performing operations on connections, virtual gateways, virtual interfaces, quotas, and tags.

[Table 2-1](#) describes the APIs provided by Direct Connect.

**Table 2-1** Direct Connect APIs

| Resource           | APIs                                                                                                                                                                                                                                                                                              |
|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Connections        | APIs for querying connection details, updating a connection, deleting a connection, querying the connection list, querying the hosted connection list, creating a hosted connection, querying hosted connection details, updating hosted connection information, and deleting a hosted connection |
| Virtual gateways   | APIs for querying virtual gateway details, updating a virtual gateway, deleting a virtual gateway, querying the virtual gateway list, and creating a virtual gateway                                                                                                                              |
| Virtual interfaces | APIs for querying virtual interface details, updating a virtual interface, deleting a virtual interface, querying the virtual interface list, creating a virtual interface, updating a virtual interface peer, deleting a virtual interface peer, and creating a virtual interface peer           |
| Tags               | APIs for querying project tags, querying resource tags, adding a resource tag, batch adding or deleting resource tags, deleting a resource tag, and querying resources by tag                                                                                                                     |
| Quotas             | API for querying resource quotas                                                                                                                                                                                                                                                                  |



# 3 Calling APIs

## 3.1 Making an API Request

This section describes the structure of a REST API request, and uses the IAM API for [obtaining a user token](#) as an example to demonstrate how to call an API. The obtained token can then be used to authenticate the calling of other APIs.

### Request URI

A request URI is in the following format:

**{URI-scheme}://{Endpoint}/{resource-path}?{query-string}**

Although a request URI is included in the request header, most programming languages or frameworks require the request URI to be transmitted separately.

**Table 3-1** URI parameter description

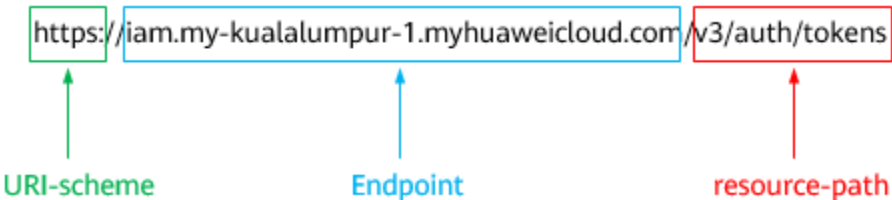
| Parameter     | Description                                                                                                                                                                                                                                                                                                               |
|---------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| URI-scheme    | Protocol used to transmit requests. All APIs use HTTPS.                                                                                                                                                                                                                                                                   |
| Endpoint      | Domain name or IP address of the server bearing the REST service. The endpoint varies between services in different regions. It can be obtained from <a href="#">Regions and Endpoints</a> .<br>For example, the endpoint of IAM in the <b>my-kualalumpur-1</b> region is <b>iam.my-kualalumpur-1.myhuaweicloud.com</b> . |
| resource-path | Access path of an API for performing a specified operation. Obtain the path from the URI of an API. For example, the <b>resource-path</b> of the API used to obtain a user token is <b>/v3/auth/tokens</b> .                                                                                                              |

| Parameter    | Description                                                                                                                                                                                                                                                               |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| query-string | Query parameter, which is optional. Ensure that a question mark (?) is included before each query parameter that is in the format of <i>Parameter name=Parameter value</i> . For example, <b>?limit=10</b> indicates that a maximum of 10 data records will be displayed. |

For example, to obtain an IAM token in the **AP-Kuala Lumpur-OP6** region, obtain the endpoint of IAM (**iam.my-kualalumpur-1.myhuaweicloud.com**) for this region and the **resource-path** (**/v3/auth/tokens**) in the URI of the API used to **obtain a user token**. Then, construct the URI as follows:

```
https://iam.my-kualalumpur-1.myhuaweicloud.com/v3/auth/tokens
```

Figure 3-1 Example URI



**NOTE**

To simplify the URI display in this document, each API is provided only with a **resource-path** and a request method. The **URI-scheme** of all APIs is **HTTPS**, and the endpoints of all APIs in the same region are identical.

### Request Methods

The HTTP protocol defines the following request methods that can be used to send a request to the server.

Table 3-2 HTTP methods

| Method | Description                                                                |
|--------|----------------------------------------------------------------------------|
| GET    | Requests the server to return specified resources.                         |
| PUT    | Requests the server to update specified resources.                         |
| POST   | Requests the server to add resources or perform special operations.        |
| DELETE | Requests the server to delete specified resources, for example, an object. |
| HEAD   | Same as GET except that the server must return only the response header.   |

| Method | Description                                                                                                                               |
|--------|-------------------------------------------------------------------------------------------------------------------------------------------|
| PATCH  | Requests the server to update partial content of a specified resource.<br>If the resource does not exist, a new resource will be created. |

For example, in the case of the API used to [obtain a user token](#), the request method is **POST**. The request is as follows:

```
POST https://iam.my-kualalumpur-1.myhuaweicloud.com/v3/auth/tokens
```

## Request Header

You can also add additional header fields to a request, such as the fields required by a specified URI or HTTP method. For example, to request for the authentication information, add **Content-Type**, which specifies the request body type.

Common request header fields are as follows.

**Table 3-3** Common request header fields

| Parameter      | Description                                                                                                                                                                                                                                                                                                                       | Mandatory                                               | Example Value                            |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|------------------------------------------|
| Host           | Specifies the server domain name and port number of the resources being requested. The value can be obtained from the URL of the service API. The value is in the format of <i>Hostname:Port number</i> . If the port number is not specified, the default port is used. The default port number for <b>https</b> is <b>443</b> . | No<br>This field is mandatory for AK/SK authentication. | code.test.com<br>or<br>code.test.com:443 |
| Content-Type   | Specifies the type (or format) of the message body. The default value <b>application/json</b> is recommended. Other values of this field will be provided for specific APIs if any.                                                                                                                                               | Yes                                                     | application/json                         |
| Content-Length | Specifies the length of the request body. The unit is byte.                                                                                                                                                                                                                                                                       | No                                                      | 3495                                     |

| Parameter    | Description                                                                                                                                                                                                                                                                  | Mandatory                                               | Example Value                                                                            |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|------------------------------------------------------------------------------------------|
| X-Project-Id | Specifies the project ID. Obtain the project ID by following the instructions in <a href="#">Obtaining a Project ID</a> .                                                                                                                                                    | No                                                      | e9993fc787d94b6c886cbaa340f9c0f4                                                         |
| X-Auth-Token | Specifies the user token. It is a response to the API for <a href="#">obtaining a user token</a> (This is the only API that does not require authentication). After the request is processed, the value of <b>X-Subject-Token</b> in the response header is the token value. | No<br>This field is mandatory for token authentication. | The following is part of an example token:<br>MIIPAgYJKoZIhvcNAQcCo...ggg1BBIINPXsidG9rZ |

 **NOTE**

In addition to supporting authentication using tokens, APIs support authentication using AK/SK, which uses SDKs to sign a request. During the signature, the **Authorization** (signature authentication) and **X-Sdk-Date** (time when a request is sent) headers are automatically added in the request.

For more details, see "Authentication Using AK/SK" in [Authentication](#).

The API used to [obtain a user token](#) does not require authentication. Therefore, only the **Content-Type** field needs to be added to requests for calling the API. An example of such requests is as follows:

```
POST https://iam.my-kualalumpur-1.myhuaweicloud.com/v3/auth/tokens
Content-Type: application/json
```

## (Optional) Request Body

This part is optional. The body of a request is often sent in a structured format (for example, JSON or XML) as specified in the **Content-Type** header field. The request body transfers content except the request header.

The request body varies between APIs. Some APIs do not require the request body, such as the APIs requested using the GET and DELETE methods.

In the case of the API used to [obtain a user token](#), the request parameters and parameter description can be obtained from the API request. The following provides an example request with a body included. Replace *username*, *domainname*, *\$ADMIN\_PASS* (login password), and *xxxxxxxxxxxxxxxxxx* (project name) with the actual values. Obtain a project name from [Regions and Endpoints](#).

 NOTE

The **scope** parameter specifies where a token takes effect. You can set **scope** to an account or a project under an account. In the following example, the token takes effect only for the resources in a specified project. For more information about this API, see [Obtaining a User Token](#).

```
POST https://iam.my-kualalumpur-1.myhuaweicloud.com/v3/auth/tokens
Content-Type: application/json

{
  "auth": {
    "identity": {
      "methods": [
        "password"
      ],
      "password": {
        "user": {
          "name": "username",
          "password": "$ADMIN_PASS", //You are advised to store it in ciphertext in the
configuration file or an environment variable and decrypt it when needed to ensure security.
          "domain": {
            "name": "domainname"
          }
        }
      }
    },
    "scope": {
      "project": {
        "name": "xxxxxxxxxxxxxxxxxxxxx"
      }
    }
  }
}
```

If all data required for the API request is available, you can send the request to call the API through [curl](#), [Postman](#), or coding. In the response to the API used to obtain a user token, **X-Subject-Token** is the desired user token. This token can then be used to authenticate the calling of other APIs.

## 3.2 Authentication

Requests for calling an API can be authenticated using either of the following methods:

- AK/SK authentication: Requests are encrypted using AK/SK pairs. AK/SK authentication is recommended because it is more secure than token authentication.
- Token authentication: Requests are authenticated using tokens.

### AK/SK Authentication

 NOTE

AK/SK authentication supports API requests with a body not larger than 12 MB. For API requests with a larger body, token authentication is recommended.

In AK/SK authentication, AK/SK is used to sign requests and the signature is then added to the requests for authentication.

- AK: access key ID, which is a unique identifier used in conjunction with a secret access key to sign requests cryptographically.

- SK: secret access key, which is used in conjunction with an AK to sign requests cryptographically. It identifies a request sender and prevents the request from being modified.

In AK/SK authentication, you can use an AK/SK to sign requests based on the signature algorithm or using the signing SDK. For details about how to sign requests and use the signing SDK, see [API Request Signing Guide](#).

#### NOTE

The signing SDK is only used for signing requests and is different from the SDKs provided by services.

## Token Authentication

#### NOTE

The validity period of a token is 24 hours. When using a token for authentication, cache it to prevent frequently calling the IAM API used to obtain a user token.

A token specifies temporary permissions in a computer system. During API authentication using a token, the token is added to requests to get permissions for calling the API. You can obtain a token by calling the [Obtaining User Token](#) API.

IMS is a project-level service. When you call the API, set **auth.scope** in the request body to **project**.

```
{
  "auth": {
    "identity": {
      "methods": [
        "password"
      ],
      "password": {
        "user": {
          "name": "username", // IAM user name
          "password": $ADMIN_PASS, //IAM user password. You are advised to store it in ciphertext in
the configuration file or an environment variable and decrypt it when needed to ensure security.
          "domain": {
            "name": "domainname" // Name of the account to which the IAM user belongs
          }
        }
      }
    },
    "scope": {
      "project": {
        "name": "xxxxxxx" // Project name
      }
    }
  }
}
```

After a token is obtained, the **X-Auth-Token** header field must be added to requests to specify the token when calling other APIs. For example, if the token is **ABCDEFJ....**, **X-Auth-Token: ABCDEFJ....** can be added to a request as follows:

```
POST https://iam.my-kualalumpur-1.myhuaweicloud.com/v3/auth/projects
Content-Type: application/json
X-Auth-Token: ABCDEFJ....
```

## 3.3 Response

### Status Code

After sending a request, you will receive a response, including a status code, response header, and response body.

A status code is a group of digits, ranging from 1xx to 5xx. It indicates the status of a request. For more information, see [Common Status Codes](#).

For example, if status code **201** is returned for calling the API used to [obtain a user token](#), the request is successful.

### Response Header

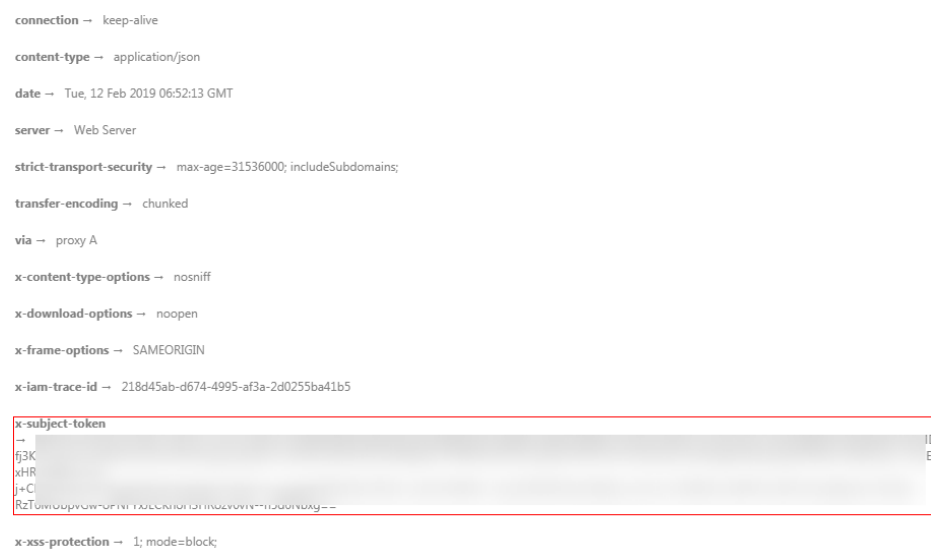
Similar to a request, a response also has a header, for example, **Content-Type**.

**Figure 3-2** shows the response header fields for the API used to [obtain a user token](#). The **X-Subject-Token** header field is the desired user token. This token can then be used to authenticate the calling of other APIs.

#### NOTE

For security purposes, you are advised to set the token in ciphertext in configuration files or environment variables and decrypt it when using it.

**Figure 3-2** Header fields of the response to the request for obtaining a user token



```
connection → keep-alive
content-type → application/json
date → Tue, 12 Feb 2019 06:52:13 GMT
server → Web Server
strict-transport-security → max-age=31536000; includeSubdomains;
transfer-encoding → chunked
via → proxy A
x-content-type-options → nosniff
x-download-options → noopen
x-frame-options → SAMEORIGIN
x-iam-trace-id → 218d45ab-d674-4995-af3a-2d0255ba41b5
x-subject-token → [REDACTED]
x-xss-protection → 1; mode=block
```

### (Optional) Response Body

The body of a response is often returned in a structured format (for example, JSON or XML) as specified in the **Content-Type** header field. The response body transfers content except the response header.

The following is part of the response body for the API used to [obtain a user token](#).

```
{
  "token": {
    "expires_at": "2019-02-13T06:52:13.855000Z",
    "methods": [
      "password"
    ],
    "catalog": [
      {
        "endpoints": [
          {
            "region_id": "az-01",
            .....

```

If an error occurs during API calling, an error code and a message will be displayed. The following shows an error response body.

```
{
  "error_msg": "The request message format is invalid.",
  "error_code": "IMG.0001"
}
```

In the response body, **error\_code** is an error code, and **error\_msg** provides information about the error.



# 4 API Usage

---

Direct Connect has independent endpoints. When API calls are made to Direct Connect, the Direct Connect APIs are used. Therefore, you need pay special attention to the service endpoints used when you make calls to the Direct Connect APIs.

5

API

## 5.1 Connection

### 5.1.1 Querying Details About a Connection

#### Function

This API is used to query details about a connection.

#### URI

GET /v3/{project\_id}/dcaas/direct-connects/{direct\_connect\_id}

Table 5-1 Path Parameters

| Parameter         | Mandatory | Type   | Description                                                              |
|-------------------|-----------|--------|--------------------------------------------------------------------------|
| direct_connect_id | Yes       | String | Specifies the connection ID.<br>Minimum: <b>36</b><br>Maximum: <b>36</b> |
| project_id        | Yes       | String | Specifies the project ID.                                                |

Table 5-2 Query Parameters

| Parameter | Mandatory | Type  | Description                                                                 |
|-----------|-----------|-------|-----------------------------------------------------------------------------|
| fields    | No        | Array | Specifies the list of fields to be displayed.<br>Array Length: <b>1 - 5</b> |

## Request Parameters

**Table 5-3** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                                   |
|--------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | Specifies the user token. To obtain the token, see section "Obtaining the User Token" in the <i>Identity and Access Management API Reference</i> . The token is the value of <b>X-Subject-Token</b> in the response header.<br><br>Minimum: <b>0</b><br>Maximum: <b>10240</b> |

## Response Parameters

**Status code: 200**

**Table 5-4** Response body parameters

| Parameter      | Type                        | Description                                     |
|----------------|-----------------------------|-------------------------------------------------|
| request_id     | String                      | Specifies the request ID.                       |
| direct_connect | <b>DirectConnect</b> object | Specifies parameters for creating a connection. |

**Table 5-5** DirectConnect

| Parameter   | Type   | Description                                                                                          |
|-------------|--------|------------------------------------------------------------------------------------------------------|
| id          | String | Specifies the connection ID.                                                                         |
| tenant_id   | String | Specifies the ID of the project that the instance belongs to.                                        |
| name        | String | Specifies the connection name.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                            |
| description | String | Provides supplementary information about the connection.<br>Minimum: <b>0</b><br>Maximum: <b>128</b> |

| Parameter     | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| port_type     | String  | Specifies the type of the port used by the connection. The value can be <b>1G</b> , <b>10G</b> , <b>40G</b> , or <b>100G</b> .<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>1G</b></li><li>• <b>10G</b></li><li>• <b>40G</b></li><li>• <b>100G</b></li></ul>                                                                                                                                       |
| bandwidth     | Integer | Specifies the connection bandwidth in Mbit/s.<br>Minimum: <b>2</b><br>Maximum: <b>100000</b>                                                                                                                                                                                                                                                                                                                            |
| location      | String  | Specifies information about the Direct Connect location.<br>Minimum: <b>0</b><br>Maximum: <b>255</b>                                                                                                                                                                                                                                                                                                                    |
| peer_location | String  | Specifies the location of the on-premises facility at the other end of the connection, specific to the street or data center name.<br>Minimum: <b>0</b><br>Maximum: <b>255</b>                                                                                                                                                                                                                                          |
| device_id     | String  | Specifies the ID of the device connected to the connection.<br>Minimum: <b>0</b><br>Maximum: <b>36</b>                                                                                                                                                                                                                                                                                                                  |
| type          | String  | Specifies the type of a connection. The value can be <b>standard</b> (a standard connection), <b>hosting</b> (an operations connection) or <b>hosted</b> (a hosted connection).<br>Default: <b>standard</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>standard</b></li><li>• <b>hosting</b></li><li>• <b>hosted</b></li><li>• <b>onestop_standard</b></li><li>• <b>onestop_hosted</b></li></ul> |
| hosting_id    | String  | Specifies the ID of the operations connection on which the hosted connection is created.                                                                                                                                                                                                                                                                                                                                |

| Parameter      | Type    | Description                                                                                                                                                                                                                                        |
|----------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| charge_mode    | String  | Specifies the billing mode, which can be <b>prepayment</b> , <b>bandwidth</b> , or <b>traffic</b> .<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>prepayment</b></li><li>• <b>bandwidth</b></li><li>• <b>traffic</b></li></ul> |
| provider       | String  | Specifies the line carrier of a connection.                                                                                                                                                                                                        |
| admin_state_up | Boolean | Specifies the administrative status, which can be <b>true</b> or <b>false</b> .<br>Default: <b>true</b>                                                                                                                                            |
| vlan           | Integer | Specifies the VLAN allocated to the hosted connection.<br>Minimum: <b>0</b><br>Maximum: <b>3999</b>                                                                                                                                                |

| Parameter         | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status            | String | <p>Specifies the connection status. The options are as follows: <b>ACTIVE</b>: The connection is in the normal state. <b>DOWN</b>: The port for the connection is in the down state, which may cause line faults. <b>BUILD</b>: Operations related to the connection are being performed. <b>ERROR</b>: The connection configuration is incorrect. Contact customer service to rectify the fault. <b>PENDING_DELETE</b>: The connection is being deleted. <b>DELETED</b>: The connection has been deleted. <b>APPLY</b>: A request for a connection is submitted. <b>DENY</b>: A site survey is rejected because the customer fails to meet the requirements. <b>PENDING_PAY</b>: The order for the connection is to be paid. <b>PAID</b>: The order for the connection has been paid. <b>PENDING_SURVEY</b>: A site survey is required for the connection.</p> <p>Enumeration values:</p> <ul style="list-style-type: none"><li>• <b>BUILD</b></li><li>• <b>PAID</b></li><li>• <b>APPLY</b></li><li>• <b>PENDING_SURVEY</b></li><li>• <b>ACTIVE</b></li><li>• <b>DOWN</b></li><li>• <b>ERROR</b></li><li>• <b>PENDING_DELETE</b></li><li>• <b>DELETED</b></li><li>• <b>DENY</b></li><li>• <b>PENDING_PAY</b></li></ul> |
| apply_time        | String | <p>Specifies when the connection was requested. The UTC time format <b>yyyy-MM-ddTHH:mm:ss.SSSZ</b> is used.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| create_time       | String | <p>Specifies when the connection was created. The UTC time format <b>yyyy-MM-ddTHH:mm:ss.SSSZ</b> is used.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| provider_statuses | String | <p>Specifies the status of the carrier's leased line. The status can be <b>ACTIVE</b> or <b>DOWN</b>.</p> <p>Enumeration values:</p> <ul style="list-style-type: none"><li>• <b>ACTIVE</b></li><li>• <b>DOWN</b></li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| peer_port_type    | String | <p>Specifies the peer port type.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Parameter             | Type                      | Description                                                                                                                                                                    |
|-----------------------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| peer_provider         | String                    | Specifies the carrier connected to the connection.                                                                                                                             |
| order_id              | String                    | Specifies the connection order ID, which is used to support duration-based billing and identify user orders.                                                                   |
| product_id            | String                    | Specifies the product ID corresponding to the connection's order, which is used to custom billing policies such as duration-based packages.                                    |
| spec_code             | String                    | Specifies the product specifications corresponding to the connection's order, which is used to custom billing policies such as duration-based packages.                        |
| period_type           | Integer                   | Specifies whether a connection in a specified order is billed by year or month.                                                                                                |
| period_num            | Integer                   | Specifies the required service duration of a yearly/monthly connection.                                                                                                        |
| vgw_type              | String                    | Specifies the gateway type required by a direct connection.<br>Default: <b>default</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>default</b></li></ul> |
| lag_id                | String                    | Specifies the ID of the LAG that the connection belongs to.                                                                                                                    |
| enterprise_project_id | String                    | Specifies the ID of the enterprise project that the connection belongs to.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                         |
| locales               | <b>LocalesBody</b> object | Specifies the region of the connection.                                                                                                                                        |
| support_feature       | Array of strings          | Lists the features supported by the connection.                                                                                                                                |
| ies_id                | String                    | Specifies the ID of an IES edge site.                                                                                                                                          |
| reason                | String                    | Displays error information if the status of a line is <b>Error</b> .                                                                                                           |
| email                 | String                    | Specifies the customer email information.                                                                                                                                      |
| onestop_product_id    | String                    | Specifies the product ID of a full-service connection. This parameter is used in line sales scenarios.                                                                         |

| Parameter                     | Type    | Description                                                                                                                                                                                                     |
|-------------------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| building_line_product_id      | String  | Specifies the product ID of the line resource used in the equipment room. This parameter is used in line sales scenarios.                                                                                       |
| last_onestop_product_id       | String  | Specifies the product ID of a full-service connection before the change. This parameter is used in line sales scenarios and used to save the last record when the line bandwidth is changed.                    |
| last_building_line_product_id | String  | Specifies the product ID of the line resource used in the equipment room before the change. This parameter is used in line sales scenarios and used to save the last record when the line bandwidth is changed. |
| modified_bandwidth            | Integer | Specifies the new bandwidth after the line bandwidth is changed.                                                                                                                                                |
| change_mode                   | Integer | Specifies the status of a renewal change.                                                                                                                                                                       |
| onestopdc_status              | String  | Specifies the status of a full-service connection.                                                                                                                                                              |
| public_border_group           | String  | Specifies the public border group of the AZ, indicating whether the site is a HomeZones site.                                                                                                                   |
| auto_renew                    | Integer | Specifies whether to automatically renew a yearly/monthly subscription.                                                                                                                                         |
| ratio_95peak                  | Integer | Specifies the percentage of the minimum bandwidth for 95th percentile billing.<br>Minimum: <b>0</b><br>Maximum: <b>100</b>                                                                                      |

Table 5-6 LocalesBody

| Parameter | Type   | Description                                                                       |
|-----------|--------|-----------------------------------------------------------------------------------|
| en_us     | String | Specifies the region name in English.<br>Minimum: <b>0</b><br>Maximum: <b>255</b> |
| zh_cn     | String | Specifies the region name in Chinese.<br>Minimum: <b>0</b><br>Maximum: <b>255</b> |



## Example Requests

Querying details about a connection

```
GET https://{dc_endpoint}/v3/6fbe9263116a4b68818cf1edce16bc4f/dcaas/direct-connects/6ecd9cf3-ca64-46c7-863f-f2eb1b9e838a
```

## Example Responses

Status code: 200

OK

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

## Error Codes

See [Error Codes](#).

## 5.1.2 Updating a Connection

### Function

This API is used to update a connection, including updating its name and description.

### URI

PUT /v3/{project\_id}/dcaas/direct-connects/{direct\_connect\_id}

**Table 5-7** Path Parameters

| Parameter         | Mandatory | Type   | Description                                                              |
|-------------------|-----------|--------|--------------------------------------------------------------------------|
| direct_connect_id | Yes       | String | Specifies the connection ID.<br>Minimum: <b>36</b><br>Maximum: <b>36</b> |
| project_id        | Yes       | String | Specifies the project ID.                                                |

## Request Parameters

**Table 5-8** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                               |
|--------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | Specifies the user token. To obtain the token, see section "Obtaining the User Token" in the <i>Identity and Access Management API Reference</i> . The token is the value of <b>X-Subject-Token</b> in the response header.<br>Minimum: <b>0</b><br>Maximum: <b>10240</b> |

**Table 5-9** Request body parameters

| Parameter      | Mandatory | Type                                       | Description                                              |
|----------------|-----------|--------------------------------------------|----------------------------------------------------------|
| direct_connect | No        | <a href="#">UpdateDirectConnect</a> object | Specifies parameters required for updating a connection. |

**Table 5-10** UpdateDirectConnect

| Parameter   | Mandatory | Type    | Description                                                                                                     |
|-------------|-----------|---------|-----------------------------------------------------------------------------------------------------------------|
| name        | No        | String  | Specifies the connection name.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                       |
| description | No        | String  | Provides supplementary information about the connection.<br>Minimum: <b>0</b><br>Maximum: <b>128</b>            |
| bandwidth   | No        | Integer | Specifies the bandwidth size of the hosted connection in Mbit/s.<br>Minimum: <b>2</b><br>Maximum: <b>100000</b> |

| Parameter         | Mandatory | Type   | Description                                                                                                                                                                                         |
|-------------------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| peer_location     | No        | String | Specifies the location of the on-premises facility at the other end of the connection, specific to the street or data center name.<br>Minimum: <b>0</b><br>Maximum: <b>255</b>                      |
| status            | No        | String | Specifies the resource status, which can be <b>PENDING_PAY</b> or <b>APPLY</b> .<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>PENDING_PAY</b></li><li>• <b>APPLY</b></li></ul> |
| provider_statuses | No        | String | Specifies the carrier status, which can be <b>ACTIVE</b> or <b>DOWN</b> .<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>ACTIVE</b></li><li>• <b>DOWN</b></li></ul>              |

## Response Parameters

Status code: 200

**Table 5-11** Response body parameters

| Parameter      | Type                        | Description                                     |
|----------------|-----------------------------|-------------------------------------------------|
| request_id     | String                      | Specifies the request ID.                       |
| direct_connect | <b>DirectConnect</b> object | Specifies parameters for creating a connection. |

**Table 5-12** DirectConnect

| Parameter | Type   | Description                                                   |
|-----------|--------|---------------------------------------------------------------|
| id        | String | Specifies the connection ID.                                  |
| tenant_id | String | Specifies the ID of the project that the instance belongs to. |

| Parameter     | Type    | Description                                                                                                                                                                                                                                                                       |
|---------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name          | String  | Specifies the connection name.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                                                                                                                                                         |
| description   | String  | Provides supplementary information about the connection.<br>Minimum: <b>0</b><br>Maximum: <b>128</b>                                                                                                                                                                              |
| port_type     | String  | Specifies the type of the port used by the connection. The value can be <b>1G</b> , <b>10G</b> , <b>40G</b> , or <b>100G</b> .<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>1G</b></li><li>• <b>10G</b></li><li>• <b>40G</b></li><li>• <b>100G</b></li></ul> |
| bandwidth     | Integer | Specifies the connection bandwidth in Mbit/s.<br>Minimum: <b>2</b><br>Maximum: <b>100000</b>                                                                                                                                                                                      |
| location      | String  | Specifies information about the Direct Connect location.<br>Minimum: <b>0</b><br>Maximum: <b>255</b>                                                                                                                                                                              |
| peer_location | String  | Specifies the location of the on-premises facility at the other end of the connection, specific to the street or data center name.<br>Minimum: <b>0</b><br>Maximum: <b>255</b>                                                                                                    |
| device_id     | String  | Specifies the ID of the device connected to the connection.<br>Minimum: <b>0</b><br>Maximum: <b>36</b>                                                                                                                                                                            |

| Parameter      | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| type           | String  | Specifies the type of a connection. The value can be <b>standard</b> (a standard connection), <b>hosting</b> (an operations connection) or <b>hosted</b> (a hosted connection).<br>Default: <b>standard</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>standard</b></li><li>• <b>hosting</b></li><li>• <b>hosted</b></li><li>• <b>onestop_standard</b></li><li>• <b>onestop_hosted</b></li></ul> |
| hosting_id     | String  | Specifies the ID of the operations connection on which the hosted connection is created.                                                                                                                                                                                                                                                                                                                                |
| charge_mode    | String  | Specifies the billing mode, which can be <b>prepayment</b> , <b>bandwidth</b> , or <b>traffic</b> .<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>prepayment</b></li><li>• <b>bandwidth</b></li><li>• <b>traffic</b></li></ul>                                                                                                                                                                      |
| provider       | String  | Specifies the line carrier of a connection.                                                                                                                                                                                                                                                                                                                                                                             |
| admin_state_up | Boolean | Specifies the administrative status, which can be <b>true</b> or <b>false</b> .<br>Default: <b>true</b>                                                                                                                                                                                                                                                                                                                 |
| vlan           | Integer | Specifies the VLAN allocated to the hosted connection.<br>Minimum: <b>0</b><br>Maximum: <b>3999</b>                                                                                                                                                                                                                                                                                                                     |

| Parameter         | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status            | String | <p>Specifies the connection status. The options are as follows: <b>ACTIVE</b>: The connection is in the normal state. <b>DOWN</b>: The port for the connection is in the down state, which may cause line faults. <b>BUILD</b>: Operations related to the connection are being performed. <b>ERROR</b>: The connection configuration is incorrect. Contact customer service to rectify the fault. <b>PENDING_DELETE</b>: The connection is being deleted. <b>DELETED</b>: The connection has been deleted. <b>APPLY</b>: A request for a connection is submitted. <b>DENY</b>: A site survey is rejected because the customer fails to meet the requirements. <b>PENDING_PAY</b>: The order for the connection is to be paid. <b>PAID</b>: The order for the connection has been paid. <b>PENDING_SURVEY</b>: A site survey is required for the connection.</p> <p>Enumeration values:</p> <ul style="list-style-type: none"><li>• <b>BUILD</b></li><li>• <b>PAID</b></li><li>• <b>APPLY</b></li><li>• <b>PENDING_SURVEY</b></li><li>• <b>ACTIVE</b></li><li>• <b>DOWN</b></li><li>• <b>ERROR</b></li><li>• <b>PENDING_DELETE</b></li><li>• <b>DELETED</b></li><li>• <b>DENY</b></li><li>• <b>PENDING_PAY</b></li></ul> |
| apply_time        | String | <p>Specifies when the connection was requested. The UTC time format <b>yyyy-MM-ddTHH:mm:ss.SSSZ</b> is used.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| create_time       | String | <p>Specifies when the connection was created. The UTC time format <b>yyyy-MM-ddTHH:mm:ss.SSSZ</b> is used.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| provider_statuses | String | <p>Specifies the status of the carrier's leased line. The status can be <b>ACTIVE</b> or <b>DOWN</b>.</p> <p>Enumeration values:</p> <ul style="list-style-type: none"><li>• <b>ACTIVE</b></li><li>• <b>DOWN</b></li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| peer_port_type    | String | <p>Specifies the peer port type.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Parameter             | Type                      | Description                                                                                                                                                                    |
|-----------------------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| peer_provider         | String                    | Specifies the carrier connected to the connection.                                                                                                                             |
| order_id              | String                    | Specifies the connection order ID, which is used to support duration-based billing and identify user orders.                                                                   |
| product_id            | String                    | Specifies the product ID corresponding to the connection's order, which is used to custom billing policies such as duration-based packages.                                    |
| spec_code             | String                    | Specifies the product specifications corresponding to the connection's order, which is used to custom billing policies such as duration-based packages.                        |
| period_type           | Integer                   | Specifies whether a connection in a specified order is billed by year or month.                                                                                                |
| period_num            | Integer                   | Specifies the required service duration of a yearly/monthly connection.                                                                                                        |
| vgw_type              | String                    | Specifies the gateway type required by a direct connection.<br>Default: <b>default</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>default</b></li></ul> |
| lag_id                | String                    | Specifies the ID of the LAG that the connection belongs to.                                                                                                                    |
| enterprise_project_id | String                    | Specifies the ID of the enterprise project that the connection belongs to.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                         |
| locales               | <b>LocalesBody</b> object | Specifies the region of the connection.                                                                                                                                        |
| support_feature       | Array of strings          | Lists the features supported by the connection.                                                                                                                                |
| ies_id                | String                    | Specifies the ID of an IES edge site.                                                                                                                                          |
| reason                | String                    | Displays error information if the status of a line is <b>Error</b> .                                                                                                           |
| email                 | String                    | Specifies the customer email information.                                                                                                                                      |
| onestop_product_id    | String                    | Specifies the product ID of a full-service connection. This parameter is used in line sales scenarios.                                                                         |

| Parameter                     | Type    | Description                                                                                                                                                                                                     |
|-------------------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| building_line_product_id      | String  | Specifies the product ID of the line resource used in the equipment room. This parameter is used in line sales scenarios.                                                                                       |
| last_onestop_product_id       | String  | Specifies the product ID of a full-service connection before the change. This parameter is used in line sales scenarios and used to save the last record when the line bandwidth is changed.                    |
| last_building_line_product_id | String  | Specifies the product ID of the line resource used in the equipment room before the change. This parameter is used in line sales scenarios and used to save the last record when the line bandwidth is changed. |
| modified_bandwidth            | Integer | Specifies the new bandwidth after the line bandwidth is changed.                                                                                                                                                |
| change_mode                   | Integer | Specifies the status of a renewal change.                                                                                                                                                                       |
| onestopdc_status              | String  | Specifies the status of a full-service connection.                                                                                                                                                              |
| public_border_group           | String  | Specifies the public border group of the AZ, indicating whether the site is a HomeZones site.                                                                                                                   |
| auto_renew                    | Integer | Specifies whether to automatically renew a yearly/monthly subscription.                                                                                                                                         |
| ratio_95peak                  | Integer | Specifies the percentage of the minimum bandwidth for 95th percentile billing.<br>Minimum: <b>0</b><br>Maximum: <b>100</b>                                                                                      |

Table 5-13 LocalesBody

| Parameter | Type   | Description                                                                       |
|-----------|--------|-----------------------------------------------------------------------------------|
| en_us     | String | Specifies the region name in English.<br>Minimum: <b>0</b><br>Maximum: <b>255</b> |
| zh_cn     | String | Specifies the region name in Chinese.<br>Minimum: <b>0</b><br>Maximum: <b>255</b> |



## Example Requests

Updating the name and description of a connection

```
PUT https://{dc_endpoint}/v3/6fbe9263116a4b68818cf1edce16bc4f/dcaas/direct-connects/6ecd9cf3-
ca64-46c7-863f-f2eb1b9e838a
{
  "direct_connect": {
    "description": "",
    "name": "direct connect1"
  }
}
```

## Example Responses

Status code: 200

OK

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

## Error Codes

See [Error Codes](#).

## 5.1.3 Deleting a Connection

### Function

This API is used to delete pay-per-use connections only. To delete yearly/monthly connections, you need to first unsubscribe them.

### URI

DELETE /v3/{project\_id}/dcaas/direct-connects/{direct\_connect\_id}

**Table 5-14** Path Parameters

| Parameter         | Mandatory | Type   | Description                                                              |
|-------------------|-----------|--------|--------------------------------------------------------------------------|
| direct_connect_id | Yes       | String | Specifies the connection ID.<br>Minimum: <b>36</b><br>Maximum: <b>36</b> |
| project_id        | Yes       | String | Specifies the project ID.                                                |

## Request Parameters

**Table 5-15** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                                   |
|--------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | Specifies the user token. To obtain the token, see section "Obtaining the User Token" in the <i>Identity and Access Management API Reference</i> . The token is the value of <b>X-Subject-Token</b> in the response header.<br><br>Minimum: <b>0</b><br>Maximum: <b>10240</b> |

## Response Parameters

None

## Example Requests

Deleting a connection

```
DELETE https://{dc_endpoint}/v3/6fbe9263116a4b68818cf1edce16bc4f/dcaas/direct-connects/6ecd9cf3-ca64-46c7-863f-f2eb1b9e838a
```

## Example Responses

None

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 204         | No Content  |

## Error Codes

See [Error Codes](#).

## 5.1.4 Querying the Connection List

### Function

This API is used to query all direct connections created by a tenant.

## URI

GET /v3/{project\_id}/dcaas/direct-connects

**Table 5-16** Path Parameters

| Parameter  | Mandatory | Type   | Description               |
|------------|-----------|--------|---------------------------|
| project_id | Yes       | String | Specifies the project ID. |

**Table 5-17** Query Parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                                                                                                                        |
|------------|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| limit      | No        | Integer | Specifies the number of records returned on each page. Value range: 1 to 2000<br>Minimum: <b>1</b><br>Maximum: <b>2000</b><br>Default: <b>2000</b>                                                                                 |
| marker     | No        | String  | Specifies the ID of the last resource record on the previous page. If this parameter is left blank, the first page is queried. This parameter must be used together with <b>limit</b> .<br>Minimum: <b>0</b><br>Maximum: <b>36</b> |
| fields     | No        | Array   | Specifies the list of fields to be displayed.<br>Array Length: <b>1 - 5</b>                                                                                                                                                        |
| sort_key   | No        | String  | Specifies the sorting field.<br>Default: <b>id</b><br>Minimum: <b>0</b><br>Maximum: <b>36</b>                                                                                                                                      |
| sort_dir   | No        | Array   | Specifies the sorting order of returned results, which can be <b>asc</b> (ascending order) or <b>desc</b> (descending order). The default value is <b>asc</b> .                                                                    |
| hosting_id | No        | Array   | Specifies operations connection ID by which hosted connections are filtered.<br>Array Length: <b>0 - 5</b>                                                                                                                         |

| Parameter             | Mandatory | Type  | Description                                                                                                                |
|-----------------------|-----------|-------|----------------------------------------------------------------------------------------------------------------------------|
| enterprise_project_id | No        | Array | Filters resource instances by enterprise project ID.<br>Array Length: <b>1 - 10</b>                                        |
| id                    | No        | Array | Specifies the resource ID by which instances are filtered.<br>Array Length: <b>1 - 5</b>                                   |
| name                  | No        | Array | Specifies the resource name by which instances are filtered. You can specify multiple names.<br>Array Length: <b>1 - 5</b> |

## Request Parameters

**Table 5-18** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                               |
|--------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | Specifies the user token. To obtain the token, see section "Obtaining the User Token" in the <i>Identity and Access Management API Reference</i> . The token is the value of <b>X-Subject-Token</b> in the response header.<br>Minimum: <b>0</b><br>Maximum: <b>10240</b> |

## Response Parameters

**Status code: 200**

**Table 5-19** Response body parameters

| Parameter          | Type                                  | Description                                     |
|--------------------|---------------------------------------|-------------------------------------------------|
| request_id         | String                                | Specifies the request ID.                       |
| direct_connections | Array of <b>DirectConnect</b> objects | Specifies parameters for creating a connection. |

| Parameter | Type                            | Description                                 |
|-----------|---------------------------------|---------------------------------------------|
| page_info | <a href="#">PageInfo</a> object | Specifies the pagination query information. |

**Table 5-20** DirectConnect

| Parameter     | Type    | Description                                                                                                                                                                                                                                                                       |
|---------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id            | String  | Specifies the connection ID.                                                                                                                                                                                                                                                      |
| tenant_id     | String  | Specifies the ID of the project that the instance belongs to.                                                                                                                                                                                                                     |
| name          | String  | Specifies the connection name.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                                                                                                                                                         |
| description   | String  | Provides supplementary information about the connection.<br>Minimum: <b>0</b><br>Maximum: <b>128</b>                                                                                                                                                                              |
| port_type     | String  | Specifies the type of the port used by the connection. The value can be <b>1G</b> , <b>10G</b> , <b>40G</b> , or <b>100G</b> .<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>1G</b></li><li>• <b>10G</b></li><li>• <b>40G</b></li><li>• <b>100G</b></li></ul> |
| bandwidth     | Integer | Specifies the connection bandwidth in Mbit/s.<br>Minimum: <b>2</b><br>Maximum: <b>100000</b>                                                                                                                                                                                      |
| location      | String  | Specifies information about the Direct Connect location.<br>Minimum: <b>0</b><br>Maximum: <b>255</b>                                                                                                                                                                              |
| peer_location | String  | Specifies the location of the on-premises facility at the other end of the connection, specific to the street or data center name.<br>Minimum: <b>0</b><br>Maximum: <b>255</b>                                                                                                    |

| Parameter      | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| device_id      | String  | Specifies the ID of the device connected to the connection.<br>Minimum: <b>0</b><br>Maximum: <b>36</b>                                                                                                                                                                                                                                                                                                                  |
| type           | String  | Specifies the type of a connection. The value can be <b>standard</b> (a standard connection), <b>hosting</b> (an operations connection) or <b>hosted</b> (a hosted connection).<br>Default: <b>standard</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>standard</b></li><li>• <b>hosting</b></li><li>• <b>hosted</b></li><li>• <b>onestop_standard</b></li><li>• <b>onestop_hosted</b></li></ul> |
| hosting_id     | String  | Specifies the ID of the operations connection on which the hosted connection is created.                                                                                                                                                                                                                                                                                                                                |
| charge_mode    | String  | Specifies the billing mode, which can be <b>prepayment</b> , <b>bandwidth</b> , or <b>traffic</b> .<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>prepayment</b></li><li>• <b>bandwidth</b></li><li>• <b>traffic</b></li></ul>                                                                                                                                                                      |
| provider       | String  | Specifies the line carrier of a connection.                                                                                                                                                                                                                                                                                                                                                                             |
| admin_state_up | Boolean | Specifies the administrative status, which can be <b>true</b> or <b>false</b> .<br>Default: <b>true</b>                                                                                                                                                                                                                                                                                                                 |
| vlan           | Integer | Specifies the VLAN allocated to the hosted connection.<br>Minimum: <b>0</b><br>Maximum: <b>3999</b>                                                                                                                                                                                                                                                                                                                     |

| Parameter         | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status            | String | <p>Specifies the connection status. The options are as follows: <b>ACTIVE</b>: The connection is in the normal state. <b>DOWN</b>: The port for the connection is in the down state, which may cause line faults. <b>BUILD</b>: Operations related to the connection are being performed. <b>ERROR</b>: The connection configuration is incorrect. Contact customer service to rectify the fault. <b>PENDING_DELETE</b>: The connection is being deleted. <b>DELETED</b>: The connection has been deleted. <b>APPLY</b>: A request for a connection is submitted. <b>DENY</b>: A site survey is rejected because the customer fails to meet the requirements. <b>PENDING_PAY</b>: The order for the connection is to be paid. <b>PAID</b>: The order for the connection has been paid. <b>PENDING_SURVEY</b>: A site survey is required for the connection.</p> <p>Enumeration values:</p> <ul style="list-style-type: none"><li>• <b>BUILD</b></li><li>• <b>PAID</b></li><li>• <b>APPLY</b></li><li>• <b>PENDING_SURVEY</b></li><li>• <b>ACTIVE</b></li><li>• <b>DOWN</b></li><li>• <b>ERROR</b></li><li>• <b>PENDING_DELETE</b></li><li>• <b>DELETED</b></li><li>• <b>DENY</b></li><li>• <b>PENDING_PAY</b></li></ul> |
| apply_time        | String | <p>Specifies when the connection was requested. The UTC time format <b>yyyy-MM-ddTHH:mm:ss.SSSZ</b> is used.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| create_time       | String | <p>Specifies when the connection was created. The UTC time format <b>yyyy-MM-ddTHH:mm:ss.SSSZ</b> is used.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| provider_statuses | String | <p>Specifies the status of the carrier's leased line. The status can be <b>ACTIVE</b> or <b>DOWN</b>.</p> <p>Enumeration values:</p> <ul style="list-style-type: none"><li>• <b>ACTIVE</b></li><li>• <b>DOWN</b></li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| peer_port_type    | String | <p>Specifies the peer port type.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| Parameter             | Type                      | Description                                                                                                                                                                    |
|-----------------------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| peer_provider         | String                    | Specifies the carrier connected to the connection.                                                                                                                             |
| order_id              | String                    | Specifies the connection order ID, which is used to support duration-based billing and identify user orders.                                                                   |
| product_id            | String                    | Specifies the product ID corresponding to the connection's order, which is used to custom billing policies such as duration-based packages.                                    |
| spec_code             | String                    | Specifies the product specifications corresponding to the connection's order, which is used to custom billing policies such as duration-based packages.                        |
| period_type           | Integer                   | Specifies whether a connection in a specified order is billed by year or month.                                                                                                |
| period_num            | Integer                   | Specifies the required service duration of a yearly/monthly connection.                                                                                                        |
| vgw_type              | String                    | Specifies the gateway type required by a direct connection.<br>Default: <b>default</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>default</b></li></ul> |
| lag_id                | String                    | Specifies the ID of the LAG that the connection belongs to.                                                                                                                    |
| enterprise_project_id | String                    | Specifies the ID of the enterprise project that the connection belongs to.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                         |
| locales               | <b>LocalesBody</b> object | Specifies the region of the connection.                                                                                                                                        |
| support_feature       | Array of strings          | Lists the features supported by the connection.                                                                                                                                |
| ies_id                | String                    | Specifies the ID of an IES edge site.                                                                                                                                          |
| reason                | String                    | Displays error information if the status of a line is <b>Error</b> .                                                                                                           |
| email                 | String                    | Specifies the customer email information.                                                                                                                                      |
| onestop_product_id    | String                    | Specifies the product ID of a full-service connection. This parameter is used in line sales scenarios.                                                                         |



| Parameter                     | Type    | Description                                                                                                                                                                                                     |
|-------------------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| building_line_product_id      | String  | Specifies the product ID of the line resource used in the equipment room. This parameter is used in line sales scenarios.                                                                                       |
| last_onestop_product_id       | String  | Specifies the product ID of a full-service connection before the change. This parameter is used in line sales scenarios and used to save the last record when the line bandwidth is changed.                    |
| last_building_line_product_id | String  | Specifies the product ID of the line resource used in the equipment room before the change. This parameter is used in line sales scenarios and used to save the last record when the line bandwidth is changed. |
| modified_bandwidth            | Integer | Specifies the new bandwidth after the line bandwidth is changed.                                                                                                                                                |
| change_mode                   | Integer | Specifies the status of a renewal change.                                                                                                                                                                       |
| onestopdc_status              | String  | Specifies the status of a full-service connection.                                                                                                                                                              |
| public_border_group           | String  | Specifies the public border group of the AZ, indicating whether the site is a HomeZones site.                                                                                                                   |
| auto_renew                    | Integer | Specifies whether to automatically renew a yearly/monthly subscription.                                                                                                                                         |
| ratio_95peak                  | Integer | Specifies the percentage of the minimum bandwidth for 95th percentile billing.<br>Minimum: <b>0</b><br>Maximum: <b>100</b>                                                                                      |

Table 5-21 LocalesBody

| Parameter | Type   | Description                                                                       |
|-----------|--------|-----------------------------------------------------------------------------------|
| en_us     | String | Specifies the region name in English.<br>Minimum: <b>0</b><br>Maximum: <b>255</b> |
| zh_cn     | String | Specifies the region name in Chinese.<br>Minimum: <b>0</b><br>Maximum: <b>255</b> |

Table 5-22 PageInfo

| Parameter       | Type    | Description                                                                                                                                                                |
|-----------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| previous_marker | String  | Specifies the marker of the previous page. The value is the resource UUID.<br>Minimum: <b>0</b><br>Maximum: <b>36</b>                                                      |
| current_count   | Integer | Specifies the number of resources in the current list.<br>Minimum: <b>0</b><br>Maximum: <b>2000</b>                                                                        |
| next_marker     | String  | Specifies the marker of the next page. The value is the resource UUID. If the value is empty, the resource is on the last page.<br>Minimum: <b>0</b><br>Maximum: <b>36</b> |

Example Requests

Querying the connection list

```
GET https://{dc_endpoint}/v3/6fbe9263116a4b68818cf1edce16bc4f/dcaas/direct-connects
```

Example Responses

Status code: 200

OK

Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

Error Codes

See [Error Codes](#).

5.1.5 Querying the Hosted Connection List

Function

This API is used to query hosted connections created by partners.

## URI

GET /v3/{project\_id}/dcaas/hosted-connects

**Table 5-23** Path Parameters

| Parameter  | Mandatory | Type   | Description               |
|------------|-----------|--------|---------------------------|
| project_id | Yes       | String | Specifies the project ID. |

**Table 5-24** Query Parameters

| Parameter  | Mandatory | Type    | Description                                                                                                                                                                                                                        |
|------------|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| limit      | No        | Integer | Specifies the number of records returned on each page. Value range: 1 to 2000<br>Minimum: <b>1</b><br>Maximum: <b>2000</b><br>Default: <b>2000</b>                                                                                 |
| marker     | No        | String  | Specifies the ID of the last resource record on the previous page. If this parameter is left blank, the first page is queried. This parameter must be used together with <b>limit</b> .<br>Minimum: <b>0</b><br>Maximum: <b>36</b> |
| fields     | No        | Array   | Specifies the list of fields to be displayed.<br>Array Length: <b>1 - 5</b>                                                                                                                                                        |
| sort_dir   | No        | Array   | Specifies the sorting order of returned results, which can be <b>asc</b> (ascending order) or <b>desc</b> (descending order). The default value is <b>asc</b> .                                                                    |
| sort_key   | No        | String  | Specifies the sorting field.<br>Default: <b>id</b><br>Minimum: <b>0</b><br>Maximum: <b>36</b>                                                                                                                                      |
| hosting_id | No        | Array   | Specifies operations connection ID by which hosted connections are filtered.<br>Array Length: <b>0 - 5</b>                                                                                                                         |

| Parameter | Mandatory | Type  | Description                                                                                                                   |
|-----------|-----------|-------|-------------------------------------------------------------------------------------------------------------------------------|
| id        | No        | Array | Specifies the resource ID by which instances are filtered.<br>Array Length: <b>1 - 5</b>                                      |
| name      | No        | Array | Specifies the resource name by which instances are filtered.<br>You can specify multiple names.<br>Array Length: <b>1 - 5</b> |

## Request Parameters

Table 5-25 Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                               |
|--------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | Specifies the user token. To obtain the token, see section "Obtaining the User Token" in the <i>Identity and Access Management API Reference</i> . The token is the value of <b>X-Subject-Token</b> in the response header.<br>Minimum: <b>0</b><br>Maximum: <b>10240</b> |

## Response Parameters

Status code: 200

Table 5-26 Response body parameters

| Parameter          | Type                                        | Description                                                |
|--------------------|---------------------------------------------|------------------------------------------------------------|
| request_id         | String                                      | Specifies the request ID of the current operation.         |
| hosted_connections | Array of <b>HostedDirectConnect</b> objects | Specifies the parameters for creating a hosted connection. |
| page_info          | <b>PageInfo</b> object                      | Specifies the pagination query information.                |

**Table 5-27** HostedDirectConnect

| Parameter      | Type    | Description                                                                                                                                                                    |
|----------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id             | String  | Specifies the hosted connection ID.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                                                                |
| tenant_id      | String  | Specifies the ID of the project that the instance belongs to.                                                                                                                  |
| name           | String  | Specifies the connection name.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                                                      |
| description    | String  | Provides supplementary information about the connection.<br>Minimum: <b>0</b><br>Maximum: <b>128</b>                                                                           |
| bandwidth      | Integer | Specifies the connection bandwidth in Mbit/s.<br>Minimum: <b>2</b><br>Maximum: <b>400000</b>                                                                                   |
| location       | String  | Specifies information about the Direct Connect location.<br>Minimum: <b>0</b><br>Maximum: <b>255</b>                                                                           |
| peer_location  | String  | Specifies the location of the on-premises facility at the other end of the connection, specific to the street or data center name.<br>Minimum: <b>0</b><br>Maximum: <b>255</b> |
| hosting_id     | String  | Specifies the ID of the operations connection on which the hosted connection is created.                                                                                       |
| provider       | String  | Specifies the provider of the leased line.                                                                                                                                     |
| admin_state_up | Boolean | Specifies the administrative status, which can be <b>true</b> or <b>false</b> .<br>Default: <b>true</b>                                                                        |
| vlan           | Integer | Specifies the VLAN allocated to the hosted connection.<br>Minimum: <b>0</b><br>Maximum: <b>3999</b>                                                                            |

| Parameter         | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status            | String | <p>Specifies the operating status of the hosted connection. The options are as follows:</p> <ul style="list-style-type: none"><li>• <b>BUILD</b>: The hosted connection has been created.</li><li>• <b>ACTIVE</b>: The associated virtual gateway is normal.</li><li>• <b>DOWN</b>: The port used by the hosted connection is down, indicating that there may be line faults.</li><li>• <b>ERROR</b>: The associated virtual gateway is abnormal.</li><li>• <b>PENDING_DELETE</b>: The hosted connection is being deleted.</li><li>• <b>PENDING_UPDATE</b>: The hosted connection is being updated.</li><li>• <b>PENDING_CREATE</b>: The hosted connection is being created.</li></ul> <p>Enumeration values:</p> <ul style="list-style-type: none"><li>• <b>BUILD</b></li><li>• <b>ACTIVE</b></li><li>• <b>DOWN</b></li><li>• <b>ERROR</b></li><li>• <b>PENDING_DELETE</b></li><li>• <b>PENDING_UPDATE</b></li><li>• <b>PENDING_CREATE</b></li></ul> |
| apply_time        | String | <p>Specifies when the connection was requested. The UTC time format <b>yyyy-MM-ddTHH:mm:ss.SSSZ</b> is used.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| create_time       | String | <p>Specifies when the connection was created. The UTC time format <b>yyyy-MM-ddTHH:mm:ss.SSSZ</b> is used.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| provider_statuses | String | <p>Specifies the status of the carrier's leased line. The status can be <b>ACTIVE</b> or <b>DOWN</b>.</p> <p>Enumeration values:</p> <ul style="list-style-type: none"><li>• <b>ACTIVE</b></li><li>• <b>DOWN</b></li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

| Parameter | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| port_type | String | Specifies the type of the port used by the connection. The value can be <b>1G</b> , <b>10G</b> , <b>40G</b> , or <b>100G</b> .<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>1G</b></li><li>• <b>10G</b></li><li>• <b>40G</b></li><li>• <b>100G</b></li></ul>                                                                                                                                       |
| type      | String | Specifies the type of a connection. The value can be <b>standard</b> (a standard connection), <b>hosting</b> (an operations connection) or <b>hosted</b> (a hosted connection).<br>Default: <b>standard</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>standard</b></li><li>• <b>hosting</b></li><li>• <b>hosted</b></li><li>• <b>onestop_standard</b></li><li>• <b>onestop_hosted</b></li></ul> |

**Table 5-28** PageInfo

| Parameter       | Type    | Description                                                                                                                                                                |
|-----------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| previous_marker | String  | Specifies the marker of the previous page. The value is the resource UUID.<br>Minimum: <b>0</b><br>Maximum: <b>36</b>                                                      |
| current_count   | Integer | Specifies the number of resources in the current list.<br>Minimum: <b>0</b><br>Maximum: <b>2000</b>                                                                        |
| next_marker     | String  | Specifies the marker of the next page. The value is the resource UUID. If the value is empty, the resource is on the last page.<br>Minimum: <b>0</b><br>Maximum: <b>36</b> |

## Example Requests

Querying the list of hosted connections created by a partner

```
POST https://{dc_endpoint}/v3/6f9e9263116a4b68818cf1edce16bc4f/dcaas/hosted-connects
```

## Example Responses

Status code: 200

OK

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

## Error Codes

See [Error Codes](#).

# 5.1.6 Creating a Hosted Connection

## Function

This API is used by partners to create hosted connections for their users. The creator must have the partner qualification and have an operations connection.

## URI

```
POST /v3/{project_id}/dcaas/hosted-connects
```

**Table 5-29** Path Parameters

| Parameter  | Mandatory | Type   | Description               |
|------------|-----------|--------|---------------------------|
| project_id | Yes       | String | Specifies the project ID. |



## Request Parameters

**Table 5-30** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                               |
|--------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | Specifies the user token. To obtain the token, see section "Obtaining the User Token" in the <i>Identity and Access Management API Reference</i> . The token is the value of <b>X-Subject-Token</b> in the response header.<br>Minimum: <b>0</b><br>Maximum: <b>10240</b> |

**Table 5-31** Request body parameters

| Parameter      | Mandatory | Type                                             | Description                                                |
|----------------|-----------|--------------------------------------------------|------------------------------------------------------------|
| hosted_connect | Yes       | <a href="#">CreateHostedDirectConnect</a> object | Specifies the parameters for creating a hosted connection. |

**Table 5-32** CreateHostedDirectConnect

| Parameter   | Mandatory | Type    | Description                                                                                                     |
|-------------|-----------|---------|-----------------------------------------------------------------------------------------------------------------|
| name        | No        | String  | Specifies the hosted connection name.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                |
| description | No        | String  | Provides supplementary information about the hosted connection.<br>Minimum: <b>0</b><br>Maximum: <b>128</b>     |
| bandwidth   | Yes       | Integer | Specifies the bandwidth size of the hosted connection in Mbit/s.<br>Minimum: <b>2</b><br>Maximum: <b>400000</b> |

| Parameter          | Mandatory | Type    | Description                                                                                                                                                                    |
|--------------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| hosting_id         | Yes       | String  | Specifies the ID of the operations connection on which the hosted connection is created.                                                                                       |
| vlan               | Yes       | Integer | Specifies the VLAN allocated to the hosted connection.<br>Minimum: <b>0</b><br>Maximum: <b>3999</b>                                                                            |
| resource_tenant_id | Yes       | String  | Specifies the project ID of the specified tenant for whom a hosted connection is to be created.<br>Minimum: <b>0</b><br>Maximum: <b>32</b>                                     |
| peer_location      | No        | String  | Specifies the location of the on-premises facility at the other end of the connection, specific to the street or data center name.<br>Minimum: <b>0</b><br>Maximum: <b>255</b> |

Response Parameters

Status code: 201

Table 5-33 Response body parameters

| Parameter         | Type                       | Description                                                |
|-------------------|----------------------------|------------------------------------------------------------|
| request_id        | String                     | Specifies the request ID.                                  |
| hosted_connection | HostedDirectConnect object | Specifies the parameters for creating a hosted connection. |

Table 5-34 HostedDirectConnect

| Parameter | Type   | Description                                                                     |
|-----------|--------|---------------------------------------------------------------------------------|
| id        | String | Specifies the hosted connection ID.<br>Minimum: <b>36</b><br>Maximum: <b>36</b> |

| Parameter      | Type    | Description                                                                                                                                                                    |
|----------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| tenant_id      | String  | Specifies the ID of the project that the instance belongs to.                                                                                                                  |
| name           | String  | Specifies the connection name.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                                                      |
| description    | String  | Provides supplementary information about the connection.<br>Minimum: <b>0</b><br>Maximum: <b>128</b>                                                                           |
| bandwidth      | Integer | Specifies the connection bandwidth in Mbit/s.<br>Minimum: <b>2</b><br>Maximum: <b>400000</b>                                                                                   |
| location       | String  | Specifies information about the Direct Connect location.<br>Minimum: <b>0</b><br>Maximum: <b>255</b>                                                                           |
| peer_location  | String  | Specifies the location of the on-premises facility at the other end of the connection, specific to the street or data center name.<br>Minimum: <b>0</b><br>Maximum: <b>255</b> |
| hosting_id     | String  | Specifies the ID of the operations connection on which the hosted connection is created.                                                                                       |
| provider       | String  | Specifies the provider of the leased line.                                                                                                                                     |
| admin_state_up | Boolean | Specifies the administrative status, which can be <b>true</b> or <b>false</b> .<br>Default: <b>true</b>                                                                        |
| vlan           | Integer | Specifies the VLAN allocated to the hosted connection.<br>Minimum: <b>0</b><br>Maximum: <b>3999</b>                                                                            |

| Parameter       | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| status          | String | <p>Specifies the operating status of the hosted connection. The options are as follows:</p> <ul style="list-style-type: none"><li>• <b>BUILD</b>: The hosted connection has been created.</li><li>• <b>ACTIVE</b>: The associated virtual gateway is normal.</li><li>• <b>DOWN</b>: The port used by the hosted connection is down, indicating that there may be line faults.</li><li>• <b>ERROR</b>: The associated virtual gateway is abnormal.</li><li>• <b>PENDING_DELETE</b>: The hosted connection is being deleted.</li><li>• <b>PENDING_UPDATE</b>: The hosted connection is being updated.</li><li>• <b>PENDING_CREATE</b>: The hosted connection is being created.</li></ul> <p>Enumeration values:</p> <ul style="list-style-type: none"><li>• <b>BUILD</b></li><li>• <b>ACTIVE</b></li><li>• <b>DOWN</b></li><li>• <b>ERROR</b></li><li>• <b>PENDING_DELETE</b></li><li>• <b>PENDING_UPDATE</b></li><li>• <b>PENDING_CREATE</b></li></ul> |
| apply_time      | String | <p>Specifies when the connection was requested. The UTC time format <b>yyyy-MM-ddTHH:mm:ss.SSSZ</b> is used.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| create_time     | String | <p>Specifies when the connection was created. The UTC time format <b>yyyy-MM-ddTHH:mm:ss.SSSZ</b> is used.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| provider_status | String | <p>Specifies the status of the carrier's leased line. The status can be <b>ACTIVE</b> or <b>DOWN</b>.</p> <p>Enumeration values:</p> <ul style="list-style-type: none"><li>• <b>ACTIVE</b></li><li>• <b>DOWN</b></li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

| Parameter | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| port_type | String | Specifies the type of the port used by the connection. The value can be <b>1G</b> , <b>10G</b> , <b>40G</b> , or <b>100G</b> .<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>1G</b></li><li>• <b>10G</b></li><li>• <b>40G</b></li><li>• <b>100G</b></li></ul>                                                                                                                                       |
| type      | String | Specifies the type of a connection. The value can be <b>standard</b> (a standard connection), <b>hosting</b> (an operations connection) or <b>hosted</b> (a hosted connection).<br>Default: <b>standard</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>standard</b></li><li>• <b>hosting</b></li><li>• <b>hosted</b></li><li>• <b>onestop_standard</b></li><li>• <b>onestop_hosted</b></li></ul> |

Example Requests

Creating a hosting connection with the bandwidth set to 10 Mbit/s and VLAN to 441

```
POST https://{dc_endpoint}/v3/6fbe9263116a4b68818cf1edce16bc4f/dcaas/hosted-connects
{
  "hosted_connect": {
    "name": "client-dc-faf1",
    "description": "Hosted Connect",
    "resource_tenant_id": "0605768a3300d5762f82c01180692873",
    "hosting_id": "2cfb53be-b05f-40d5-a2f8-3a59ac383836",
    "vlan": 441,
    "bandwidth": 10
  }
}
```

Example Responses

Status code: 201  
Created

### Status Codes

| Status Code | Description |
|-------------|-------------|
| 201         | Created     |

### Error Codes

See [Error Codes](#).

## 5.1.7 Querying Details About a Hosted Connection

### Function

This API is used to query a hosted connection of a partner.

### URI

GET /v3/{project\_id}/dcaas/hosted-connects/{hosted\_connect\_id}

**Table 5-35** Path Parameters

| Parameter         | Mandatory | Type   | Description                                                                     |
|-------------------|-----------|--------|---------------------------------------------------------------------------------|
| project_id        | Yes       | String | Specifies the project ID.                                                       |
| hosted_connect_id | Yes       | String | Specifies the hosted connection ID.<br>Minimum: <b>36</b><br>Maximum: <b>36</b> |

**Table 5-36** Query Parameters

| Parameter | Mandatory | Type    | Description                                                                                                                                        |
|-----------|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| limit     | No        | Integer | Specifies the number of records returned on each page. Value range: 1 to 2000<br>Minimum: <b>1</b><br>Maximum: <b>2000</b><br>Default: <b>2000</b> |

| Parameter  | Mandatory | Type   | Description                                                                                                                                                                                                                        |
|------------|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| marker     | No        | String | Specifies the ID of the last resource record on the previous page. If this parameter is left blank, the first page is queried. This parameter must be used together with <b>limit</b> .<br>Minimum: <b>0</b><br>Maximum: <b>36</b> |
| fields     | No        | Array  | Specifies the list of fields to be displayed.<br>Array Length: <b>1 - 5</b>                                                                                                                                                        |
| sort_dir   | No        | Array  | Specifies the sorting order of returned results, which can be <b>asc</b> (ascending order) or <b>desc</b> (descending order). The default value is <b>asc</b> .                                                                    |
| sort_key   | No        | String | Specifies the sorting field.<br>Default: <b>id</b><br>Minimum: <b>0</b><br>Maximum: <b>36</b>                                                                                                                                      |
| hosting_id | No        | Array  | Specifies operations connection ID by which hosted connections are filtered.<br>Array Length: <b>0 - 5</b>                                                                                                                         |

## Request Parameters

**Table 5-37** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                               |
|--------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | Specifies the user token. To obtain the token, see section "Obtaining the User Token" in the <i>Identity and Access Management API Reference</i> . The token is the value of <b>X-Subject-Token</b> in the response header.<br>Minimum: <b>0</b><br>Maximum: <b>10240</b> |

## Response Parameters

Status code: 200

**Table 5-38** Response body parameters

| Parameter      | Type                                       | Description                                                |
|----------------|--------------------------------------------|------------------------------------------------------------|
| request_id     | String                                     | Specifies the request ID.                                  |
| hosted_connect | <a href="#">HostedDirectConnect</a> object | Specifies the parameters for creating a hosted connection. |

**Table 5-39** HostedDirectConnect

| Parameter     | Type    | Description                                                                                                                                                                    |
|---------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id            | String  | Specifies the hosted connection ID.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                                                                |
| tenant_id     | String  | Specifies the ID of the project that the instance belongs to.                                                                                                                  |
| name          | String  | Specifies the connection name.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                                                      |
| description   | String  | Provides supplementary information about the connection.<br>Minimum: <b>0</b><br>Maximum: <b>128</b>                                                                           |
| bandwidth     | Integer | Specifies the connection bandwidth in Mbit/s.<br>Minimum: <b>2</b><br>Maximum: <b>400000</b>                                                                                   |
| location      | String  | Specifies information about the Direct Connect location.<br>Minimum: <b>0</b><br>Maximum: <b>255</b>                                                                           |
| peer_location | String  | Specifies the location of the on-premises facility at the other end of the connection, specific to the street or data center name.<br>Minimum: <b>0</b><br>Maximum: <b>255</b> |



| Parameter      | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| hosting_id     | String  | Specifies the ID of the operations connection on which the hosted connection is created.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| provider       | String  | Specifies the provider of the leased line.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| admin_state_up | Boolean | Specifies the administrative status, which can be <b>true</b> or <b>false</b> .<br>Default: <b>true</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| vlan           | Integer | Specifies the VLAN allocated to the hosted connection.<br>Minimum: <b>0</b><br>Maximum: <b>3999</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| status         | String  | Specifies the operating status of the hosted connection. The options are as follows: <ul style="list-style-type: none"><li>• <b>BUILD</b>: The hosted connection has been created.</li><li>• <b>ACTIVE</b>: The associated virtual gateway is normal.</li><li>• <b>DOWN</b>: The port used by the hosted connection is down, indicating that there may be line faults.</li><li>• <b>ERROR</b>: The associated virtual gateway is abnormal.</li><li>• <b>PENDING_DELETE</b>: The hosted connection is being deleted.</li><li>• <b>PENDING_UPDATE</b>: The hosted connection is being updated.</li><li>• <b>PENDING_CREATE</b>: The hosted connection is being created.</li></ul> Enumeration values: <ul style="list-style-type: none"><li>• <b>BUILD</b></li><li>• <b>ACTIVE</b></li><li>• <b>DOWN</b></li><li>• <b>ERROR</b></li><li>• <b>PENDING_DELETE</b></li><li>• <b>PENDING_UPDATE</b></li><li>• <b>PENDING_CREATE</b></li></ul> |
| apply_time     | String  | Specifies when the connection was requested. The UTC time format <b>yyyy-MM-ddTHH:mm:ss.SSSZ</b> is used.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| create_time    | String  | Specifies when the connection was created. The UTC time format <b>yyyy-MM-ddTHH:mm:ss.SSSZ</b> is used.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

| Parameter       | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| provider_status | String | Specifies the status of the carrier's leased line. The status can be <b>ACTIVE</b> or <b>DOWN</b> .<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>ACTIVE</b></li><li>• <b>DOWN</b></li></ul>                                                                                                                                                                                                        |
| port_type       | String | Specifies the type of the port used by the connection. The value can be <b>1G</b> , <b>10G</b> , <b>40G</b> , or <b>100G</b> .<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>1G</b></li><li>• <b>10G</b></li><li>• <b>40G</b></li><li>• <b>100G</b></li></ul>                                                                                                                                       |
| type            | String | Specifies the type of a connection. The value can be <b>standard</b> (a standard connection), <b>hosting</b> (an operations connection) or <b>hosted</b> (a hosted connection).<br>Default: <b>standard</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>standard</b></li><li>• <b>hosting</b></li><li>• <b>hosted</b></li><li>• <b>onestop_standard</b></li><li>• <b>onestop_hosted</b></li></ul> |

Example Requests

Querying details about a hosted connection created by a partner

```
GET https://{dc_endpoint}/v3/6fbe9263116a4b68818cf1edce16bc4f/dcaas/hosted-connects/0278b472-ffa5-4eb3-8c0d-979d479f8ef6
```

Example Responses

Status code: 200

OK

Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

## Error Codes

See [Error Codes](#).

## 5.1.8 Updating a Hosted Connection

### Function

Updating a hosted connection by a partner

### URI

PUT /v3/{project\_id}/dcaas/hosted-connects/{hosted\_connect\_id}

**Table 5-40** Path Parameters

| Parameter         | Mandatory | Type   | Description                                                                     |
|-------------------|-----------|--------|---------------------------------------------------------------------------------|
| project_id        | Yes       | String | Specifies the project ID.                                                       |
| hosted_connect_id | Yes       | String | Specifies the hosted connection ID.<br>Minimum: <b>36</b><br>Maximum: <b>36</b> |

### Request Parameters

**Table 5-41** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                               |
|--------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | Specifies the user token. To obtain the token, see section "Obtaining the User Token" in the <i>Identity and Access Management API Reference</i> . The token is the value of <b>X-Subject-Token</b> in the response header.<br>Minimum: <b>0</b><br>Maximum: <b>10240</b> |

**Table 5-42** Request body parameters

| Parameter      | Mandatory | Type                                             | Description                                                     |
|----------------|-----------|--------------------------------------------------|-----------------------------------------------------------------|
| hosted_connect | No        | <a href="#">UpdateHostedDirectConnect</a> object | Specifies parameters required for updating a hosted connection. |

**Table 5-43** UpdateHostedDirectConnect

| Parameter     | Mandatory | Type    | Description                                                                                                                                                                    |
|---------------|-----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name          | No        | String  | Specifies the connection name.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                                                      |
| description   | No        | String  | Provides supplementary information about the connection.<br>Minimum: <b>0</b><br>Maximum: <b>128</b>                                                                           |
| bandwidth     | No        | Integer | Specifies the bandwidth size of the hosted connection in Mbit/s.<br>Minimum: <b>2</b><br>Maximum: <b>400000</b>                                                                |
| peer_location | No        | String  | Specifies the location of the on-premises facility at the other end of the connection, specific to the street or data center name.<br>Minimum: <b>0</b><br>Maximum: <b>255</b> |

## Response Parameters

**Status code: 200**

**Table 5-44** Response body parameters

| Parameter  | Type   | Description               |
|------------|--------|---------------------------|
| request_id | String | Specifies the request ID. |

| Parameter      | Type                                       | Description                                                |
|----------------|--------------------------------------------|------------------------------------------------------------|
| hosted_connect | <a href="#">HostedDirectConnect</a> object | Specifies the parameters for creating a hosted connection. |

**Table 5-45** HostedDirectConnect

| Parameter      | Type    | Description                                                                                                                                                                    |
|----------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id             | String  | Specifies the hosted connection ID.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                                                                |
| tenant_id      | String  | Specifies the ID of the project that the instance belongs to.                                                                                                                  |
| name           | String  | Specifies the connection name.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                                                      |
| description    | String  | Provides supplementary information about the connection.<br>Minimum: <b>0</b><br>Maximum: <b>128</b>                                                                           |
| bandwidth      | Integer | Specifies the connection bandwidth in Mbit/s.<br>Minimum: <b>2</b><br>Maximum: <b>400000</b>                                                                                   |
| location       | String  | Specifies information about the Direct Connect location.<br>Minimum: <b>0</b><br>Maximum: <b>255</b>                                                                           |
| peer_location  | String  | Specifies the location of the on-premises facility at the other end of the connection, specific to the street or data center name.<br>Minimum: <b>0</b><br>Maximum: <b>255</b> |
| hosting_id     | String  | Specifies the ID of the operations connection on which the hosted connection is created.                                                                                       |
| provider       | String  | Specifies the provider of the leased line.                                                                                                                                     |
| admin_state_up | Boolean | Specifies the administrative status, which can be <b>true</b> or <b>false</b> .<br>Default: <b>true</b>                                                                        |

| Parameter         | Type    | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| vlan              | Integer | Specifies the VLAN allocated to the hosted connection.<br>Minimum: <b>0</b><br>Maximum: <b>3999</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| status            | String  | Specifies the operating status of the hosted connection. The options are as follows: <ul style="list-style-type: none"><li>• <b>BUILD</b>: The hosted connection has been created.</li><li>• <b>ACTIVE</b>: The associated virtual gateway is normal.</li><li>• <b>DOWN</b>: The port used by the hosted connection is down, indicating that there may be line faults.</li><li>• <b>ERROR</b>: The associated virtual gateway is abnormal.</li><li>• <b>PENDING_DELETE</b>: The hosted connection is being deleted.</li><li>• <b>PENDING_UPDATE</b>: The hosted connection is being updated.</li><li>• <b>PENDING_CREATE</b>: The hosted connection is being created.</li></ul> Enumeration values: <ul style="list-style-type: none"><li>• <b>BUILD</b></li><li>• <b>ACTIVE</b></li><li>• <b>DOWN</b></li><li>• <b>ERROR</b></li><li>• <b>PENDING_DELETE</b></li><li>• <b>PENDING_UPDATE</b></li><li>• <b>PENDING_CREATE</b></li></ul> |
| apply_time        | String  | Specifies when the connection was requested. The UTC time format <b>yyyy-MM-ddTHH:mm:ss.SSSZ</b> is used.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| create_time       | String  | Specifies when the connection was created. The UTC time format <b>yyyy-MM-ddTHH:mm:ss.SSSZ</b> is used.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| provider_statuses | String  | Specifies the status of the carrier's leased line. The status can be <b>ACTIVE</b> or <b>DOWN</b> .<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>ACTIVE</b></li><li>• <b>DOWN</b></li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

| Parameter | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| port_type | String | Specifies the type of the port used by the connection. The value can be <b>1G</b> , <b>10G</b> , <b>40G</b> , or <b>100G</b> .<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>1G</b></li><li>• <b>10G</b></li><li>• <b>40G</b></li><li>• <b>100G</b></li></ul>                                                                                                                                       |
| type      | String | Specifies the type of a connection. The value can be <b>standard</b> (a standard connection), <b>hosting</b> (an operations connection) or <b>hosted</b> (a hosted connection).<br>Default: <b>standard</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>standard</b></li><li>• <b>hosting</b></li><li>• <b>hosted</b></li><li>• <b>onestop_standard</b></li><li>• <b>onestop_hosted</b></li></ul> |

Example Requests

Updating the name and description of a hosted connection

```
PUT https://{dc_endpoint}/v3/6fbe9263116a4b68818cf1edce16bc4f/dcaas/hosted-connects/0278b472-ffa5-4eb3-8c0d-979d479f8ef6
{
  "hosted_connect" : {
    "name" : "client-dc-faf1",
    "description" : ""
  }
}
```

Example Responses

Status code: 200  
OK

Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

## Error Codes

See [Error Codes](#).

## 5.1.9 Deleting a Hosted Connection

### Function

This API is used by partners to delete hosted connections.

### URI

DELETE /v3/{project\_id}/dcaas/hosted-connects/{hosted\_connect\_id}

**Table 5-46** Path Parameters

| Parameter         | Mandatory | Type   | Description                                                                     |
|-------------------|-----------|--------|---------------------------------------------------------------------------------|
| project_id        | Yes       | String | Specifies the project ID.                                                       |
| hosted_connect_id | Yes       | String | Specifies the hosted connection ID.<br>Minimum: <b>36</b><br>Maximum: <b>36</b> |

### Request Parameters

**Table 5-47** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                               |
|--------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | Specifies the user token. To obtain the token, see section "Obtaining the User Token" in the <i>Identity and Access Management API Reference</i> . The token is the value of <b>X-Subject-Token</b> in the response header.<br>Minimum: <b>0</b><br>Maximum: <b>10240</b> |

### Response Parameters

None

### Example Requests

Deleting a hosted connection



```
DELETE https://{dc_endpoint}/v3/08d5a9564a704afda6039ae2babbe3c/dcaas/hosted-connects/94c2b814-99dc-939a-e811-ae84c61ea3ff
```

## Example Responses

None

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 204         | No Content  |

## Error Codes

See [Error Codes](#).

# 5.2 Virtual Gateway

## 5.2.1 Querying Details About a Virtual Gateway

### Function

This API is used to query details about a specified virtual gateway.

### URI

GET /v3/{project\_id}/dcaas/virtual-gateways/{virtual\_gateway\_id}

**Table 5-48** Path Parameters

| Parameter          | Mandatory | Type   | Description                       |
|--------------------|-----------|--------|-----------------------------------|
| project_id         | Yes       | String | Specifies the project ID.         |
| virtual_gateway_id | Yes       | String | Specifies the virtual gateway ID. |

**Table 5-49** Query Parameters

| Parameter | Mandatory | Type  | Description                                                          |
|-----------|-----------|-------|----------------------------------------------------------------------|
| fields    | No        | Array | Specifies the list of fields to be displayed.<br>Array Length: 1 - 5 |

## Request Parameters

Table 5-50 Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                                   |
|--------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | Specifies the user token. To obtain the token, see section "Obtaining the User Token" in the <i>Identity and Access Management API Reference</i> . The token is the value of <b>X-Subject-Token</b> in the response header.<br><br>Minimum: <b>0</b><br>Maximum: <b>10240</b> |

## Response Parameters

Status code: 200

Table 5-51 Response body parameters

| Parameter       | Type                                  | Description                                          |
|-----------------|---------------------------------------|------------------------------------------------------|
| virtual_gateway | <a href="#">VirtualGateway</a> object | Specifies parameters for creating a virtual gateway. |
| request_id      | String                                | Specifies the request ID.                            |

Table 5-52 VirtualGateway

| Parameter | Type   | Description                                                                                                   |
|-----------|--------|---------------------------------------------------------------------------------------------------------------|
| id        | String | Specifies the virtual gateway ID.                                                                             |
| vpc_id    | String | Specifies the ID of the VPC connected by the virtual gateway.                                                 |
| tenant_id | String | Specifies the ID of the project that the instance belongs to.<br><br>Minimum: <b>32</b><br>Maximum: <b>32</b> |
| name      | String | Specifies the virtual gateway name.<br><br>Minimum: <b>0</b><br>Maximum: <b>64</b>                            |

| Parameter             | Type             | Description                                                                                                                                                                               |
|-----------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| description           | String           | Provides supplementary information about the virtual gateway.<br>Minimum: <b>0</b><br>Maximum: <b>128</b>                                                                                 |
| type                  | String           | Specifies the virtual gateway type. The value can only be <b>default</b> .<br>Default: <b>default</b>                                                                                     |
| local_ep_group        | Array of strings | Specifies the IPv4 subnets connected by the virtual gateway, which is usually the CIDR blocks of a VPC.                                                                                   |
| local_ep_group_ipv6   | Array of strings | Specifies the IPv6 subnets connected by the virtual gateway, which is usually the CIDR blocks of a VPC. This is a reserved field.                                                         |
| admin_state_up        | Boolean          | Specifies the administrative status, which can be <b>true</b> or <b>false</b> .<br>Default: <b>true</b>                                                                                   |
| status                | String           | Specifies the virtual gateway status, which can be <b>ACTIVE</b> , <b>DOWN</b> , <b>BUILD</b> , <b>ERROR</b> , <b>PENDING_CREATE</b> , <b>PENDING_UPDATE</b> , or <b>PENDING_DELETE</b> . |
| bgp_asn               | Integer          | Specifies the local BGP ASN of the virtual gateway.<br>Minimum: <b>1</b><br>Maximum: <b>4294967295</b>                                                                                    |
| enterprise_project_id | String           | Specifies the ID of the enterprise project that the virtual gateway belongs to.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                               |
| device_id             | String           | Specifies the ID of the device that the virtual interface belongs to.                                                                                                                     |
| redundant_device_id   | String           | Specifies the ID of the redundant device.                                                                                                                                                 |
| public_border_group   | String           | Specifies the public border group of the AZ, indicating whether the site is a HomeZones site.                                                                                             |

## Example Requests

Querying a virtual gateway

GET https://{dc\_endpoint}/v3/0605768a3300d5762f82c01180692873/dcaas/virtual-gateways/  
20082c1b-3c99-48d8-8e8c-116af5d7e9f0

## Example Responses

**Status code: 200**

OK

- The details of the virtual gateway associated with a VPC are queried.

```
{
  "virtual_gateway": {
    "id": "20082c1b-3c99-48d8-8e8c-116af5d7e9f0",
    "name": "vgw-c7b22",
    "description": "",
    "tenant_id": "0605768a3300d5762f82c01180692873",
    "vpc_id": "6592c28e-95d7-4b0a-9f61-004fdf03420c",
    "device_id": "26.151.63.100",
    "redundant_device_id": "26.152.128.20",
    "type": "default",
    "status": "ACTIVE",
    "admin_state_up": true,
    "bgp_asn": 64512,
    "local_ep_group": [ "192.168.1.0/24" ],
    "enterprise_project_id": "0",
    "public_border_group": "center"
  },
  "request_id": "765f7aaf8f2edd0e719de564ef72e2de"
}
```

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

## Error Codes

See [Error Codes](#).

## 5.2.2 Updating a Virtual Gateway

### Function

This API is used to update a virtual gateway.

### URI

PUT /v3/{project\_id}/dcaas/virtual-gateways/{virtual\_gateway\_id}

**Table 5-53** Path Parameters

| Parameter  | Mandatory | Type   | Description               |
|------------|-----------|--------|---------------------------|
| project_id | Yes       | String | Specifies the project ID. |

| Parameter          | Mandatory | Type   | Description                       |
|--------------------|-----------|--------|-----------------------------------|
| virtual_gateway_id | Yes       | String | Specifies the virtual gateway ID. |

## Request Parameters

**Table 5-54** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                                   |
|--------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | Specifies the user token. To obtain the token, see section "Obtaining the User Token" in the <i>Identity and Access Management API Reference</i> . The token is the value of <b>X-Subject-Token</b> in the response header.<br><br>Minimum: <b>0</b><br>Maximum: <b>10240</b> |

**Table 5-55** Request body parameters

| Parameter       | Mandatory | Type                                        | Description                                  |
|-----------------|-----------|---------------------------------------------|----------------------------------------------|
| virtual_gateway | No        | <a href="#">UpdateVirtualGateway</a> object | Specifies the virtual gateway to be updated. |

**Table 5-56** UpdateVirtualGateway

| Parameter   | Mandatory | Type   | Description                                                                                                   |
|-------------|-----------|--------|---------------------------------------------------------------------------------------------------------------|
| name        | No        | String | Specifies the virtual gateway name.<br><br>Minimum: <b>0</b><br>Maximum: <b>64</b>                            |
| description | No        | String | Provides supplementary information about the virtual gateway.<br><br>Minimum: <b>0</b><br>Maximum: <b>128</b> |

| Parameter           | Mandatory | Type             | Description                                                                                                                                                                          |
|---------------------|-----------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| local_ep_group      | No        | Array of strings | Lists the IPv4 subnets that can be accessed over the virtual gateway. Generally, the list contains the subnet CIDR blocks of the associated VPC.<br>Array Length: <b>1 - 200</b>     |
| local_ep_group_ipv6 | No        | Array of strings | Lists the IPv6 subnets that can be accessed using the virtual gateway. Usually, the subnets are those in the VPC associated with the virtual gateway.<br>Array Length: <b>1 - 50</b> |

## Response Parameters

Status code: 200

Table 5-57 Response body parameters

| Parameter       | Type                                  | Description                                          |
|-----------------|---------------------------------------|------------------------------------------------------|
| virtual_gateway | <a href="#">VirtualGateway</a> object | Specifies parameters for creating a virtual gateway. |
| request_id      | String                                | Specifies the request ID.                            |

Table 5-58 VirtualGateway

| Parameter | Type   | Description                                                                                               |
|-----------|--------|-----------------------------------------------------------------------------------------------------------|
| id        | String | Specifies the virtual gateway ID.                                                                         |
| vpc_id    | String | Specifies the ID of the VPC connected by the virtual gateway.                                             |
| tenant_id | String | Specifies the ID of the project that the instance belongs to.<br>Minimum: <b>32</b><br>Maximum: <b>32</b> |
| name      | String | Specifies the virtual gateway name.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                            |

| Parameter             | Type             | Description                                                                                                                                                                               |
|-----------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| description           | String           | Provides supplementary information about the virtual gateway.<br>Minimum: <b>0</b><br>Maximum: <b>128</b>                                                                                 |
| type                  | String           | Specifies the virtual gateway type. The value can only be <b>default</b> .<br>Default: <b>default</b>                                                                                     |
| local_ep_group        | Array of strings | Specifies the IPv4 subnets connected by the virtual gateway, which is usually the CIDR blocks of a VPC.                                                                                   |
| local_ep_group_ipv6   | Array of strings | Specifies the IPv6 subnets connected by the virtual gateway, which is usually the CIDR blocks of a VPC. This is a reserved field.                                                         |
| admin_state_up        | Boolean          | Specifies the administrative status, which can be <b>true</b> or <b>false</b> .<br>Default: <b>true</b>                                                                                   |
| status                | String           | Specifies the virtual gateway status, which can be <b>ACTIVE</b> , <b>DOWN</b> , <b>BUILD</b> , <b>ERROR</b> , <b>PENDING_CREATE</b> , <b>PENDING_UPDATE</b> , or <b>PENDING_DELETE</b> . |
| bgp_asn               | Integer          | Specifies the local BGP ASN of the virtual gateway.<br>Minimum: <b>1</b><br>Maximum: <b>4294967295</b>                                                                                    |
| enterprise_project_id | String           | Specifies the ID of the enterprise project that the virtual gateway belongs to.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                               |
| device_id             | String           | Specifies the ID of the device that the virtual interface belongs to.                                                                                                                     |
| redundant_device_id   | String           | Specifies the ID of the redundant device.                                                                                                                                                 |
| public_border_group   | String           | Specifies the public border group of the AZ, indicating whether the site is a HomeZones site.                                                                                             |

## Example Requests

Updating the name and description of a virtual gateway and changing its IPv4 subnet to 192.168.3.0/24

```
PUT https://{dc_endpoint}/v3/0605768a3300d5762f82c01180692873/dcaas/virtual-gateways/  
20082c1b-3c99-48d8-8e8c-116af5d7e9f0  
  
{  
  "virtual_gateway": {  
    "name": "update-vgw-c7b22",  
    "description": "",  
    "local_ep_group": [ "192.168.3.0/24" ]  
  }  
}
```

## Example Responses

**Status code: 200**

OK

- The virtual gateway associated with a VPC is updated.

```
{  
  "virtual_gateway": {  
    "id": "20082c1b-3c99-48d8-8e8c-116af5d7e9f0",  
    "name": "update-vgw-c7b22",  
    "description": "",  
    "tenant_id": "0605768a3300d5762f82c01180692873",  
    "vpc_id": "6592c28e-95d7-4b0a-9f61-004fdf03420c",  
    "device_id": "26.151.63.100",  
    "redundant_device_id": "26.152.128.20",  
    "type": "default",  
    "status": "ACTIVE",  
    "admin_state_up": true,  
    "bgp_asn": 64512,  
    "local_ep_group": [ "192.168.3.0/24" ],  
    "enterprise_project_id": "0",  
    "public_border_group": "center"  
  },  
  "request_id": "765f7aaf8f2edd0e719de564ef72e2de"  
}
```

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

## Error Codes

See [Error Codes](#).

## 5.2.3 Deleting a Virtual Gateway

### Function

The API is used to delete a specified virtual gateway.

### URI

DELETE /v3/{project\_id}/dcaas/virtual-gateways/{virtual\_gateway\_id}



**Table 5-59** Path Parameters

| Parameter          | Mandatory | Type   | Description                       |
|--------------------|-----------|--------|-----------------------------------|
| project_id         | Yes       | String | Specifies the project ID.         |
| virtual_gateway_id | Yes       | String | Specifies the virtual gateway ID. |

## Request Parameters

**Table 5-60** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                                   |
|--------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | Specifies the user token. To obtain the token, see section "Obtaining the User Token" in the <i>Identity and Access Management API Reference</i> . The token is the value of <b>X-Subject-Token</b> in the response header.<br><br>Minimum: <b>0</b><br>Maximum: <b>10240</b> |

## Response Parameters

None

## Example Requests

Deleting a virtual gateway

```
DELETE https://{dc_endpoint}/v3/08d5a9564a704afda6039ae2babbe3c/dcaas/virtual-gateways/  
20082c1b-3c99-48d8-8e8c-116af5d7e9f0
```

## Example Responses

None

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 204         | No Content  |

# Error Codes

See [Error Codes](#).

## 5.2.4 Querying Virtual Gateways

### Function

This API is used to query virtual gateways.

### URI

GET /v3/{project\_id}/dcaas/virtual-gateways

Table 5-61 Path Parameters

| Parameter  | Mandatory | Type   | Description               |
|------------|-----------|--------|---------------------------|
| project_id | Yes       | String | Specifies the project ID. |

Table 5-62 Query Parameters

| Parameter | Mandatory | Type    | Description                                                                                                                                                                                                                        |
|-----------|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| limit     | No        | Integer | Specifies the number of records returned on each page. Value range: 1 to 2000<br>Minimum: <b>1</b><br>Maximum: <b>2000</b><br>Default: <b>2000</b>                                                                                 |
| marker    | No        | String  | Specifies the ID of the last resource record on the previous page. If this parameter is left blank, the first page is queried. This parameter must be used together with <b>limit</b> .<br>Minimum: <b>0</b><br>Maximum: <b>36</b> |
| fields    | No        | Array   | Specifies the list of fields to be displayed.<br>Array Length: <b>1 - 5</b>                                                                                                                                                        |
| sort_dir  | No        | Array   | Specifies the sorting order of returned results, which can be <b>asc</b> (ascending order) or <b>desc</b> (descending order). The default value is <b>asc</b> .                                                                    |

| Parameter             | Mandatory | Type   | Description                                                                                   |
|-----------------------|-----------|--------|-----------------------------------------------------------------------------------------------|
| sort_key              | No        | String | Specifies the sorting field.<br>Default: <b>id</b><br>Minimum: <b>0</b><br>Maximum: <b>36</b> |
| id                    | No        | Array  | Specifies the resource ID by which instances are filtered.<br>Array Length: <b>1 - 5</b>      |
| enterprise_project_id | No        | Array  | Filters resource instances by enterprise project ID.<br>Array Length: <b>1 - 10</b>           |
| vpc_id                | No        | Array  | Specifies the VPC ID by which virtual gateways are filtered.                                  |

## Request Parameters

**Table 5-63** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                               |
|--------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | Specifies the user token. To obtain the token, see section "Obtaining the User Token" in the <i>Identity and Access Management API Reference</i> . The token is the value of <b>X-Subject-Token</b> in the response header.<br>Minimum: <b>0</b><br>Maximum: <b>10240</b> |

## Response Parameters

**Status code: 200**

**Table 5-64** Response body parameters

| Parameter        | Type                                   | Description                                          |
|------------------|----------------------------------------|------------------------------------------------------|
| request_id       | String                                 | Specifies the request ID.                            |
| virtual_gateways | Array of <b>VirtualGateway</b> objects | Specifies parameters for creating a virtual gateway. |

| Parameter | Type                            | Description                                 |
|-----------|---------------------------------|---------------------------------------------|
| page_info | <a href="#">PageInfo</a> object | Specifies the pagination query information. |

**Table 5-65** VirtualGateway

| Parameter           | Type             | Description                                                                                                                                                                               |
|---------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id                  | String           | Specifies the virtual gateway ID.                                                                                                                                                         |
| vpc_id              | String           | Specifies the ID of the VPC connected by the virtual gateway.                                                                                                                             |
| tenant_id           | String           | Specifies the ID of the project that the instance belongs to.<br>Minimum: <b>32</b><br>Maximum: <b>32</b>                                                                                 |
| name                | String           | Specifies the virtual gateway name.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                                                            |
| description         | String           | Provides supplementary information about the virtual gateway.<br>Minimum: <b>0</b><br>Maximum: <b>128</b>                                                                                 |
| type                | String           | Specifies the virtual gateway type. The value can only be <b>default</b> .<br>Default: <b>default</b>                                                                                     |
| local_ep_group      | Array of strings | Specifies the IPv4 subnets connected by the virtual gateway, which is usually the CIDR blocks of a VPC.                                                                                   |
| local_ep_group_ipv6 | Array of strings | Specifies the IPv6 subnets connected by the virtual gateway, which is usually the CIDR blocks of a VPC. This is a reserved field.                                                         |
| admin_state_up      | Boolean          | Specifies the administrative status, which can be <b>true</b> or <b>false</b> .<br>Default: <b>true</b>                                                                                   |
| status              | String           | Specifies the virtual gateway status, which can be <b>ACTIVE</b> , <b>DOWN</b> , <b>BUILD</b> , <b>ERROR</b> , <b>PENDING_CREATE</b> , <b>PENDING_UPDATE</b> , or <b>PENDING_DELETE</b> . |

| Parameter             | Type    | Description                                                                                                                 |
|-----------------------|---------|-----------------------------------------------------------------------------------------------------------------------------|
| bgp_asn               | Integer | Specifies the local BGP ASN of the virtual gateway.<br>Minimum: <b>1</b><br>Maximum: <b>4294967295</b>                      |
| enterprise_project_id | String  | Specifies the ID of the enterprise project that the virtual gateway belongs to.<br>Minimum: <b>36</b><br>Maximum: <b>36</b> |
| device_id             | String  | Specifies the ID of the device that the virtual interface belongs to.                                                       |
| redundant_device_id   | String  | Specifies the ID of the redundant device.                                                                                   |
| public_border_group   | String  | Specifies the public border group of the AZ, indicating whether the site is a HomeZones site.                               |

**Table 5-66** PageInfo

| Parameter       | Type    | Description                                                                                                                                                                |
|-----------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| previous_marker | String  | Specifies the marker of the previous page. The value is the resource UUID.<br>Minimum: <b>0</b><br>Maximum: <b>36</b>                                                      |
| current_count   | Integer | Specifies the number of resources in the current list.<br>Minimum: <b>0</b><br>Maximum: <b>2000</b>                                                                        |
| next_marker     | String  | Specifies the marker of the next page. The value is the resource UUID. If the value is empty, the resource is on the last page.<br>Minimum: <b>0</b><br>Maximum: <b>36</b> |

## Example Requests

Querying the virtual gateway list

```
GET https://{dc_endpoint}/v3/0605768a3300d5762f82c01180692873/dcaas/virtual-gateways
```

## Example Responses

Status code: 200

OK

- The list of virtual gateways associated with VPCs is queried.

```
{
  "virtual_gateways": [ {
    "id" : "20082c1b-3c99-48d8-8e8c-116af5d7e9f0",
    "name" : "vgw-c7b22",
    "description" : "",
    "tenant_id" : "0605768a3300d5762f82c01180692873",
    "vpc_id" : "6592c28e-95d7-4b0a-9f61-004fd03420c",
    "device_id" : "26.151.63.100",
    "redundant_device_id" : "26.152.128.20",
    "type" : "default",
    "status" : "ACTIVE",
    "admin_state_up" : true,
    "bgp_asn" : 64512,
    "local_ep_group" : [ "192.168.1.0/24" ],
    "enterprise_project_id" : "0",
    "public_border_group" : "center"
  } ],
  "request_id" : "765f7aaf8f2edd0e719de564ef72e2de"
}
```

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

## Error Codes

See [Error Codes](#).

## 5.2.5 Creating a Virtual Gateway

### Function

This API is used to create a virtual gateway.

### URI

POST /v3/{project\_id}/dcaas/virtual-gateways

**Table 5-67** Path Parameters

| Parameter  | Mandatory | Type   | Description               |
|------------|-----------|--------|---------------------------|
| project_id | Yes       | String | Specifies the project ID. |

## Request Parameters

**Table 5-68** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                               |
|--------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | Specifies the user token. To obtain the token, see section "Obtaining the User Token" in the <i>Identity and Access Management API Reference</i> . The token is the value of <b>X-Subject-Token</b> in the response header.<br>Minimum: <b>0</b><br>Maximum: <b>10240</b> |

**Table 5-69** Request body parameters

| Parameter       | Mandatory | Type                                        | Description                                          |
|-----------------|-----------|---------------------------------------------|------------------------------------------------------|
| virtual_gateway | No        | <a href="#">CreateVirtualGateway</a> object | Specifies parameters for creating a virtual gateway. |

**Table 5-70** CreateVirtualGateway

| Parameter   | Mandatory | Type   | Description                                                                                               |
|-------------|-----------|--------|-----------------------------------------------------------------------------------------------------------|
| vpc_id      | Yes       | String | Specifies the ID of the VPC that the virtual gateway is associated with.                                  |
| name        | No        | String | Specifies the virtual gateway name.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                            |
| description | No        | String | Provides supplementary information about the virtual gateway.<br>Minimum: <b>0</b><br>Maximum: <b>128</b> |

| Parameter             | Mandatory | Type             | Description                                                                                                                                      |
|-----------------------|-----------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| local_ep_group        | Yes       | Array of strings | Lists the IPv4 subnets that can be accessed over the virtual gateway. Generally, the list contains the subnet CIDR blocks of the associated VPC. |
| local_ep_group_ipv6   | No        | Array of strings | Specifies the IPv6 subnets connected by the virtual gateway, which is usually the CIDR blocks of a VPC. This is a reserved field.                |
| bgp_asn               | No        | Integer          | Specifies the local BGP autonomous system number (ASN) of the virtual gateway.<br>Minimum: 1<br>Maximum: <b>4294967295</b>                       |
| enterprise_project_id | No        | String           | Specifies the ID of the enterprise project that the virtual gateway belongs to.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                      |

## Response Parameters

Status code: 201

Table 5-71 Response body parameters

| Parameter       | Type                         | Description                                          |
|-----------------|------------------------------|------------------------------------------------------|
| virtual_gateway | <b>VirtualGateway</b> object | Specifies parameters for creating a virtual gateway. |
| request_id      | String                       | Specifies the request ID.                            |

Table 5-72 VirtualGateway

| Parameter | Type   | Description                                                   |
|-----------|--------|---------------------------------------------------------------|
| id        | String | Specifies the virtual gateway ID.                             |
| vpc_id    | String | Specifies the ID of the VPC connected by the virtual gateway. |



| Parameter             | Type             | Description                                                                                                                                                                               |
|-----------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| tenant_id             | String           | Specifies the ID of the project that the instance belongs to.<br>Minimum: <b>32</b><br>Maximum: <b>32</b>                                                                                 |
| name                  | String           | Specifies the virtual gateway name.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                                                            |
| description           | String           | Provides supplementary information about the virtual gateway.<br>Minimum: <b>0</b><br>Maximum: <b>128</b>                                                                                 |
| type                  | String           | Specifies the virtual gateway type. The value can only be <b>default</b> .<br>Default: <b>default</b>                                                                                     |
| local_ep_group        | Array of strings | Specifies the IPv4 subnets connected by the virtual gateway, which is usually the CIDR blocks of a VPC.                                                                                   |
| local_ep_group_ipv6   | Array of strings | Specifies the IPv6 subnets connected by the virtual gateway, which is usually the CIDR blocks of a VPC. This is a reserved field.                                                         |
| admin_state_up        | Boolean          | Specifies the administrative status, which can be <b>true</b> or <b>false</b> .<br>Default: <b>true</b>                                                                                   |
| status                | String           | Specifies the virtual gateway status, which can be <b>ACTIVE</b> , <b>DOWN</b> , <b>BUILD</b> , <b>ERROR</b> , <b>PENDING_CREATE</b> , <b>PENDING_UPDATE</b> , or <b>PENDING_DELETE</b> . |
| bgp_asn               | Integer          | Specifies the local BGP ASN of the virtual gateway.<br>Minimum: <b>1</b><br>Maximum: <b>4294967295</b>                                                                                    |
| enterprise_project_id | String           | Specifies the ID of the enterprise project that the virtual gateway belongs to.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                               |
| device_id             | String           | Specifies the ID of the device that the virtual interface belongs to.                                                                                                                     |
| redundant_device_id   | String           | Specifies the ID of the redundant device.                                                                                                                                                 |

| Parameter           | Type   | Description                                                                                   |
|---------------------|--------|-----------------------------------------------------------------------------------------------|
| public_border_group | String | Specifies the public border group of the AZ, indicating whether the site is a HomeZones site. |

## Example Requests

- Creating a virtual gateway that will be used to access a VPC, with the local BGP ASN set to 64512 and the IPv4 subnet to 192.168.1.0/24

POST https://{dc\_endpoint}/v3/0605768a3300d5762f82c01180692873/dcaas/virtual-gateways

```
{
  "virtual_gateway": {
    "name": "vgw-c7b22",
    "description": "",
    "vpc_id": "6592c28e-95d7-4b0a-9f61-004fdf03420c",
    "bgp_asn": 64512,
    "local_ep_group": [ "192.168.1.0/24" ]
  }
}
```

## Example Responses

**Status code: 201**

Created

- The virtual gateway for accessing the VPC is created

```
{
  "virtual_gateway": {
    "id": "20082c1b-3c99-48d8-8e8c-116af5d7e9f0",
    "name": "vgw-c7b22",
    "description": "",
    "tenant_id": "0605768a3300d5762f82c01180692873",
    "vpc_id": "6592c28e-95d7-4b0a-9f61-004fdf03420c",
    "device_id": "26.151.63.100",
    "redundant_device_id": "26.152.128.20",
    "type": "default",
    "status": "ACTIVE",
    "admin_state_up": true,
    "bgp_asn": 64512,
    "local_ep_group": [ "192.168.1.0/24" ],
    "enterprise_project_id": "0",
    "public_border_group": "center"
  }
}
```

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 201         | Created     |

## Error Codes

See [Error Codes](#).

## 5.3 Virtual Interface

### 5.3.1 Querying Details About a Virtual Interface

#### Function

This API is used to querying details about a virtual interface.

#### URI

GET /v3/{project\_id}/dcaas/virtual-interfaces/{virtual\_interface\_id}

**Table 5-73** Path Parameters

| Parameter            | Mandatory | Type   | Description                                                                     |
|----------------------|-----------|--------|---------------------------------------------------------------------------------|
| project_id           | Yes       | String | Specifies the project ID.                                                       |
| virtual_interface_id | Yes       | String | Specifies the virtual interface ID.<br>Minimum: <b>36</b><br>Maximum: <b>36</b> |

**Table 5-74** Query Parameters

| Parameter | Mandatory | Type  | Description                                                                 |
|-----------|-----------|-------|-----------------------------------------------------------------------------|
| fields    | No        | Array | Specifies the list of fields to be displayed.<br>Array Length: <b>1 - 5</b> |

## Request Parameters

**Table 5-75** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                               |
|--------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | Specifies the user token. To obtain the token, see section "Obtaining the User Token" in the <i>Identity and Access Management API Reference</i> . The token is the value of <b>X-Subject-Token</b> in the response header.<br>Minimum: <b>0</b><br>Maximum: <b>10240</b> |

## Response Parameters

**Status code: 200**

**Table 5-76** Response body parameters

| Parameter         | Type                           | Description                                            |
|-------------------|--------------------------------|--------------------------------------------------------|
| request_id        | String                         | Specifies the request ID.                              |
| virtual_interface | <b>VirtualInterface</b> object | Specifies parameters for creating a virtual interface. |

**Table 5-77** VirtualInterface

| Parameter      | Type    | Description                                                                                   |
|----------------|---------|-----------------------------------------------------------------------------------------------|
| id             | String  | Specifies the virtual interface ID.<br>Maximum: <b>36</b>                                     |
| name           | String  | Specifies the virtual interface name.<br>Maximum: <b>64</b>                                   |
| admin_state_up | Boolean | Specifies the administrative status, which can be <b>true</b> or <b>false</b> .               |
| bandwidth      | Integer | Specifies the virtual interface bandwidth.<br>Minimum: <b>2</b><br>Maximum: <b>2147483647</b> |

| Parameter         | Type    | Description                                                                                                                                                                                                                                   |
|-------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| create_time       | String  | Specifies the time when the virtual interface was created. The UTC time format <b>yyyy-MM-ddTHH:mm:ss.SSSZ</b> is used.<br>Maximum: <b>255</b>                                                                                                |
| description       | String  | Provides supplementary information about the virtual interface.<br>Maximum: <b>128</b>                                                                                                                                                        |
| direct_connect_id | String  | Specifies the connection ID.<br>Maximum: <b>36</b>                                                                                                                                                                                            |
| service_type      | String  | Specifies the gateway type. The value is <b>VGW</b> .                                                                                                                                                                                         |
| status            | String  | Specifies the operating status, which can be <b>ACTIVE</b> , <b>DOWN</b> , <b>BUILD</b> , <b>ERROR</b> , <b>PENDING_CREATE</b> , <b>PENDING_UPDATE</b> , <b>PENDING_DELETE</b> , <b>DELETED</b> , <b>AUTHORIZATION</b> , or <b>REJECTED</b> . |
| tenant_id         | String  | Specifies the project ID.<br>Minimum: <b>32</b><br>Maximum: <b>32</b>                                                                                                                                                                         |
| type              | String  | Specifies the type of the virtual interface. The value is <b>private</b> .<br>Default: <b>private</b><br>Maximum: <b>255</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>private</b></li><li>• <b>public</b></li></ul>  |
| vgw_id            | String  | Specifies the virtual gateway ID.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                                                                                                                                 |
| vlan              | Integer | Specifies the VLAN for connecting to the user gateway. The value ranges from <b>0</b> to <b>3999</b> .<br>Minimum: <b>0</b><br>Maximum: <b>3999</b>                                                                                           |
| route_limit       | Integer | Specifies the remote subnet route configurations of the virtual interface.<br>Minimum: <b>1</b><br>Maximum: <b>200</b><br>Default: <b>50</b>                                                                                                  |

| Parameter             | Type    | Description                                                                                                                                                                                         |
|-----------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| enable_nqa            | Boolean | Specifies whether to enable NQA. The value can be <b>true</b> or <b>false</b> .                                                                                                                     |
| enable_bfd            | Boolean | Specifies whether to enable Bidirectional Forwarding Detection (BFD). The value can be <b>true</b> or <b>false</b> .                                                                                |
| lag_id                | String  | Specifies the ID of the LAG associated with the virtual interface.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                                                      |
| device_id             | String  | Specifies the ID of the device that the virtual interface belongs to.                                                                                                                               |
| enterprise_project_id | String  | Specifies the ID of the enterprise project that the virtual interface belongs to.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                                       |
| local_gateway_v4_ip   | String  | Specifies the IPv4 interface address of the gateway used on the cloud. This parameter has been migrated to the <b>vifpeer</b> parameter list and will be discarded later.                           |
| remote_gateway_v4_ip  | String  | Specifies the IPv4 interface address of the gateway used on premises. This parameter has been migrated to the <b>vifpeer</b> parameter list and will be discarded later.                            |
| ies_id                | String  | Specifies the ID of an IES edge site.                                                                                                                                                               |
| reason                | String  | Displays error information if the status of a line is <b>Error</b> .                                                                                                                                |
| rate_limit            | Boolean | Specifies whether rate limiting is enabled on a virtual interface.                                                                                                                                  |
| address_family        | String  | Specifies the address family of the virtual interface, which can be <b>IPv4</b> or <b>IPv6</b> . This parameter has been migrated to the <b>vifpeer</b> parameter list and will be discarded later. |
| local_gateway_v6_ip   | String  | Specifies the IPv6 interface address of the gateway used on the cloud. This parameter has been migrated to the <b>vifpeer</b> parameter list and will be discarded later.                           |
| remote_gateway_v6_ip  | String  | Specifies the IPv6 interface address of the gateway used on premises. This parameter has been migrated to the <b>vifpeer</b> parameter list and will be discarded later.                            |

| Parameter        | Type                             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| lgw_id           | String                           | Specifies the ID of the local gateway, which is used in IES scenarios.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| gateway_id       | String                           | Specifies the ID of the gateway associated with the virtual interface.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| remote_ep_group  | Array of strings                 | Specifies the remote subnet list, which records the CIDR blocks used in the on-premises data center. This parameter has been migrated to the <b>vifpeer</b> parameter list and will be discarded later.                                                                                                                                                                                                                                                                                                                                                                                                    |
| service_ep_group | Array of strings                 | Specifies the list of public network addresses that can be accessed by the on-premises data center. This field is required in the APIs of public network connections. This parameter has been migrated to the <b>vifpeer</b> parameter list and will be discarded later.                                                                                                                                                                                                                                                                                                                                   |
| bgp_route_limit  | Integer                          | Specifies the BGP route configuration.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| priority         | String                           | <p>Specifies the priority of a virtual interface. The value can be <b>normal</b> or <b>low</b>. If the priorities are the same, the virtual interfaces work in load balancing mode. If the priorities are different, the virtual interfaces work in active/standby pairs. Outbound traffic is preferentially forwarded to the normal virtual interface with a higher priority. This option is only supported by virtual interfaces that use BGP routing.</p> <p>Default: <b>normal</b></p> <p>Enumeration values:</p> <ul style="list-style-type: none"><li>• <b>normal</b></li><li>• <b>low</b></li></ul> |
| vif_peers        | Array of <b>VifPeer</b> objects  | Provides information about virtual interface peers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| extend_attribute | <b>VifExtendAttribute</b> object | Provides extended parameter information.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

**Table 5-78** VifPeer

| Parameter         | Type             | Description                                                                                                                                                                                               |
|-------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id                | String           | Specifies the resource ID.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                                                                                                    |
| tenant_id         | String           | Specifies the ID of the project that the virtual interface peer belongs to.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                                                   |
| name              | String           | Specifies the name of the virtual interface peer.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                                                              |
| description       | String           | Provides supplementary information about the virtual interface peer.<br>Minimum: <b>0</b><br>Maximum: <b>128</b>                                                                                          |
| address_family    | String           | Specifies the address family type of the virtual interface, which can be <b>IPv4</b> or <b>IPv6</b> .                                                                                                     |
| local_gateway_ip  | String           | Specifies the address of the virtual interface peer used on the cloud.                                                                                                                                    |
| remote_gateway_ip | String           | Specifies the address of the virtual interface peer used in the on-premises data center.                                                                                                                  |
| route_mode        | String           | Specifies the routing mode, which can be <b>static</b> or <b>bgp</b> .<br>Maximum: <b>255</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>bgp</b></li><li>• <b>static</b></li></ul> |
| bgp_asn           | Integer          | Specifies the ASN of the BGP peer.<br>Minimum: <b>1</b><br>Maximum: <b>4294967295</b>                                                                                                                     |
| bgp_md5           | String           | Specifies the MD5 password of the BGP peer.                                                                                                                                                               |
| remote_ep_group   | Array of strings | Specifies the remote subnet list, which records the CIDR blocks used in the on-premises data center.                                                                                                      |
| service_ep_group  | Array of strings | Specifies the list of public network addresses that can be accessed by the on-premises data center. This field is required in the APIs of public network connections.                                     |



| Parameter         | Type    | Description                                                                                                                                                                                                                                   |
|-------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| device_id         | String  | Specifies the ID of the device that the virtual interface peer belongs to.                                                                                                                                                                    |
| bgp_route_limit   | Integer | Specifies the BGP route configuration.                                                                                                                                                                                                        |
| bgp_status        | String  | Specifies the BGP protocol status of the virtual interface peer. If the virtual interface peer uses static routing, the status is <b>null</b> .<br>Maximum: <b>10</b>                                                                         |
| status            | String  | Specifies the status of the virtual interface peer.                                                                                                                                                                                           |
| vif_id            | String  | Specifies the ID of the virtual interface corresponding to the virtual interface peer.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                                                                            |
| receive_route_num | Integer | Specifies the number of received BGP routes if BGP routing is used. If static routing is used, this parameter is meaningless and the value is -1. Note: If this parameter cannot be obtained, contact customer service to migrate your ports. |
| enable_nqa        | Boolean | Specifies whether to enable NQA. The value can be <b>true</b> or <b>false</b> .                                                                                                                                                               |
| enable_bfd        | Boolean | Specifies whether to enable BFD. The value can be <b>true</b> or <b>false</b> .                                                                                                                                                               |

**Table 5-79** VifExtendAttribute

| Parameter | Type   | Description                                                                                                                                                                  |
|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ha_type   | String | Specifies the availability detection type of the virtual interface.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>nqa</b></li><li>• <b>bfd</b></li></ul> |

| Parameter         | Type    | Description                                                                                                                                                                                                                                                  |
|-------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ha_mode           | String  | Specifies the availability detection mode.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>auto_single</b></li><li>• <b>auto_multi</b></li><li>• <b>static_single</b></li><li>• <b>static_multi</b></li><li>• <b>enhance_nqa</b></li></ul> |
| detect_multiplier | Integer | Specifies the number of detection retries.<br>Default: <b>5</b>                                                                                                                                                                                              |
| min_rx_interval   | Integer | Specifies the interval for receiving detection packets.<br>Default: <b>1000</b>                                                                                                                                                                              |
| min_tx_interval   | Integer | Specifies the interval for sending detection packets.<br>Default: <b>1000</b>                                                                                                                                                                                |
| remote_disclaim   | Integer | Specifies the remote identifier of the static BFD session.                                                                                                                                                                                                   |
| local_disclaim    | Integer | Specifies the local identifier of the static BFD session.                                                                                                                                                                                                    |

## Example Requests

Querying a virtual interface

```
POST https://{dc_endpoint}/v3/0605768a3300d5762f82c01180692873/dcaas/virtual-interfaces/0d0fdf63-f2c4-491c-8866-d504796189be
```

## Example Responses

Status code: 200

OK

```
{
  "virtual_interface": {
    "id": "0d0fdf63-f2c4-491c-8866-d504796189be",
    "name": "vif-0819",
    "description": "",
    "tenant_id": "0605768a3300d5762f82c01180692873",
    "direct_connect_id": "4673e339-8412-4ee1-b73e-2ba9cdfa54c1",
    "vgw_id": "8a47064a-f34c-4f94-b7fe-cac456c9b37b",
    "type": "private",
    "service_type": "VGW",
    "vlan": 332,
    "bandwidth": 2,
    "status": "ACTIVE",
    "create_time": "2022-08-19T11:28:06.000Z",
    "admin_state_up": true,
```

```
"enable_bfd" : false,
"route_limit" : 50,
"enable_nqa" : false,
"local_gateway_v4_ip" : "1.1.1.1/30",
"remote_gateway_v4_ip" : "1.1.1.2/30",
"ies_id" : null,
"reason" : null,
"rate_limit" : false,
"address_family" : "ipv4",
"local_gateway_v6_ip" : null,
"remote_gateway_v6_ip" : null,
"lgw_id" : null,
"lag_id" : null,
"gateway_id" : null,
"remote_ep_group" : [ "1.1.2.0/30" ],
"service_ep_group" : [ ],
"bgp_route_limit" : 100,
"priority" : "normal",
"vif_peers" : [ {
  "id" : "c768eb52-12a8-4859-9b43-81194643040c",
  "tenant_id" : "0605768a3300d5762f82c01180692873",
  "name" : "vif-0819",
  "description" : "",
  "address_family" : "ipv4",
  "local_gateway_ip" : "1.1.1.1/30",
  "remote_gateway_ip" : "1.1.1.2/30",
  "route_mode" : "static",
  "bgp_asn" : null,
  "bgp_md5" : null,
  "device_id" : "18.9.215.131",
  "bgp_route_limit" : 100,
  "bgp_status" : null,
  "status" : "ACTIVE",
  "vif_id" : "0d0fdf63-f2c4-491c-8866-d504796189be",
  "receive_route_num" : -1,
  "remote_ep_group" : [ "1.1.2.0/30" ],
  "service_ep_group" : null,
  "enable_bfd" : false,
  "enable_nqa" : false
} ],
"enterprise_project_id" : "0"
},
"request_id" : "5633df7af874576d819a481c76673236"
}
```

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

## Error Codes

See [Error Codes](#).

## 5.3.2 Updating a Virtual Interface

### Function

This API is used to update a virtual interface.

## URI

PUT /v3/{project\_id}/dcaas/virtual-interfaces/{virtual\_interface\_id}

**Table 5-80** Path Parameters

| Parameter            | Mandatory | Type   | Description                                                                     |
|----------------------|-----------|--------|---------------------------------------------------------------------------------|
| project_id           | Yes       | String | Specifies the project ID.                                                       |
| virtual_interface_id | Yes       | String | Specifies the virtual interface ID.<br>Minimum: <b>36</b><br>Maximum: <b>36</b> |

## Request Parameters

**Table 5-81** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                               |
|--------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | Specifies the user token. To obtain the token, see section "Obtaining the User Token" in the <i>Identity and Access Management API Reference</i> . The token is the value of <b>X-Subject-Token</b> in the response header.<br>Minimum: <b>0</b><br>Maximum: <b>10240</b> |

**Table 5-82** Request body parameters

| Parameter         | Mandatory | Type                                          | Description                             |
|-------------------|-----------|-----------------------------------------------|-----------------------------------------|
| virtual_interface | Yes       | <a href="#">UpdateVirtualInterface</a> object | Virtual interface objects to be updated |

Table 5-83 UpdateVirtualInterface

| Parameter        | Mandatory | Type             | Description                                                                                                                                                                                                                      |
|------------------|-----------|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name             | No        | String           | Specifies the virtual interface name.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                                                                                                 |
| description      | No        | String           | Provides supplementary information about the virtual interface.<br>Minimum: <b>0</b><br>Maximum: <b>128</b>                                                                                                                      |
| bandwidth        | No        | Integer          | Specifies the virtual interface bandwidth configuration.<br>Minimum: <b>2</b><br>Maximum: <b>2147483647</b>                                                                                                                      |
| remote_ep_group  | No        | Array of strings | Specifies the remote subnet list, which records the CIDR blocks used in the on-premises data center.                                                                                                                             |
| service_ep_group | No        | Array of strings | Specifies the local endpoint group that is connected to the public network over a connection.                                                                                                                                    |
| enable_bfd       | No        | Boolean          | Specifies whether to enable BFD. The value can be <b>true</b> or <b>false</b> .                                                                                                                                                  |
| enable_nqa       | No        | Boolean          | Specifies whether to enable NQA. The value can be <b>true</b> or <b>false</b> .                                                                                                                                                  |
| status           | No        | String           | Confirms the virtual interfaces created by other users. The value can be <b>ACCEPTED</b> or <b>REJECTED</b> .<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>ACCEPTED</b></li><li>• <b>REJECTED</b></li></ul> |

Response Parameters

Status code: 200

**Table 5-84** Response body parameters

| Parameter         | Type                           | Description                                            |
|-------------------|--------------------------------|--------------------------------------------------------|
| request_id        | String                         | Specifies the request ID.                              |
| virtual_interface | <b>VirtualInterface</b> object | Specifies parameters for creating a virtual interface. |

**Table 5-85** VirtualInterface

| Parameter         | Type    | Description                                                                                                                                                                                                                                   |
|-------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id                | String  | Specifies the virtual interface ID.<br>Maximum: <b>36</b>                                                                                                                                                                                     |
| name              | String  | Specifies the virtual interface name.<br>Maximum: <b>64</b>                                                                                                                                                                                   |
| admin_state_up    | Boolean | Specifies the administrative status, which can be <b>true</b> or <b>false</b> .                                                                                                                                                               |
| bandwidth         | Integer | Specifies the virtual interface bandwidth.<br>Minimum: <b>2</b><br>Maximum: <b>2147483647</b>                                                                                                                                                 |
| create_time       | String  | Specifies the time when the virtual interface was created. The UTC time format <b>yyyy-MM-ddTHH:mm:ss.SSSZ</b> is used.<br>Maximum: <b>255</b>                                                                                                |
| description       | String  | Provides supplementary information about the virtual interface.<br>Maximum: <b>128</b>                                                                                                                                                        |
| direct_connect_id | String  | Specifies the connection ID.<br>Maximum: <b>36</b>                                                                                                                                                                                            |
| service_type      | String  | Specifies the gateway type. The value is <b>VGW</b> .                                                                                                                                                                                         |
| status            | String  | Specifies the operating status, which can be <b>ACTIVE</b> , <b>DOWN</b> , <b>BUILD</b> , <b>ERROR</b> , <b>PENDING_CREATE</b> , <b>PENDING_UPDATE</b> , <b>PENDING_DELETE</b> , <b>DELETED</b> , <b>AUTHORIZATION</b> , or <b>REJECTED</b> . |
| tenant_id         | String  | Specifies the project ID.<br>Minimum: <b>32</b><br>Maximum: <b>32</b>                                                                                                                                                                         |

| Parameter             | Type    | Description                                                                                                                                                                                                                                  |
|-----------------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| type                  | String  | Specifies the type of the virtual interface. The value is <b>private</b> .<br>Default: <b>private</b><br>Maximum: <b>255</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>private</b></li><li>• <b>public</b></li></ul> |
| vgw_id                | String  | Specifies the virtual gateway ID.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                                                                                                                                |
| vlan                  | Integer | Specifies the VLAN for connecting to the user gateway. The value ranges from <b>0</b> to <b>3999</b> .<br>Minimum: <b>0</b><br>Maximum: <b>3999</b>                                                                                          |
| route_limit           | Integer | Specifies the remote subnet route configurations of the virtual interface.<br>Minimum: <b>1</b><br>Maximum: <b>200</b><br>Default: <b>50</b>                                                                                                 |
| enable_nqa            | Boolean | Specifies whether to enable NQA. The value can be <b>true</b> or <b>false</b> .                                                                                                                                                              |
| enable_bfd            | Boolean | Specifies whether to enable Bidirectional Forwarding Detection (BFD). The value can be <b>true</b> or <b>false</b> .                                                                                                                         |
| lag_id                | String  | Specifies the ID of the LAG associated with the virtual interface.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                                                                                               |
| device_id             | String  | Specifies the ID of the device that the virtual interface belongs to.                                                                                                                                                                        |
| enterprise_project_id | String  | Specifies the ID of the enterprise project that the virtual interface belongs to.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                                                                                |
| local_gateway_v4_ip   | String  | Specifies the IPv4 interface address of the gateway used on the cloud. This parameter has been migrated to the <b>vifpeer</b> parameter list and will be discarded later.                                                                    |

| Parameter            | Type             | Description                                                                                                                                                                                                                                                              |
|----------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| remote_gateway_v4_ip | String           | Specifies the IPv4 interface address of the gateway used on premises. This parameter has been migrated to the <b>vifpeer</b> parameter list and will be discarded later.                                                                                                 |
| ies_id               | String           | Specifies the ID of an IES edge site.                                                                                                                                                                                                                                    |
| reason               | String           | Displays error information if the status of a line is <b>Error</b> .                                                                                                                                                                                                     |
| rate_limit           | Boolean          | Specifies whether rate limiting is enabled on a virtual interface.                                                                                                                                                                                                       |
| address_family       | String           | Specifies the address family of the virtual interface, which can be <b>IPv4</b> or <b>IPv6</b> . This parameter has been migrated to the <b>vifpeer</b> parameter list and will be discarded later.                                                                      |
| local_gateway_v6_ip  | String           | Specifies the IPv6 interface address of the gateway used on the cloud. This parameter has been migrated to the <b>vifpeer</b> parameter list and will be discarded later.                                                                                                |
| remote_gateway_v6_ip | String           | Specifies the IPv6 interface address of the gateway used on premises. This parameter has been migrated to the <b>vifpeer</b> parameter list and will be discarded later.                                                                                                 |
| lgw_id               | String           | Specifies the ID of the local gateway, which is used in IES scenarios.                                                                                                                                                                                                   |
| gateway_id           | String           | Specifies the ID of the gateway associated with the virtual interface.                                                                                                                                                                                                   |
| remote_ep_group      | Array of strings | Specifies the remote subnet list, which records the CIDR blocks used in the on-premises data center. This parameter has been migrated to the <b>vifpeer</b> parameter list and will be discarded later.                                                                  |
| service_ep_group     | Array of strings | Specifies the list of public network addresses that can be accessed by the on-premises data center. This field is required in the APIs of public network connections. This parameter has been migrated to the <b>vifpeer</b> parameter list and will be discarded later. |
| bgp_route_limit      | Integer          | Specifies the BGP route configuration.                                                                                                                                                                                                                                   |



| Parameter        | Type                             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| priority         | String                           | Specifies the priority of a virtual interface. The value can be <b>normal</b> or <b>low</b> . If the priorities are the same, the virtual interfaces work in load balancing mode. If the priorities are different, the virtual interfaces work in active/standby pairs. Outbound traffic is preferentially forwarded to the normal virtual interface with a higher priority. This option is only supported by virtual interfaces that use BGP routing.<br>Default: <b>normal</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>normal</b></li><li>• <b>low</b></li></ul> |
| vif_peers        | Array of <b>VifPeer</b> objects  | Provides information about virtual interface peers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| extend_attribute | <b>VifExtendAttribute</b> object | Provides extended parameter information.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

**Table 5-86** VifPeer

| Parameter      | Type   | Description                                                                                                             |
|----------------|--------|-------------------------------------------------------------------------------------------------------------------------|
| id             | String | Specifies the resource ID.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                  |
| tenant_id      | String | Specifies the ID of the project that the virtual interface peer belongs to.<br>Minimum: <b>36</b><br>Maximum: <b>36</b> |
| name           | String | Specifies the name of the virtual interface peer.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                            |
| description    | String | Provides supplementary information about the virtual interface peer.<br>Minimum: <b>0</b><br>Maximum: <b>128</b>        |
| address_family | String | Specifies the address family type of the virtual interface, which can be <b>IPv4</b> or <b>IPv6</b> .                   |

| Parameter         | Type             | Description                                                                                                                                                                                               |
|-------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| local_gateway_ip  | String           | Specifies the address of the virtual interface peer used on the cloud.                                                                                                                                    |
| remote_gateway_ip | String           | Specifies the address of the virtual interface peer used in the on-premises data center.                                                                                                                  |
| route_mode        | String           | Specifies the routing mode, which can be <b>static</b> or <b>bgp</b> .<br>Maximum: <b>255</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>bgp</b></li><li>• <b>static</b></li></ul> |
| bgp_asn           | Integer          | Specifies the ASN of the BGP peer.<br>Minimum: <b>1</b><br>Maximum: <b>4294967295</b>                                                                                                                     |
| bgp_md5           | String           | Specifies the MD5 password of the BGP peer.                                                                                                                                                               |
| remote_ep_group   | Array of strings | Specifies the remote subnet list, which records the CIDR blocks used in the on-premises data center.                                                                                                      |
| service_ep_group  | Array of strings | Specifies the list of public network addresses that can be accessed by the on-premises data center. This field is required in the APIs of public network connections.                                     |
| device_id         | String           | Specifies the ID of the device that the virtual interface peer belongs to.                                                                                                                                |
| bgp_route_limit   | Integer          | Specifies the BGP route configuration.                                                                                                                                                                    |
| bgp_status        | String           | Specifies the BGP protocol status of the virtual interface peer. If the virtual interface peer uses static routing, the status is <b>null</b> .<br>Maximum: <b>10</b>                                     |
| status            | String           | Specifies the status of the virtual interface peer.                                                                                                                                                       |
| vif_id            | String           | Specifies the ID of the virtual interface corresponding to the virtual interface peer.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                                        |

| Parameter         | Type    | Description                                                                                                                                                                                                                                           |
|-------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| receive_route_num | Integer | Specifies the number of received BGP routes if BGP routing is used. If static routing is used, this parameter is meaningless and the value is <b>-1</b> . Note: If this parameter cannot be obtained, contact customer service to migrate your ports. |
| enable_nqa        | Boolean | Specifies whether to enable NQA. The value can be <b>true</b> or <b>false</b> .                                                                                                                                                                       |
| enable_bfd        | Boolean | Specifies whether to enable BFD. The value can be <b>true</b> or <b>false</b> .                                                                                                                                                                       |

**Table 5-87** VifExtendAttribute

| Parameter         | Type    | Description                                                                                                                                                                                                                                                  |
|-------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ha_type           | String  | Specifies the availability detection type of the virtual interface.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>nqa</b></li><li>• <b>bfd</b></li></ul>                                                                                 |
| ha_mode           | String  | Specifies the availability detection mode.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>auto_single</b></li><li>• <b>auto_multi</b></li><li>• <b>static_single</b></li><li>• <b>static_multi</b></li><li>• <b>enhance_nqa</b></li></ul> |
| detect_multiplier | Integer | Specifies the number of detection retries.<br>Default: <b>5</b>                                                                                                                                                                                              |
| min_rx_interval   | Integer | Specifies the interval for receiving detection packets.<br>Default: <b>1000</b>                                                                                                                                                                              |
| min_tx_interval   | Integer | Specifies the interval for sending detection packets.<br>Default: <b>1000</b>                                                                                                                                                                                |
| remote_disclaim   | Integer | Specifies the remote identifier of the static BFD session.                                                                                                                                                                                                   |
| local_disclaim    | Integer | Specifies the local identifier of the static BFD session.                                                                                                                                                                                                    |

## Example Requests

Updating the name and description of a virtual interface and changing its bandwidth to 2 Mbit/s

PUT https://{dc\_endpoint}/v3/0605768a3300d5762f82c01180692873/dcaas/virtual-interfaces/0d0fdf63-f2c4-491c-8866-d504796189be

```
{
  "virtual_interface": {
    "name": "vif-0819",
    "description": "mytest",
    "bandwidth": 2
  }
}
```

## Example Responses

**Status code: 200**

OK

```
{
  "virtual_interface": {
    "id": "0d0fdf63-f2c4-491c-8866-d504796189be",
    "name": "vif-0819",
    "description": "mytest",
    "tenant_id": "0605768a3300d5762f82c01180692873",
    "direct_connect_id": "4673e339-8412-4ee1-b73e-2ba9cdfa54c1",
    "vgw_id": "8a47064a-f34c-4f94-b7fe-cac456c9b37b",
    "type": "private",
    "service_type": "VGW",
    "vlan": 332,
    "bandwidth": 2,
    "status": "ACTIVE",
    "create_time": "2022-08-19T11:28:06.000Z",
    "admin_state_up": true,
    "enable_bfd": false,
    "route_limit": 50,
    "enable_nqa": false,
    "local_gateway_v4_ip": "1.1.1.1/30",
    "remote_gateway_v4_ip": "1.1.1.2/30",
    "ies_id": null,
    "reason": null,
    "rate_limit": false,
    "address_family": "ipv4",
    "local_gateway_v6_ip": null,
    "remote_gateway_v6_ip": null,
    "lgw_id": null,
    "lag_id": null,
    "gateway_id": null,
    "remote_ep_group": [ "1.1.2.0/30" ],
    "service_ep_group": [ ],
    "bgp_route_limit": 100,
    "priority": "normal",
    "vif_peers": [ {
      "id": "c768eb52-12a8-4859-9b43-81194643040c",
      "tenant_id": "0605768a3300d5762f82c01180692873",
      "name": "vif-0819",
      "description": "",
      "address_family": "ipv4",
      "local_gateway_ip": "1.1.1.1/30",
      "remote_gateway_ip": "1.1.1.2/30",
      "route_mode": "static",
      "bgp_asn": null,
      "bgp_md5": null,
      "device_id": "18.9.215.131",
      "bgp_route_limit": 100,
    }
  ]
}
```

```
"bgp_status" : null,
"status" : "ACTIVE",
"vif_id" : "0d0fdf63-f2c4-491c-8866-d504796189be",
"receive_route_num" : -1,
"remote_ep_group" : [ "1.1.2.0/30" ],
"service_ep_group" : null,
"enable_bfd" : false,
"enable_nqa" : false
} ],
"enterprise_project_id" : "0"
},
"request_id" : "5633df7af874576d819a481c76673236"
}
```

Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

Error Codes

See [Error Codes](#).

5.3.3 Deleting a Virtual Interface

Function

This API is used to delete a virtual interface.

URI

DELETE /v3/{project\_id}/dcaas/virtual-interfaces/{virtual\_interface\_id}

Table 5-88 Path Parameters

| Parameter            | Mandatory | Type   | Description                                                                     |
|----------------------|-----------|--------|---------------------------------------------------------------------------------|
| project_id           | Yes       | String | Specifies the project ID.                                                       |
| virtual_interface_id | Yes       | String | Specifies the virtual interface ID.<br>Minimum: <b>36</b><br>Maximum: <b>36</b> |

## Request Parameters

**Table 5-89** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                                   |
|--------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | Specifies the user token. To obtain the token, see section "Obtaining the User Token" in the <i>Identity and Access Management API Reference</i> . The token is the value of <b>X-Subject-Token</b> in the response header.<br><br>Minimum: <b>0</b><br>Maximum: <b>10240</b> |

## Response Parameters

None

## Example Requests

Deleting a virtual interface

```
DELETE https://{dc_endpoint}/v3/0605768a3300d5762f82c01180692873/dcaas/virtual-interfaces/0d0fdf63-f2c4-491c-8866-d504796189be
```

## Example Responses

None

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 204         | No Content  |

## Error Codes

See [Error Codes](#).

## 5.3.4 Querying the Virtual Interface List

### Function

This API is used to query all virtual interfaces of a tenant.

## URI

GET /v3/{project\_id}/dcaas/virtual-interfaces

**Table 5-90** Path Parameters

| Parameter  | Mandatory | Type   | Description               |
|------------|-----------|--------|---------------------------|
| project_id | Yes       | String | Specifies the project ID. |

**Table 5-91** Query Parameters

| Parameter             | Mandatory | Type    | Description                                                                                                                                                                                                                        |
|-----------------------|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| limit                 | No        | Integer | Specifies the number of records returned on each page. Value range: 1 to 2000<br>Minimum: <b>1</b><br>Maximum: <b>2000</b><br>Default: <b>2000</b>                                                                                 |
| marker                | No        | String  | Specifies the ID of the last resource record on the previous page. If this parameter is left blank, the first page is queried. This parameter must be used together with <b>limit</b> .<br>Minimum: <b>0</b><br>Maximum: <b>36</b> |
| fields                | No        | Array   | Specifies the list of fields to be displayed.<br>Array Length: <b>1 - 5</b>                                                                                                                                                        |
| sort_dir              | No        | Array   | Specifies the sorting order of returned results, which can be <b>asc</b> (ascending order) or <b>desc</b> (descending order). The default value is <b>asc</b> .                                                                    |
| sort_key              | No        | String  | Specifies the sorting field.<br>Default: <b>id</b><br>Minimum: <b>0</b><br>Maximum: <b>36</b>                                                                                                                                      |
| enterprise_project_id | No        | Array   | Filters resource instances by enterprise project ID.<br>Array Length: <b>1 - 10</b>                                                                                                                                                |

| Parameter         | Mandatory | Type  | Description                                                                                                        |
|-------------------|-----------|-------|--------------------------------------------------------------------------------------------------------------------|
| id                | No        | Array | Specifies the resource ID by which instances are filtered.<br>Array Length: <b>1 - 5</b>                           |
| status            | No        | Array | Specifies the status by which instances are filtered.<br>Array Length: <b>1 - 5</b>                                |
| direct_connect_id | No        | Array | Specifies the connection ID by which connections are filtered and queried.<br>Array Length: <b>1 - 5</b>           |
| vgw_id            | No        | Array | Specifies the virtual gateway ID by which virtual gateways are filtered and queried.<br>Array Length: <b>1 - 5</b> |

## Request Parameters

**Table 5-92** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                               |
|--------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | Specifies the user token. To obtain the token, see section "Obtaining the User Token" in the <i>Identity and Access Management API Reference</i> . The token is the value of <b>X-Subject-Token</b> in the response header.<br>Minimum: <b>0</b><br>Maximum: <b>10240</b> |

## Response Parameters

**Status code: 200**

**Table 5-93** Response body parameters

| Parameter  | Type   | Description               |
|------------|--------|---------------------------|
| request_id | String | Specifies the request ID. |



| Parameter          | Type                                              | Description                                            |
|--------------------|---------------------------------------------------|--------------------------------------------------------|
| virtual_interfaces | Array of <a href="#">VirtualInterface</a> objects | Specifies parameters for creating a virtual interface. |
| page_info          | <a href="#">PageInfo</a> object                   | Specifies the pagination query information.            |

**Table 5-94** VirtualInterface

| Parameter            | Type    | Description                                                                                                                                                                                                                                   |
|----------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id                   | String  | Specifies the virtual interface ID.<br>Maximum: <b>36</b>                                                                                                                                                                                     |
| name                 | String  | Specifies the virtual interface name.<br>Maximum: <b>64</b>                                                                                                                                                                                   |
| admin_state_up       | Boolean | Specifies the administrative status, which can be <b>true</b> or <b>false</b> .                                                                                                                                                               |
| bandwidth            | Integer | Specifies the virtual interface bandwidth.<br>Minimum: <b>2</b><br>Maximum: <b>2147483647</b>                                                                                                                                                 |
| create_time          | String  | Specifies the time when the virtual interface was created. The UTC time format <b>yyyy-MM-ddTHH:mm:ss.SSSZ</b> is used.<br>Maximum: <b>255</b>                                                                                                |
| description          | String  | Provides supplementary information about the virtual interface.<br>Maximum: <b>128</b>                                                                                                                                                        |
| direct_connection_id | String  | Specifies the connection ID.<br>Maximum: <b>36</b>                                                                                                                                                                                            |
| service_type         | String  | Specifies the gateway type. The value is <b>VGW</b> .                                                                                                                                                                                         |
| status               | String  | Specifies the operating status, which can be <b>ACTIVE</b> , <b>DOWN</b> , <b>BUILD</b> , <b>ERROR</b> , <b>PENDING_CREATE</b> , <b>PENDING_UPDATE</b> , <b>PENDING_DELETE</b> , <b>DELETED</b> , <b>AUTHORIZATION</b> , or <b>REJECTED</b> . |
| tenant_id            | String  | Specifies the project ID.<br>Minimum: <b>32</b><br>Maximum: <b>32</b>                                                                                                                                                                         |

| Parameter             | Type    | Description                                                                                                                                                                                                                                  |
|-----------------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| type                  | String  | Specifies the type of the virtual interface. The value is <b>private</b> .<br>Default: <b>private</b><br>Maximum: <b>255</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>private</b></li><li>• <b>public</b></li></ul> |
| vgw_id                | String  | Specifies the virtual gateway ID.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                                                                                                                                |
| vlan                  | Integer | Specifies the VLAN for connecting to the user gateway. The value ranges from <b>0</b> to <b>3999</b> .<br>Minimum: <b>0</b><br>Maximum: <b>3999</b>                                                                                          |
| route_limit           | Integer | Specifies the remote subnet route configurations of the virtual interface.<br>Minimum: <b>1</b><br>Maximum: <b>200</b><br>Default: <b>50</b>                                                                                                 |
| enable_nqa            | Boolean | Specifies whether to enable NQA. The value can be <b>true</b> or <b>false</b> .                                                                                                                                                              |
| enable_bfd            | Boolean | Specifies whether to enable Bidirectional Forwarding Detection (BFD). The value can be <b>true</b> or <b>false</b> .                                                                                                                         |
| lag_id                | String  | Specifies the ID of the LAG associated with the virtual interface.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                                                                                               |
| device_id             | String  | Specifies the ID of the device that the virtual interface belongs to.                                                                                                                                                                        |
| enterprise_project_id | String  | Specifies the ID of the enterprise project that the virtual interface belongs to.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                                                                                |
| local_gateway_v4_ip   | String  | Specifies the IPv4 interface address of the gateway used on the cloud. This parameter has been migrated to the <b>vifpeer</b> parameter list and will be discarded later.                                                                    |

| Parameter            | Type             | Description                                                                                                                                                                                                                                                              |
|----------------------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| remote_gateway_v4_ip | String           | Specifies the IPv4 interface address of the gateway used on premises. This parameter has been migrated to the <b>vifpeer</b> parameter list and will be discarded later.                                                                                                 |
| ies_id               | String           | Specifies the ID of an IES edge site.                                                                                                                                                                                                                                    |
| reason               | String           | Displays error information if the status of a line is <b>Error</b> .                                                                                                                                                                                                     |
| rate_limit           | Boolean          | Specifies whether rate limiting is enabled on a virtual interface.                                                                                                                                                                                                       |
| address_family       | String           | Specifies the address family of the virtual interface, which can be <b>IPv4</b> or <b>IPv6</b> . This parameter has been migrated to the <b>vifpeer</b> parameter list and will be discarded later.                                                                      |
| local_gateway_v6_ip  | String           | Specifies the IPv6 interface address of the gateway used on the cloud. This parameter has been migrated to the <b>vifpeer</b> parameter list and will be discarded later.                                                                                                |
| remote_gateway_v6_ip | String           | Specifies the IPv6 interface address of the gateway used on premises. This parameter has been migrated to the <b>vifpeer</b> parameter list and will be discarded later.                                                                                                 |
| lgw_id               | String           | Specifies the ID of the local gateway, which is used in IES scenarios.                                                                                                                                                                                                   |
| gateway_id           | String           | Specifies the ID of the gateway associated with the virtual interface.                                                                                                                                                                                                   |
| remote_ep_group      | Array of strings | Specifies the remote subnet list, which records the CIDR blocks used in the on-premises data center. This parameter has been migrated to the <b>vifpeer</b> parameter list and will be discarded later.                                                                  |
| service_ep_group     | Array of strings | Specifies the list of public network addresses that can be accessed by the on-premises data center. This field is required in the APIs of public network connections. This parameter has been migrated to the <b>vifpeer</b> parameter list and will be discarded later. |
| bgp_route_limit      | Integer          | Specifies the BGP route configuration.                                                                                                                                                                                                                                   |

| Parameter        | Type                             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|------------------|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| priority         | String                           | Specifies the priority of a virtual interface. The value can be <b>normal</b> or <b>low</b> . If the priorities are the same, the virtual interfaces work in load balancing mode. If the priorities are different, the virtual interfaces work in active/standby pairs. Outbound traffic is preferentially forwarded to the normal virtual interface with a higher priority. This option is only supported by virtual interfaces that use BGP routing.<br>Default: <b>normal</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>normal</b></li><li>• <b>low</b></li></ul> |
| vif_peers        | Array of <b>VifPeer</b> objects  | Provides information about virtual interface peers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| extend_attribute | <b>VifExtendAttribute</b> object | Provides extended parameter information.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

**Table 5-95** VifPeer

| Parameter      | Type   | Description                                                                                                             |
|----------------|--------|-------------------------------------------------------------------------------------------------------------------------|
| id             | String | Specifies the resource ID.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                  |
| tenant_id      | String | Specifies the ID of the project that the virtual interface peer belongs to.<br>Minimum: <b>36</b><br>Maximum: <b>36</b> |
| name           | String | Specifies the name of the virtual interface peer.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                            |
| description    | String | Provides supplementary information about the virtual interface peer.<br>Minimum: <b>0</b><br>Maximum: <b>128</b>        |
| address_family | String | Specifies the address family type of the virtual interface, which can be <b>IPv4</b> or <b>IPv6</b> .                   |

| Parameter         | Type             | Description                                                                                                                                                                                               |
|-------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| local_gateway_ip  | String           | Specifies the address of the virtual interface peer used on the cloud.                                                                                                                                    |
| remote_gateway_ip | String           | Specifies the address of the virtual interface peer used in the on-premises data center.                                                                                                                  |
| route_mode        | String           | Specifies the routing mode, which can be <b>static</b> or <b>bgp</b> .<br>Maximum: <b>255</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>bgp</b></li><li>• <b>static</b></li></ul> |
| bgp_asn           | Integer          | Specifies the ASN of the BGP peer.<br>Minimum: <b>1</b><br>Maximum: <b>4294967295</b>                                                                                                                     |
| bgp_md5           | String           | Specifies the MD5 password of the BGP peer.                                                                                                                                                               |
| remote_ep_group   | Array of strings | Specifies the remote subnet list, which records the CIDR blocks used in the on-premises data center.                                                                                                      |
| service_ep_group  | Array of strings | Specifies the list of public network addresses that can be accessed by the on-premises data center. This field is required in the APIs of public network connections.                                     |
| device_id         | String           | Specifies the ID of the device that the virtual interface peer belongs to.                                                                                                                                |
| bgp_route_limit   | Integer          | Specifies the BGP route configuration.                                                                                                                                                                    |
| bgp_status        | String           | Specifies the BGP protocol status of the virtual interface peer. If the virtual interface peer uses static routing, the status is <b>null</b> .<br>Maximum: <b>10</b>                                     |
| status            | String           | Specifies the status of the virtual interface peer.                                                                                                                                                       |
| vif_id            | String           | Specifies the ID of the virtual interface corresponding to the virtual interface peer.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                                        |

| Parameter         | Type    | Description                                                                                                                                                                                                                                           |
|-------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| receive_route_num | Integer | Specifies the number of received BGP routes if BGP routing is used. If static routing is used, this parameter is meaningless and the value is <b>-1</b> . Note: If this parameter cannot be obtained, contact customer service to migrate your ports. |
| enable_nqa        | Boolean | Specifies whether to enable NQA. The value can be <b>true</b> or <b>false</b> .                                                                                                                                                                       |
| enable_bfd        | Boolean | Specifies whether to enable BFD. The value can be <b>true</b> or <b>false</b> .                                                                                                                                                                       |

**Table 5-96** VifExtendAttribute

| Parameter         | Type    | Description                                                                                                                                                                                                                                                  |
|-------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ha_type           | String  | Specifies the availability detection type of the virtual interface.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>nqa</b></li><li>• <b>bfd</b></li></ul>                                                                                 |
| ha_mode           | String  | Specifies the availability detection mode.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>auto_single</b></li><li>• <b>auto_multi</b></li><li>• <b>static_single</b></li><li>• <b>static_multi</b></li><li>• <b>enhance_nqa</b></li></ul> |
| detect_multiplier | Integer | Specifies the number of detection retries.<br>Default: <b>5</b>                                                                                                                                                                                              |
| min_rx_interval   | Integer | Specifies the interval for receiving detection packets.<br>Default: <b>1000</b>                                                                                                                                                                              |
| min_tx_interval   | Integer | Specifies the interval for sending detection packets.<br>Default: <b>1000</b>                                                                                                                                                                                |
| remote_disclaim   | Integer | Specifies the remote identifier of the static BFD session.                                                                                                                                                                                                   |
| local_disclaim    | Integer | Specifies the local identifier of the static BFD session.                                                                                                                                                                                                    |

Table 5-97 PageInfo

| Parameter       | Type    | Description                                                                                                                                                                |
|-----------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| previous_marker | String  | Specifies the marker of the previous page. The value is the resource UUID.<br>Minimum: <b>0</b><br>Maximum: <b>36</b>                                                      |
| current_count   | Integer | Specifies the number of resources in the current list.<br>Minimum: <b>0</b><br>Maximum: <b>2000</b>                                                                        |
| next_marker     | String  | Specifies the marker of the next page. The value is the resource UUID. If the value is empty, the resource is on the last page.<br>Minimum: <b>0</b><br>Maximum: <b>36</b> |

Example Requests

Querying the virtual interface list

```
GET https://{dc_endpoint}/v3/0605768a3300d5762f82c01180692873/dcaas/virtual-interfaces
```

Example Responses

Status code: 200

OK

```
{
  "virtual_interfaces" : [ {
    "id" : "0d0fdf63-f2c4-491c-8866-d504796189be",
    "name" : "vif-0819",
    "description" : "mytest",
    "tenant_id" : "0605768a3300d5762f82c01180692873",
    "direct_connect_id" : "4673e339-8412-4ee1-b73e-2ba9cdfa54c1",
    "vgw_id" : "8a47064a-f34c-4f94-b7fe-cac456c9b37b",
    "type" : "private",
    "service_type" : "VGW",
    "vlan" : 332,
    "bandwidth" : 2,
    "status" : "ACTIVE",
    "create_time" : "2022-08-19T11:28:06.000Z",
    "admin_state_up" : true,
    "enable_bfd" : false,
    "route_limit" : 50,
    "enable_nqa" : false,
    "local_gateway_v4_ip" : "1.1.1.1/30",
    "remote_gateway_v4_ip" : "1.1.1.2/30",
    "ies_id" : null,
    "reason" : null,
    "rate_limit" : false,
    "address_family" : "ipv4",
    "local_gateway_v6_ip" : null,
    "remote_gateway_v6_ip" : null,
  } ]
}
```

```
"lgw_id" : null,
"gateway_id" : null,
"remote_ep_group" : [ "1.1.2.0/30" ],
"service_ep_group" : [ ],
"bgp_route_limit" : 100,
"priority" : "normal",
"vif_peers" : [ {
  "id" : "c768eb52-12a8-4859-9b43-81194643040c",
  "tenant_id" : "0605768a3300d5762f82c01180692873",
  "name" : "vif-0819",
  "description" : "",
  "address_family" : "ipv4",
  "local_gateway_ip" : "1.1.1.1/30",
  "remote_gateway_ip" : "1.1.1.2/30",
  "route_mode" : "static",
  "bgp_asn" : null,
  "bgp_md5" : null,
  "device_id" : "18.9.215.131",
  "bgp_route_limit" : 100,
  "bgp_status" : null,
  "status" : "ACTIVE",
  "vif_id" : "0d0fdf63-f2c4-491c-8866-d504796189be",
  "receive_route_num" : -1,
  "remote_ep_group" : [ "1.1.2.0/30" ],
  "service_ep_group" : null,
  "enable_bfd" : false,
  "enable_nqa" : false
} ],
"enterprise_project_id" : "0"
}],
"request_id" : "5633df7af874576d819a481c76673236"
}
```

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

## Error Codes

See [Error Codes](#).

## 5.3.5 Creating a Virtual Interface

### Function

This API is used to create a virtual interface.

### URI

POST /v3/{project\_id}/dcaas/virtual-interfaces



**Table 5-98** Path Parameters

| Parameter  | Mandatory | Type   | Description               |
|------------|-----------|--------|---------------------------|
| project_id | Yes       | String | Specifies the project ID. |

## Request Parameters

**Table 5-99** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                               |
|--------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | Specifies the user token. To obtain the token, see section "Obtaining the User Token" in the <i>Identity and Access Management API Reference</i> . The token is the value of <b>X-Subject-Token</b> in the response header.<br>Minimum: <b>0</b><br>Maximum: <b>10240</b> |

**Table 5-100** Request body parameters

| Parameter         | Mandatory | Type                                          | Description                                            |
|-------------------|-----------|-----------------------------------------------|--------------------------------------------------------|
| virtual_interface | Yes       | <a href="#">CreateVirtualInterface</a> object | Specifies parameters for creating a virtual interface. |

**Table 5-101** CreateVirtualInterface

| Parameter   | Mandatory | Type   | Description                                                                                                 |
|-------------|-----------|--------|-------------------------------------------------------------------------------------------------------------|
| name        | No        | String | Specifies the virtual interface name.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                            |
| description | No        | String | Provides supplementary information about the virtual interface.<br>Minimum: <b>0</b><br>Maximum: <b>128</b> |

| Parameter            | Mandatory | Type    | Description                                                                                                                                                                                                                                     |
|----------------------|-----------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| direct_connect_id    | No        | String  | Specifies the ID of the connection associated with the virtual interface. When creating a virtual interface, you need to specify <b>direct_connect_id</b> or <b>lag_id</b> . This parameter is mandatory when LAG is not supported at the site. |
| type                 | Yes       | String  | Specifies the type of the virtual interface. The value is <b>private</b> .<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>private</b></li><li>• <b>public</b></li></ul>                                                      |
| vlan                 | Yes       | Integer | Specifies the customer VLAN to be connected. If you select a hosted connection, the VLAN must be the same as that of the hosted connection.<br>Minimum: <b>0</b><br>Maximum: <b>3999</b>                                                        |
| bandwidth            | Yes       | Integer | Specifies the virtual interface bandwidth.<br>Minimum: <b>2</b><br>Maximum: <b>2147483647</b>                                                                                                                                                   |
| local_gateway_v4_ip  | No        | String  | Specifies the IPv4 interface address of the gateway used on the cloud. This parameter is mandatory if <b>address_family</b> is set to an IPv4 address.                                                                                          |
| remote_gateway_v4_ip | No        | String  | Specifies the IPv4 interface address of the gateway on the on-premises network. This parameter is mandatory if <b>address_family</b> is set to an IPv4 address.                                                                                 |
| address_family       | No        | String  | Specifies the address family type of the virtual interface, which can be <b>IPv4</b> or <b>IPv6</b> .<br>Default: <b>ipv4</b>                                                                                                                   |

| Parameter            | Mandatory | Type             | Description                                                                                                                                                                                                  |
|----------------------|-----------|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| local_gateway_v6_ip  | No        | String           | Specifies the IPv6 interface address of the gateway used on the cloud. This parameter is mandatory if <b>address_family</b> is set to an IPv6 address.                                                       |
| remote_gateway_v6_ip | No        | String           | Specifies the IPv6 interface address of the gateway on the on-premises network. This parameter is mandatory if <b>address_family</b> is set to an IPv6 address.                                              |
| vgw_id               | Yes       | String           | Specifies the ID of the virtual gateway connected by the virtual interface.                                                                                                                                  |
| route_mode           | Yes       | String           | Specifies the routing mode, which can be <b>static</b> or <b>bgp</b> .<br>Default: <b>static</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>static</b></li><li>• <b>bgp</b></li></ul> |
| bgp_asn              | No        | Integer          | Specifies the ASN of the BGP peer on the customer side.<br>Minimum: <b>1</b><br>Maximum: <b>4294967295</b>                                                                                                   |
| bgp_md5              | No        | String           | Specifies the MD5 password of the BGP peer.                                                                                                                                                                  |
| remote_ep_group      | Yes       | Array of strings | Specifies the remote subnet list, which records the CIDR blocks used in the on-premises data center.                                                                                                         |
| service_ep_group     | No        | Array of strings | Specifies the subnets that access Internet services through a direct connection.                                                                                                                             |
| enable_bfd           | No        | Boolean          | Specifies whether to enable Bidirectional Forwarding Detection (BFD). The value can be <b>true</b> or <b>false</b> .<br>Default: <b>false</b>                                                                |

| Parameter             | Mandatory | Type    | Description                                                                                                          |
|-----------------------|-----------|---------|----------------------------------------------------------------------------------------------------------------------|
| enable_nqa            | No        | Boolean | Specifies whether to enable NQA. The value can be <b>true</b> or <b>false</b> .<br>Default: <b>false</b>             |
| lag_id                | No        | String  | Specifies the ID of the LAG associated with the virtual interface.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>       |
| resource_tenant_id    | No        | String  | Specifies the project ID of another tenant, which is used to create virtual interfaces across tenants.               |
| enterprise_project_id | No        | String  | Specifies the ID of the enterprise project that the resource belongs to.<br>Minimum: <b>36</b><br>Maximum: <b>36</b> |

Response Parameters

Status code: 201

Table 5-102 Response body parameters

| Parameter         | Type                           | Description                                            |
|-------------------|--------------------------------|--------------------------------------------------------|
| request_id        | String                         | Specifies the request ID.                              |
| virtual_interface | <b>VirtualInterface</b> object | Specifies parameters for creating a virtual interface. |

Table 5-103 VirtualInterface

| Parameter      | Type    | Description                                                                     |
|----------------|---------|---------------------------------------------------------------------------------|
| id             | String  | Specifies the virtual interface ID.<br>Maximum: <b>36</b>                       |
| name           | String  | Specifies the virtual interface name.<br>Maximum: <b>64</b>                     |
| admin_state_up | Boolean | Specifies the administrative status, which can be <b>true</b> or <b>false</b> . |

| Parameter         | Type    | Description                                                                                                                                                                                                                                   |
|-------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| bandwidth         | Integer | Specifies the virtual interface bandwidth.<br>Minimum: <b>2</b><br>Maximum: <b>2147483647</b>                                                                                                                                                 |
| create_time       | String  | Specifies the time when the virtual interface was created. The UTC time format <b>yyyy-MM-ddTHH:mm:ss.SSSZ</b> is used.<br>Maximum: <b>255</b>                                                                                                |
| description       | String  | Provides supplementary information about the virtual interface.<br>Maximum: <b>128</b>                                                                                                                                                        |
| direct_connect_id | String  | Specifies the connection ID.<br>Maximum: <b>36</b>                                                                                                                                                                                            |
| service_type      | String  | Specifies the gateway type. The value is <b>VGW</b> .                                                                                                                                                                                         |
| status            | String  | Specifies the operating status, which can be <b>ACTIVE</b> , <b>DOWN</b> , <b>BUILD</b> , <b>ERROR</b> , <b>PENDING_CREATE</b> , <b>PENDING_UPDATE</b> , <b>PENDING_DELETE</b> , <b>DELETED</b> , <b>AUTHORIZATION</b> , or <b>REJECTED</b> . |
| tenant_id         | String  | Specifies the project ID.<br>Minimum: <b>32</b><br>Maximum: <b>32</b>                                                                                                                                                                         |
| type              | String  | Specifies the type of the virtual interface. The value is <b>private</b> .<br>Default: <b>private</b><br>Maximum: <b>255</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>private</b></li><li>• <b>public</b></li></ul>  |
| vgw_id            | String  | Specifies the virtual gateway ID.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                                                                                                                                 |
| vlan              | Integer | Specifies the VLAN for connecting to the user gateway. The value ranges from <b>0</b> to <b>3999</b> .<br>Minimum: <b>0</b><br>Maximum: <b>3999</b>                                                                                           |

| Parameter             | Type    | Description                                                                                                                                                                                         |
|-----------------------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| route_limit           | Integer | Specifies the remote subnet route configurations of the virtual interface.<br>Minimum: <b>1</b><br>Maximum: <b>200</b><br>Default: <b>50</b>                                                        |
| enable_nqa            | Boolean | Specifies whether to enable NQA. The value can be <b>true</b> or <b>false</b> .                                                                                                                     |
| enable_bfd            | Boolean | Specifies whether to enable Bidirectional Forwarding Detection (BFD). The value can be <b>true</b> or <b>false</b> .                                                                                |
| lag_id                | String  | Specifies the ID of the LAG associated with the virtual interface.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                                                      |
| device_id             | String  | Specifies the ID of the device that the virtual interface belongs to.                                                                                                                               |
| enterprise_project_id | String  | Specifies the ID of the enterprise project that the virtual interface belongs to.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                                       |
| local_gateway_v4_ip   | String  | Specifies the IPv4 interface address of the gateway used on the cloud. This parameter has been migrated to the <b>vifpeer</b> parameter list and will be discarded later.                           |
| remote_gateway_v4_ip  | String  | Specifies the IPv4 interface address of the gateway used on premises. This parameter has been migrated to the <b>vifpeer</b> parameter list and will be discarded later.                            |
| ies_id                | String  | Specifies the ID of an IES edge site.                                                                                                                                                               |
| reason                | String  | Displays error information if the status of a line is <b>Error</b> .                                                                                                                                |
| rate_limit            | Boolean | Specifies whether rate limiting is enabled on a virtual interface.                                                                                                                                  |
| address_family        | String  | Specifies the address family of the virtual interface, which can be <b>IPv4</b> or <b>IPv6</b> . This parameter has been migrated to the <b>vifpeer</b> parameter list and will be discarded later. |

| Parameter            | Type                             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| local_gateway_v6_ip  | String                           | Specifies the IPv6 interface address of the gateway used on the cloud. This parameter has been migrated to the <b>vifpeer</b> parameter list and will be discarded later.                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| remote_gateway_v6_ip | String                           | Specifies the IPv6 interface address of the gateway used on premises. This parameter has been migrated to the <b>vifpeer</b> parameter list and will be discarded later.                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| lgw_id               | String                           | Specifies the ID of the local gateway, which is used in IES scenarios.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| gateway_id           | String                           | Specifies the ID of the gateway associated with the virtual interface.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| remote_ep_group      | Array of strings                 | Specifies the remote subnet list, which records the CIDR blocks used in the on-premises data center. This parameter has been migrated to the <b>vifpeer</b> parameter list and will be discarded later.                                                                                                                                                                                                                                                                                                                                                                                                    |
| service_ep_group     | Array of strings                 | Specifies the list of public network addresses that can be accessed by the on-premises data center. This field is required in the APIs of public network connections. This parameter has been migrated to the <b>vifpeer</b> parameter list and will be discarded later.                                                                                                                                                                                                                                                                                                                                   |
| bgp_route_limit      | Integer                          | Specifies the BGP route configuration.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| priority             | String                           | <p>Specifies the priority of a virtual interface. The value can be <b>normal</b> or <b>low</b>. If the priorities are the same, the virtual interfaces work in load balancing mode. If the priorities are different, the virtual interfaces work in active/standby pairs. Outbound traffic is preferentially forwarded to the normal virtual interface with a higher priority. This option is only supported by virtual interfaces that use BGP routing.</p> <p>Default: <b>normal</b></p> <p>Enumeration values:</p> <ul style="list-style-type: none"><li>• <b>normal</b></li><li>• <b>low</b></li></ul> |
| vif_peers            | Array of <b>VifPeer</b> objects  | Provides information about virtual interface peers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| extend_attribute     | <b>VifExtendAttribute</b> object | Provides extended parameter information.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

**Table 5-104** VifPeer

| Parameter         | Type             | Description                                                                                                                                                                                               |
|-------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id                | String           | Specifies the resource ID.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                                                                                                    |
| tenant_id         | String           | Specifies the ID of the project that the virtual interface peer belongs to.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                                                   |
| name              | String           | Specifies the name of the virtual interface peer.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                                                              |
| description       | String           | Provides supplementary information about the virtual interface peer.<br>Minimum: <b>0</b><br>Maximum: <b>128</b>                                                                                          |
| address_family    | String           | Specifies the address family type of the virtual interface, which can be <b>IPv4</b> or <b>IPv6</b> .                                                                                                     |
| local_gateway_ip  | String           | Specifies the address of the virtual interface peer used on the cloud.                                                                                                                                    |
| remote_gateway_ip | String           | Specifies the address of the virtual interface peer used in the on-premises data center.                                                                                                                  |
| route_mode        | String           | Specifies the routing mode, which can be <b>static</b> or <b>bgp</b> .<br>Maximum: <b>255</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>bgp</b></li><li>• <b>static</b></li></ul> |
| bgp_asn           | Integer          | Specifies the ASN of the BGP peer.<br>Minimum: <b>1</b><br>Maximum: <b>4294967295</b>                                                                                                                     |
| bgp_md5           | String           | Specifies the MD5 password of the BGP peer.                                                                                                                                                               |
| remote_ep_group   | Array of strings | Specifies the remote subnet list, which records the CIDR blocks used in the on-premises data center.                                                                                                      |



| Parameter         | Type             | Description                                                                                                                                                                                                                                           |
|-------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| service_ep_group  | Array of strings | Specifies the list of public network addresses that can be accessed by the on-premises data center. This field is required in the APIs of public network connections.                                                                                 |
| device_id         | String           | Specifies the ID of the device that the virtual interface peer belongs to.                                                                                                                                                                            |
| bgp_route_limit   | Integer          | Specifies the BGP route configuration.                                                                                                                                                                                                                |
| bgp_status        | String           | Specifies the BGP protocol status of the virtual interface peer. If the virtual interface peer uses static routing, the status is <b>null</b> .<br>Maximum: <b>10</b>                                                                                 |
| status            | String           | Specifies the status of the virtual interface peer.                                                                                                                                                                                                   |
| vif_id            | String           | Specifies the ID of the virtual interface corresponding to the virtual interface peer.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                                                                                    |
| receive_route_num | Integer          | Specifies the number of received BGP routes if BGP routing is used. If static routing is used, this parameter is meaningless and the value is <b>-1</b> . Note: If this parameter cannot be obtained, contact customer service to migrate your ports. |
| enable_nqa        | Boolean          | Specifies whether to enable NQA. The value can be <b>true</b> or <b>false</b> .                                                                                                                                                                       |
| enable_bfd        | Boolean          | Specifies whether to enable BFD. The value can be <b>true</b> or <b>false</b> .                                                                                                                                                                       |

**Table 5-105** VifExtendAttribute

| Parameter | Type   | Description                                                                                                                                                                  |
|-----------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ha_type   | String | Specifies the availability detection type of the virtual interface.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>nqa</b></li><li>• <b>bfd</b></li></ul> |

| Parameter         | Type    | Description                                                                                                                                                                                                                                                  |
|-------------------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ha_mode           | String  | Specifies the availability detection mode.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>auto_single</b></li><li>• <b>auto_multi</b></li><li>• <b>static_single</b></li><li>• <b>static_multi</b></li><li>• <b>enhance_nqa</b></li></ul> |
| detect_multiplier | Integer | Specifies the number of detection retries.<br>Default: <b>5</b>                                                                                                                                                                                              |
| min_rx_interval   | Integer | Specifies the interval for receiving detection packets.<br>Default: <b>1000</b>                                                                                                                                                                              |
| min_tx_interval   | Integer | Specifies the interval for sending detection packets.<br>Default: <b>1000</b>                                                                                                                                                                                |
| remote_disclaim   | Integer | Specifies the remote identifier of the static BFD session.                                                                                                                                                                                                   |
| local_disclaim    | Integer | Specifies the local identifier of the static BFD session.                                                                                                                                                                                                    |

## Example Requests

Creating a private virtual interface, with the bandwidth set to 2 Mbit/s, VLAN to 332, local gateway to 1.1.1.1/30, and remote gateway to 1.1.1.2/30, and routing mode to static routing

POST https://{dc\_endpoint}/v3/0605768a3300d5762f82c01180692873/dcaas/virtual-interfaces

```
{
  "virtual_interface": {
    "name": "vif-0819",
    "description": "mytest",
    "direct_connect_id": "4673e339-8412-4ee1-b73e-2ba9cdfa54c1",
    "vgw_id": "8a47064a-f34c-4f94-b7fe-cac456c9b37b",
    "vlan": 332,
    "bandwidth": 2,
    "local_gateway_v4_ip": "1.1.1.1/30",
    "remote_gateway_v4_ip": "1.1.1.2/30",
    "type": "private",
    "route_mode": "static",
    "remote_ep_group": [ "1.1.2.0/30" ]
  }
}
```

## Example Responses

**Status code: 201**

## Created

```
{
  "virtual_interface" : {
    "id" : "0d0fdf63-f2c4-491c-8866-d504796189be",
    "name" : "vif-0819",
    "description" : "mytest",
    "tenant_id" : "0605768a3300d5762f82c01180692873",
    "direct_connect_id" : "4673e339-8412-4ee1-b73e-2ba9cdfa54c1",
    "vgw_id" : "8a47064a-f34c-4f94-b7fe-cac456c9b37b",
    "type" : "private",
    "service_type" : "VGW",
    "vlan" : 332,
    "bandwidth" : 2,
    "device_id" : "18.9.215.131",
    "status" : "ACTIVE",
    "create_time" : "2022-08-19T11:28:06.000Z",
    "admin_state_up" : true,
    "enable_bfd" : false,
    "route_limit" : 50,
    "enable_nqa" : false,
    "local_gateway_v4_ip" : "1.1.1.1/30",
    "remote_gateway_v4_ip" : "1.1.1.2/30",
    "ies_id" : null,
    "reason" : null,
    "rate_limit" : false,
    "local_gateway_v6_ip" : null,
    "remote_gateway_v6_ip" : null,
    "lgw_id" : null,
    "lag_id" : null,
    "priority" : "normal",
    "vif_peers" : [ {
      "id" : "c768eb52-12a8-4859-9b43-81194643040c",
      "tenant_id" : "0605768a3300d5762f82c01180692873",
      "name" : "vif-0819",
      "description" : "",
      "address_family" : "ipv4",
      "local_gateway_ip" : "1.1.1.1/30",
      "remote_gateway_ip" : "1.1.1.2/30",
      "route_mode" : "static",
      "bgp_asn" : null,
      "bgp_md5" : null,
      "device_id" : "18.9.215.131",
      "bgp_route_limit" : 100,
      "bgp_status" : null,
      "status" : "ACTIVE",
      "vif_id" : "0d0fdf63-f2c4-491c-8866-d504796189be",
      "receive_route_num" : -1,
      "remote_ep_group" : [ "1.1.2.0/30" ],
      "enable_bfd" : false,
      "enable_nqa" : false,
      "service_ep_group" : null
    } ],
    "enterprise_project_id" : "0"
  },
  "request_id" : "5633df7af874576d819a481c76673236"
}
```

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 201         | Created     |

## Error Codes

See [Error Codes](#).

## 5.3.6 Updating a Virtual Interface Peer

### Function

This API is used to update a virtual interface peer, for example, its remote subnet, name, and description. This API is available only in regions that support IPv6. To use this API, contact customer service.

### URI

PUT /v3/{project\_id}/dcaas/vif-peers/{vif\_peer\_id}

**Table 5-106** Path Parameters

| Parameter   | Mandatory | Type   | Description                              |
|-------------|-----------|--------|------------------------------------------|
| project_id  | Yes       | String | Specifies the project ID.                |
| vif_peer_id | Yes       | String | Specifies the virtual interface peer ID. |

### Request Parameters

**Table 5-107** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                               |
|--------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | Specifies the user token. To obtain the token, see section "Obtaining the User Token" in the <i>Identity and Access Management API Reference</i> . The token is the value of <b>X-Subject-Token</b> in the response header.<br>Minimum: <b>0</b><br>Maximum: <b>10240</b> |

**Table 5-108** Request body parameters

| Parameter | Mandatory | Type                                 | Description                                                 |
|-----------|-----------|--------------------------------------|-------------------------------------------------------------|
| vif_peer  | No        | <a href="#">UpdateVifPeer</a> object | Specifies parameters for updating a virtual interface peer. |

**Table 5-109** UpdateVifPeer

| Parameter       | Mandatory | Type             | Description                                                                                                      |
|-----------------|-----------|------------------|------------------------------------------------------------------------------------------------------------------|
| name            | No        | String           | Specifies the name of the virtual interface peer.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                     |
| description     | No        | String           | Provides supplementary information about the virtual interface peer.<br>Minimum: <b>0</b><br>Maximum: <b>128</b> |
| remote_ep_group | No        | Array of strings | Specifies the remote subnet list, which records the CIDR blocks used in the on-premises data center.             |

## Response Parameters

**Status code: 200**

**Table 5-110** Response body parameters

| Parameter | Type                           | Description                           |
|-----------|--------------------------------|---------------------------------------|
| vif_peer  | <a href="#">VifPeer</a> object | Specifies the virtual interface peer. |

**Table 5-111** VifPeer

| Parameter | Type   | Description                                                            |
|-----------|--------|------------------------------------------------------------------------|
| id        | String | Specifies the resource ID.<br>Minimum: <b>36</b><br>Maximum: <b>36</b> |

| Parameter         | Type             | Description                                                                                                                                                                                               |
|-------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| tenant_id         | String           | Specifies the ID of the project that the virtual interface peer belongs to.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                                                   |
| name              | String           | Specifies the name of the virtual interface peer.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                                                              |
| description       | String           | Provides supplementary information about the virtual interface peer.<br>Minimum: <b>0</b><br>Maximum: <b>128</b>                                                                                          |
| address_family    | String           | Specifies the address family type of the virtual interface, which can be <b>IPv4</b> or <b>IPv6</b> .                                                                                                     |
| local_gateway_ip  | String           | Specifies the address of the virtual interface peer used on the cloud.                                                                                                                                    |
| remote_gateway_ip | String           | Specifies the address of the virtual interface peer used in the on-premises data center.                                                                                                                  |
| route_mode        | String           | Specifies the routing mode, which can be <b>static</b> or <b>bgp</b> .<br>Maximum: <b>255</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>bgp</b></li><li>• <b>static</b></li></ul> |
| bgp_asn           | Integer          | Specifies the ASN of the BGP peer.<br>Minimum: <b>1</b><br>Maximum: <b>4294967295</b>                                                                                                                     |
| bgp_md5           | String           | Specifies the MD5 password of the BGP peer.                                                                                                                                                               |
| remote_ep_group   | Array of strings | Specifies the remote subnet list, which records the CIDR blocks used in the on-premises data center.                                                                                                      |
| service_ep_group  | Array of strings | Specifies the list of public network addresses that can be accessed by the on-premises data center. This field is required in the APIs of public network connections.                                     |
| device_id         | String           | Specifies the ID of the device that the virtual interface peer belongs to.                                                                                                                                |
| bgp_route_limit   | Integer          | Specifies the BGP route configuration.                                                                                                                                                                    |

| Parameter         | Type    | Description                                                                                                                                                                                                                                           |
|-------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| bgp_status        | String  | Specifies the BGP protocol status of the virtual interface peer. If the virtual interface peer uses static routing, the status is <b>null</b> .<br>Maximum: <b>10</b>                                                                                 |
| status            | String  | Specifies the status of the virtual interface peer.                                                                                                                                                                                                   |
| vif_id            | String  | Specifies the ID of the virtual interface corresponding to the virtual interface peer.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                                                                                    |
| receive_route_num | Integer | Specifies the number of received BGP routes if BGP routing is used. If static routing is used, this parameter is meaningless and the value is <b>-1</b> . Note: If this parameter cannot be obtained, contact customer service to migrate your ports. |
| enable_nqa        | Boolean | Specifies whether to enable NQA. The value can be <b>true</b> or <b>false</b> .                                                                                                                                                                       |
| enable_bfd        | Boolean | Specifies whether to enable BFD. The value can be <b>true</b> or <b>false</b> .                                                                                                                                                                       |

Example Requests

Updating the name, description, and remote subnet of a virtual interface peer

```
PUT https://{endpoint}/v3/cfa563efb77d4b6d9960781d82530fd8/dcaas/vif-peers/68250543-0a13-4ac7-aa36-d018856ac640
{
  "vif_peer": {
    "name": "vif-0819",
    "description": "mytest",
    "remote_ep_group": [ "20.1.1.0/24" ]
  }
}
```

Example Responses

Status code: 200

OK

```
{
  "vif_peer": {
    "name": "vif-0819",
    "description": "mytest",
    "id": "4c95de3e-9f75-4357-9c79-b22498dd71c7",
    "tenant_id": "ed28c294165741faeccab26913122a1",
    "address_family": "ipv4",
    "local_gateway_ip": "12.3.4.1/30",
    "remote_gateway_ip": "12.3.4.2/30",
    "route_mode": "static",
  }
}
```

```
"bgp_asn" : null,
"bgp_md5" : null,
"bgp_route_limit" : 100,
"bgp_status" : null,
"status" : "ACTIVE",
"vif_id" : "5d6c17bc-0ebe-420b-8734-21f519e9d7ad",
"receive_route_num" : -1,
"remote_ep_group" : [ "20.1.1.0/24" ]
}
}
```

Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

Error Codes

See [Error Codes](#).

5.3.7 Deleting a Virtual Interface Peer

Function

This API is used to delete a virtual interface. The virtual interface must contain at least one peer. The last peer cannot be deleted. This API is available only in regions that support IPv6. To use this API, contact customer service.

URI

DELETE /v3/{project\_id}/dcaas/vif-peers/{vif\_peer\_id}

Table 5-112 Path Parameters

| Parameter   | Mandatory | Type   | Description                              |
|-------------|-----------|--------|------------------------------------------|
| project_id  | Yes       | String | Specifies the project ID.                |
| vif_peer_id | Yes       | String | Specifies the virtual interface peer ID. |



## Request Parameters

Table 5-113 Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                               |
|--------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | Specifies the user token. To obtain the token, see section "Obtaining the User Token" in the <i>Identity and Access Management API Reference</i> . The token is the value of <b>X-Subject-Token</b> in the response header.<br>Minimum: <b>0</b><br>Maximum: <b>10240</b> |

## Response Parameters

None

## Example Requests

Deleting a virtual interface peer

```
DELETE https://{endpoint}/v3/cfa563efb77d4b6d9960781d82530fd8/dcaas/vif-peers/68250543-0a13-4ac7-aa36-d018856ac640
```

## Example Responses

None

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 204         | No Content  |

## Error Codes

See [Error Codes](#).

## 5.3.8 Creating a Virtual Interface Peer

### Function

This API is used to create an IPv6 peer. Each virtual interface can have two peers: IPv4 and IPv6 peers. When a virtual interface is created, an IPv4 peer is created by

default. After a virtual interface peer is created, you can query its settings by viewing the virtual interface details. This API is available only in regions that support IPv6. To use this API, contact customer service.

## URI

POST /v3/{project\_id}/dcaas/vif-peers

**Table 5-114** Path Parameters

| Parameter  | Mandatory | Type   | Description               |
|------------|-----------|--------|---------------------------|
| project_id | Yes       | String | Specifies the project ID. |

## Request Parameters

**Table 5-115** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                               |
|--------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | Specifies the user token. To obtain the token, see section "Obtaining the User Token" in the <i>Identity and Access Management API Reference</i> . The token is the value of <b>X-Subject-Token</b> in the response header.<br>Minimum: <b>0</b><br>Maximum: <b>10240</b> |

**Table 5-116** Request body parameters

| Parameter | Mandatory | Type                                 | Description                                                 |
|-----------|-----------|--------------------------------------|-------------------------------------------------------------|
| vif_peer  | No        | <a href="#">CreateVifPeer</a> object | Specifies parameters for creating a virtual interface peer. |

**Table 5-117** CreateVifPeer

| Parameter         | Mandatory | Type             | Description                                                                                                                                                                                               |
|-------------------|-----------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| name              | No        | String           | Specifies the name of the virtual interface peer.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                                                                                                              |
| description       | No        | String           | Provides supplementary information about the virtual interface peer.<br>Minimum: <b>0</b><br>Maximum: <b>128</b>                                                                                          |
| address_family    | No        | String           | Specifies the address family of the virtual interface, which can be <b>IPv4</b> or <b>IPv6</b> .                                                                                                          |
| local_gateway_ip  | No        | String           | Specifies the cloud-side gateway IP address of the virtual interface peer.                                                                                                                                |
| remote_gateway_ip | No        | String           | Specifies the customer-side gateway address of the virtual interface peer.                                                                                                                                |
| route_mode        | No        | String           | Specifies the routing mode, which can be <b>static</b> or <b>bgp</b> .<br>Maximum: <b>255</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>bgp</b></li><li>• <b>static</b></li></ul> |
| bgp_asn           | No        | Integer          | Specifies the AS of the BGP peer.<br>Minimum: <b>1</b><br>Maximum: <b>4294967295</b>                                                                                                                      |
| bgp_md5           | No        | String           | Specifies the MD5 password of the BGP peer.                                                                                                                                                               |
| remote_ep_group   | No        | Array of strings | Specifies the remote subnet list, which records the CIDR blocks used in the on-premises data center.                                                                                                      |
| vif_id            | No        | String           | Specifies the ID of the virtual interface corresponding to the virtual interface peer.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                                        |

Response Parameters

Status code: 201

Table 5-118 Response body parameters

| Parameter | Type           | Description                           |
|-----------|----------------|---------------------------------------|
| vif_peer  | VifPeer object | Specifies the virtual interface peer. |

Table 5-119 VifPeer

| Parameter         | Type   | Description                                                                                                             |
|-------------------|--------|-------------------------------------------------------------------------------------------------------------------------|
| id                | String | Specifies the resource ID.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                  |
| tenant_id         | String | Specifies the ID of the project that the virtual interface peer belongs to.<br>Minimum: <b>36</b><br>Maximum: <b>36</b> |
| name              | String | Specifies the name of the virtual interface peer.<br>Minimum: <b>0</b><br>Maximum: <b>64</b>                            |
| description       | String | Provides supplementary information about the virtual interface peer.<br>Minimum: <b>0</b><br>Maximum: <b>128</b>        |
| address_family    | String | Specifies the address family type of the virtual interface, which can be <b>IPv4</b> or <b>IPv6</b> .                   |
| local_gateway_ip  | String | Specifies the address of the virtual interface peer used on the cloud.                                                  |
| remote_gateway_ip | String | Specifies the address of the virtual interface peer used in the on-premises data center.                                |

| Parameter         | Type             | Description                                                                                                                                                                                                                                           |
|-------------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| route_mode        | String           | Specifies the routing mode, which can be <b>static</b> or <b>bgp</b> .<br>Maximum: <b>255</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>bgp</b></li><li>• <b>static</b></li></ul>                                             |
| bgp_asn           | Integer          | Specifies the ASN of the BGP peer.<br>Minimum: <b>1</b><br>Maximum: <b>4294967295</b>                                                                                                                                                                 |
| bgp_md5           | String           | Specifies the MD5 password of the BGP peer.                                                                                                                                                                                                           |
| remote_ep_group   | Array of strings | Specifies the remote subnet list, which records the CIDR blocks used in the on-premises data center.                                                                                                                                                  |
| service_ep_group  | Array of strings | Specifies the list of public network addresses that can be accessed by the on-premises data center. This field is required in the APIs of public network connections.                                                                                 |
| device_id         | String           | Specifies the ID of the device that the virtual interface peer belongs to.                                                                                                                                                                            |
| bgp_route_limit   | Integer          | Specifies the BGP route configuration.                                                                                                                                                                                                                |
| bgp_status        | String           | Specifies the BGP protocol status of the virtual interface peer. If the virtual interface peer uses static routing, the status is <b>null</b> .<br>Maximum: <b>10</b>                                                                                 |
| status            | String           | Specifies the status of the virtual interface peer.                                                                                                                                                                                                   |
| vif_id            | String           | Specifies the ID of the virtual interface corresponding to the virtual interface peer.<br>Minimum: <b>36</b><br>Maximum: <b>36</b>                                                                                                                    |
| receive_route_num | Integer          | Specifies the number of received BGP routes if BGP routing is used. If static routing is used, this parameter is meaningless and the value is <b>-1</b> . Note: If this parameter cannot be obtained, contact customer service to migrate your ports. |
| enable_nqa        | Boolean          | Specifies whether to enable NQA. The value can be <b>true</b> or <b>false</b> .                                                                                                                                                                       |

| Parameter  | Type    | Description                                                                     |
|------------|---------|---------------------------------------------------------------------------------|
| enable_bfd | Boolean | Specifies whether to enable BFD. The value can be <b>true</b> or <b>false</b> . |

## Example Requests

Creating a virtual interface peer with the remote subnet set to 20.1.1.0/24

POST https://{endpoint}/v3/cfa563efb77d4b6d9960781d82530fd8/dcaas/vif-peers/68250543-0a13-4ac7-aa36-d018856ac640

```
{
  "vif_peer" : {
    "name" : "vif-0819",
    "description" : "mytest",
    "remote_ep_group" : [ "20.1.1.0/24" ]
  }
}
```

## Example Responses

**Status code: 201**

Created

```
{
  "vif_peer" : {
    "name" : "vif-0819",
    "description" : "mytest",
    "id" : "4c95de3e-9f75-4357-9c79-b22498dd71c7",
    "tenant_id" : "ed28c294165741faaeccab26913122a1",
    "address_family" : "ipv4",
    "local_gateway_ip" : "12.3.4.1/30",
    "remote_gateway_ip" : "12.3.4.2/30",
    "route_mode" : "static",
    "bgp_asn" : null,
    "bgp_md5" : null,
    "bgp_route_limit" : 100,
    "bgp_status" : null,
    "status" : "ACTIVE",
    "vif_id" : "5d6c17bc-0ebe-420b-8734-21f519e9d7ad",
    "receive_route_num" : -1,
    "remote_ep_group" : [ "12.3.4.0/30 172.56.0.0/16" ]
  }
}
```

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 201         | Created     |

## Error Codes

See [Error Codes](#).

## 5.3.9 Performing a Virtual Interface Switchover Test

### Function

If there are two connections, automatic switchover between the connections is required for connectivity testing. If a switchover is performed, the virtual interface of the connection in use is disabled and traffic is interrupted. You can perform two operations on a virtual interface: - Run the **shutdown** command to disable the virtual interface. - Run the **undo\_shutdown** command to enable the virtual interface. If **shutdown** is selected for the switchover test, the virtual interface is in the **ADMIN\_SHUTDOWN** state, and no operations can be performed on the virtual interface. If **undo\_shutdown** is selected for the switchover test, the virtual interface is in the **ACTIVE** state.

### URI

POST /v3/{project\_id}/dcaas/switchover-test

**Table 5-120** Path Parameters

| Parameter  | Mandatory | Type   | Description               |
|------------|-----------|--------|---------------------------|
| project_id | Yes       | String | Specifies the project ID. |

### Request Parameters

**Table 5-121** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                                   |
|--------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | Specifies the user token. To obtain the token, see section "Obtaining the User Token" in the <i>Identity and Access Management API Reference</i> . The token is the value of <b>X-Subject-Token</b> in the response header.<br><br>Minimum: <b>0</b><br>Maximum: <b>10240</b> |

**Table 5-122** Request body parameters

| Parameter              | Mandatory | Type                                        | Description                                                     |
|------------------------|-----------|---------------------------------------------|-----------------------------------------------------------------|
| switchover_test_record | No        | <a href="#">CreateSwitchoverTest</a> object | Specifies the parameters for creating a switchover test record. |

**Table 5-123** CreateSwitchoverTest

| Parameter     | Mandatory | Type   | Description                                                                                                                                                                                                                                                                 |
|---------------|-----------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| resource_id   | Yes       | String | Specifies the ID of the resource on which the switchover test is to be performed.                                                                                                                                                                                           |
| resource_type | No        | String | Specifies the type of the resource on which the switchover test is to be performed.<br>Default: <b>virtual_interface</b><br>Minimum: <b>0</b><br>Maximum: <b>128</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>virtual_interface</b></li></ul>      |
| operation     | Yes       | String | Specifies whether to perform a switchover test. Value options: <b>shutdown</b> and <b>undo_shutdown</b><br>Minimum: <b>0</b><br>Maximum: <b>128</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>shutdown</b></li><li>• <b>undo_shutdown</b></li></ul> |

## Response Parameters

Status code: 201

**Table 5-124** Response body parameters

| Parameter              | Type                                        | Description                                                          |
|------------------------|---------------------------------------------|----------------------------------------------------------------------|
| request_id             | String                                      | Specifies the request ID.                                            |
| switchover_test_record | <a href="#">SwitchoverTestRecord</a> object | Provides supplementary information about the switchover test record. |



**Table 5-125** SwitchoverTestRecord

| Parameter        | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| id               | String | Specifies the unique ID of the switchover test record.                                                                                                                                                                                                                                                                                                                                                                                                    |
| tenant_id        | String | Specifies the tenant ID.<br>Minimum: <b>32</b><br>Maximum: <b>32</b>                                                                                                                                                                                                                                                                                                                                                                                      |
| resource_id      | String | Specifies the ID of the resource on which the switchover test is to be performed.                                                                                                                                                                                                                                                                                                                                                                         |
| resource_type    | String | Specifies the type of the resource on which the switchover test is to be performed.<br>Default: <b>virtual_interface</b><br>Minimum: <b>0</b><br>Maximum: <b>128</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>virtual_interface</b></li></ul>                                                                                                                                                                                    |
| operation        | String | Specifies whether to perform a switchover test.<br>Value options: <b>shutdown</b> and <b>undo_shutdown</b><br>Minimum: <b>0</b><br>Maximum: <b>128</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>shutdown</b></li><li>• <b>undo_shutdown</b></li></ul>                                                                                                                                                                            |
| start_time       | String | Specifies the start time of the switchover test.                                                                                                                                                                                                                                                                                                                                                                                                          |
| end_time         | String | Specifies the end time of the switchover test.                                                                                                                                                                                                                                                                                                                                                                                                            |
| operate_statuses | String | Specifies the switchover test status. <ul style="list-style-type: none"><li>• <b>STARTING</b>: initial status</li><li>• <b>INPROGRESS</b>: delivering configuration</li><li>• <b>COMPLETE</b>: configuration delivered</li><li>• <b>ERROR</b>: Configuration delivery failed</li></ul> Enumeration values: <ul style="list-style-type: none"><li>• <b>STARTING</b></li><li>• <b>INPROGRESS</b></li><li>• <b>COMPLETE</b></li><li>• <b>ERROR</b></li></ul> |

## Example Requests

Shutting down the virtual interface to perform a switchover test

```
POST https://{dc_endpoint}/v3/de58f033eb664102ba85e4a5db473ca5/dcaas/switchover-test

{
  "switchover_test_record": {
    "resource_type": "virtual_interface",
    "resource_id": "d0b3329c-0063-470c-b1dc-657656b2e540",
    "operation": "shutdown"
  }
}
```

## Example Responses

**Status code: 201**

Created

```
{
  "switchover_test_record": {
    "id": "862d61f1-d9ea-4093-ba0e-2b8d415e3ab3",
    "tenant_id": "de58f033eb664102ba85e4a5db473ca5",
    "resource_type": "virtual_interface",
    "resource_id": "d0b3329c-0063-470c-b1dc-657656b2e540",
    "operation": "shutdown",
    "start_time": "2023-10-09T18:41:23.000Z",
    "end_time": "2023-10-09T18:41:23.000Z",
    "operate_status": "STARTING"
  },
  "request_id": "f91634a12b116b6f946d7871f5b4de18"
}
```

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 201         | Created     |

## Error Codes

See [Error Codes](#).

## 5.3.10 Querying the Switchover Test Records of a Virtual Interface

### Function

This API is used to query the switchover test record list. Only the records whose **operate\_status** is **COMPELTE** are displayed.

### URI

GET /v3/{project\_id}/dcaas/switchover-test

**Table 5-126** Path Parameters

| Parameter  | Mandatory | Type   | Description               |
|------------|-----------|--------|---------------------------|
| project_id | Yes       | String | Specifies the project ID. |

**Table 5-127** Query Parameters

| Parameter   | Mandatory | Type    | Description                                                                                                                                                                                                                        |
|-------------|-----------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| limit       | No        | Integer | Specifies the number of records returned on each page. Value range: 1 to 2000<br>Minimum: <b>1</b><br>Maximum: <b>2000</b><br>Default: <b>2000</b>                                                                                 |
| marker      | No        | String  | Specifies the ID of the last resource record on the previous page. If this parameter is left blank, the first page is queried. This parameter must be used together with <b>limit</b> .<br>Minimum: <b>0</b><br>Maximum: <b>36</b> |
| fields      | No        | Array   | Specifies the list of fields to be displayed.<br>Array Length: <b>1 - 5</b>                                                                                                                                                        |
| sort_dir    | No        | Array   | Specifies the sorting order of returned results, which can be <b>asc</b> (ascending order) or <b>desc</b> (descending order). The default value is <b>asc</b> .                                                                    |
| sort_key    | No        | String  | Specifies the sorting field.<br>Default: <b>id</b><br>Minimum: <b>0</b><br>Maximum: <b>36</b>                                                                                                                                      |
| resource_id | No        | Array   | Resource ID used for querying switchover test records.                                                                                                                                                                             |

## Request Parameters

**Table 5-128** Request header parameters

| Parameter    | Mandatory | Type   | Description                                                                                                                                                                                                                                                                   |
|--------------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| X-Auth-Token | Yes       | String | Specifies the user token. To obtain the token, see section "Obtaining the User Token" in the <i>Identity and Access Management API Reference</i> . The token is the value of <b>X-Subject-Token</b> in the response header.<br><br>Minimum: <b>0</b><br>Maximum: <b>10240</b> |

## Response Parameters

Status code: 200

**Table 5-129** Response body parameters

| Parameter               | Type                                                  | Description                                 |
|-------------------------|-------------------------------------------------------|---------------------------------------------|
| request_id              | String                                                | Specifies the request ID.                   |
| switchover_test_records | Array of <a href="#">SwitchoverTestRecord</a> objects | Lists the switchover test records.          |
| page_info               | <a href="#">PageInfo</a> object                       | Specifies the pagination query information. |

**Table 5-130** SwitchoverTestRecord

| Parameter   | Type   | Description                                                                       |
|-------------|--------|-----------------------------------------------------------------------------------|
| id          | String | Specifies the unique ID of the switchover test record.                            |
| tenant_id   | String | Specifies the tenant ID.<br>Minimum: <b>32</b><br>Maximum: <b>32</b>              |
| resource_id | String | Specifies the ID of the resource on which the switchover test is to be performed. |

| Parameter        | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| resource_type    | String | Specifies the type of the resource on which the switchover test is to be performed.<br>Default: <b>virtual_interface</b><br>Minimum: <b>0</b><br>Maximum: <b>128</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>virtual_interface</b></li></ul>                                                                                                                                                                                    |
| operation        | String | Specifies whether to perform a switchover test. Value options: <b>shutdown</b> and <b>undo_shutdown</b><br>Minimum: <b>0</b><br>Maximum: <b>128</b><br>Enumeration values: <ul style="list-style-type: none"><li>• <b>shutdown</b></li><li>• <b>undo_shutdown</b></li></ul>                                                                                                                                                                               |
| start_time       | String | Specifies the start time of the switchover test.                                                                                                                                                                                                                                                                                                                                                                                                          |
| end_time         | String | Specifies the end time of the switchover test.                                                                                                                                                                                                                                                                                                                                                                                                            |
| operate_statuses | String | Specifies the switchover test status. <ul style="list-style-type: none"><li>• <b>STARTING</b>: initial status</li><li>• <b>INPROGRESS</b>: delivering configuration</li><li>• <b>COMPLETE</b>: configuration delivered</li><li>• <b>ERROR</b>: Configuration delivery failed</li></ul> Enumeration values: <ul style="list-style-type: none"><li>• <b>STARTING</b></li><li>• <b>INPROGRESS</b></li><li>• <b>COMPLETE</b></li><li>• <b>ERROR</b></li></ul> |

Table 5-131 PageInfo

| Parameter       | Type   | Description                                                                                                           |
|-----------------|--------|-----------------------------------------------------------------------------------------------------------------------|
| previous_marker | String | Specifies the marker of the previous page. The value is the resource UUID.<br>Minimum: <b>0</b><br>Maximum: <b>36</b> |

| Parameter     | Type    | Description                                                                                                                                                                |
|---------------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| current_count | Integer | Specifies the number of resources in the current list.<br>Minimum: <b>0</b><br>Maximum: <b>2000</b>                                                                        |
| next_marker   | String  | Specifies the marker of the next page. The value is the resource UUID. If the value is empty, the resource is on the last page.<br>Minimum: <b>0</b><br>Maximum: <b>36</b> |

### Example Requests

Querying the switchover test record list

GET https://{dc\_endpoint}/v3/de58f033eb664102ba85e4a5db473ca5/dcaas/switchover-test

### Example Responses

Status code: 200

OK

```
{
  "request_id" : "bb154519fb167f99cdb01b7b9995ad14",
  "switchover_test_records" : [ {
    "id" : "862d61f1-d9ea-4093-ba0e-2b8d415e3ab3",
    "tenant_id" : "de58f033eb664102ba85e4a5db473ca5",
    "resource_type" : "virtual_interface",
    "resource_id" : "d0b3329c-0063-470c-b1dc-657656b2e540",
    "operation" : "shutdown",
    "start_time" : "2023-10-10T10:41:23.000Z",
    "end_time" : "2023-10-10T10:41:23.000Z",
    "operate_status" : "COMPLETE"
  } ]
}
```

### Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

### Error Codes

See [Error Codes](#).

## 5.4 Tag management

## 5.4.1 Querying Tags by Resource Type

### Function

This API is used to query the tags of a resource type in a specific project. TMS uses this API to list tags created by a tenant to facilitate tag creation and resource filtering on the console.

### URI

GET /v3/{project\_id}/{resource\_type}/tags

**Table 5-132** Path Parameters

| Parameter     | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                         |
|---------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | String | Specifies the project ID.                                                                                                                                                                                                                                                                                                                                           |
| resource_type | Yes       | String | Specifies the Direct Connect resource type. <ul style="list-style-type: none"><li>• <b>dc-directconnect</b>: connection</li><li>• <b>dc-vgw</b>: virtual gateway</li><li>• <b>dc-vif</b>: virtual interface</li></ul> Enumeration values: <ul style="list-style-type: none"><li>• <b>dc-directconnect</b></li><li>• <b>dc-vgw</b></li><li>• <b>dc-vif</b></li></ul> |

### Request Parameters

None

### Response Parameters

Status code: 200

**Table 5-133** Response body parameters

| Parameter  | Type                        | Description               |
|------------|-----------------------------|---------------------------|
| tags       | Array of <b>Tag</b> objects | Specifies the tags.       |
| request_id | String                      | Specifies the request ID. |

**Table 5-134** Tag

| Parameter | Type   | Description                                                                                                                                                                                             |
|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| key       | String | Specifies the tag key. The key can contain a maximum of 36 Unicode characters, including letters, digits, hyphens (-), and underscores (_).<br>Minimum: <b>0</b><br>Maximum: <b>36</b>                  |
| value     | String | Specifies the tag value. The value can contain a maximum of 43 Unicode characters, including letters, digits, hyphens (-), underscores (_), and periods (.).<br>Minimum: <b>0</b><br>Maximum: <b>43</b> |

### Example Requests

GET https://{dc\_endpoint}/v3/ed28c294165741faecccab26913122a1/dc-directconnect/tags

### Example Responses

Status code: 200

OK

```
{
  "tags" : [ {
    "key" : "department",
    "value" : "finance"
  } ]
}
```

### Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

### Error Codes

See [Error Codes](#).

## 5.4.2 Querying Resource Tags

### Function

This API is used to query resource tags.



## URI

GET /v3/{project\_id}/{resource\_type}/{resource\_id}/tags

**Table 5-135** Path Parameters

| Parameter     | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                         |
|---------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | String | Specifies the project ID.                                                                                                                                                                                                                                                                                                                                           |
| resource_type | Yes       | String | Specifies the Direct Connect resource type. <ul style="list-style-type: none"><li>• <b>dc-directconnect</b>: connection</li><li>• <b>dc-vgw</b>: virtual gateway</li><li>• <b>dc-vif</b>: virtual interface</li></ul> Enumeration values: <ul style="list-style-type: none"><li>• <b>dc-directconnect</b></li><li>• <b>dc-vgw</b></li><li>• <b>dc-vif</b></li></ul> |
| resource_id   | Yes       | String | Specifies the resource ID.                                                                                                                                                                                                                                                                                                                                          |

## Request Parameters

None

## Response Parameters

**Status code: 200**

**Table 5-136** Response body parameters

| Parameter  | Type                        | Description                                                                           |
|------------|-----------------------------|---------------------------------------------------------------------------------------|
| tags       | Array of <b>Tag</b> objects | Specifies the tag list.                                                               |
| sys_tags   | Array of <b>Tag</b> objects | Specifies the list of queried tags. If no tag is matched, an empty array is returned. |
| request_id | String                      | Specifies the request ID.                                                             |

Table 5-137 Tag

| Parameter | Type   | Description                                                                                                                                                                                             |
|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| key       | String | Specifies the tag key. The key can contain a maximum of 36 Unicode characters, including letters, digits, hyphens (-), and underscores (_).<br>Minimum: <b>0</b><br>Maximum: <b>36</b>                  |
| value     | String | Specifies the tag value. The value can contain a maximum of 43 Unicode characters, including letters, digits, hyphens (-), underscores (_), and periods (.).<br>Minimum: <b>0</b><br>Maximum: <b>43</b> |

Example Requests

Querying tags of a resource

https://{endpoint}/v3/cfa563efb77d4b6d9960781d82530fd8/dc-vgw/resource-instances/action

Example Responses

Status code: 200

OK

```
{
  "request_id" : "80ef5f21-b81a-4546-b23d-84272507d330",
  "tags" : [ {
    "key" : "key2",
    "value" : "value2"
  }, {
    "key" : "key1",
    "value" : "value1"
  }, {
    "key" : "key3",
    "value" : "value3"
  } ]
}
```

Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

Error Codes

See [Error Codes](#).

## 5.4.3 Adding a Resource Tag

### Function

- A resource can have a maximum of 10 tags.
- This API is idempotent.
- If a to-be-created tag has the same key as an existing tag, the tag will be created and overwrite the existing one.

### URI

POST /v3/{project\_id}/{resource\_type}/{resource\_id}/tags

**Table 5-138** Path Parameters

| Parameter     | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                         |
|---------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | String | Specifies the project ID.                                                                                                                                                                                                                                                                                                                                           |
| resource_id   | Yes       | String | Specifies the resource ID.                                                                                                                                                                                                                                                                                                                                          |
| resource_type | Yes       | String | Specifies the Direct Connect resource type. <ul style="list-style-type: none"><li>• <b>dc-directconnect</b>: connection</li><li>• <b>dc-vgw</b>: virtual gateway</li><li>• <b>dc-vif</b>: virtual interface</li></ul> Enumeration values: <ul style="list-style-type: none"><li>• <b>dc-directconnect</b></li><li>• <b>dc-vgw</b></li><li>• <b>dc-vif</b></li></ul> |

### Request Parameters

**Table 5-139** Request body parameters

| Parameter | Mandatory | Type              | Description                 |
|-----------|-----------|-------------------|-----------------------------|
| tag       | Yes       | <b>Tag</b> object | Specifies the resource tag. |

Table 5-140 Tag

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                             |
|-----------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| key       | Yes       | String | Specifies the tag key. The key can contain a maximum of 36 Unicode characters, including letters, digits, hyphens (-), and underscores (_).<br>Minimum: <b>0</b><br>Maximum: <b>36</b>                  |
| value     | No        | String | Specifies the tag value. The value can contain a maximum of 43 Unicode characters, including letters, digits, hyphens (-), underscores (_), and periods (.).<br>Minimum: <b>0</b><br>Maximum: <b>43</b> |

Response Parameters

None

Example Requests

Adding tags to a resource

```
POST https://{endpoint}/v3/cfa563efb77d4b6d9960781d82530fd8/dc-vgw/3320166e-b937-40cc-a35c-02cd3f2b3ee2/tags
{
  "tag": {
    "key": "key1",
    "value": "value1"
  }
}
```

Example Responses

None

Status Codes

| Status Code | Description |
|-------------|-------------|
| 204         | No Content  |

## Error Codes

See [Error Codes](#).

## 5.4.4 Adding or Deleting Tags in Batches

### Function

This API is used to batch add tags to or delete tags from a specified resource. TMS needs to use this API to manage tags of resources in batches. A resource can have a maximum of 10 tags.

### URI

POST /v3/{project\_id}/{resource\_type}/{resource\_id}/tags/action

**Table 5-141** Path Parameters

| Parameter     | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                         |
|---------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | String | Specifies the project ID.                                                                                                                                                                                                                                                                                                                                           |
| resource_id   | Yes       | String | Specifies the resource ID.                                                                                                                                                                                                                                                                                                                                          |
| resource_type | Yes       | String | Specifies the Direct Connect resource type. <ul style="list-style-type: none"><li>● <b>dc-directconnect</b>: connection</li><li>● <b>dc-vgw</b>: virtual gateway</li><li>● <b>dc-vif</b>: virtual interface</li></ul> Enumeration values: <ul style="list-style-type: none"><li>● <b>dc-directconnect</b></li><li>● <b>dc-vgw</b></li><li>● <b>dc-vif</b></li></ul> |

## Request Parameters

**Table 5-142** Request body parameters

| Parameter | Mandatory | Type                        | Description                                                                                                                                                                                                                                              |
|-----------|-----------|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| action    | Yes       | String                      | Specifies the operation. The options are as follows: <ul style="list-style-type: none"><li>• <b>create</b></li><li>• <b>delete</b></li></ul> Enumeration values: <ul style="list-style-type: none"><li>• <b>create</b></li><li>• <b>delete</b></li></ul> |
| tags      | No        | Array of <b>Tag</b> objects | Specifies the tags.                                                                                                                                                                                                                                      |
| sys_tags  | No        | Array of <b>Tag</b> objects | Specifies the system tags.                                                                                                                                                                                                                               |

**Table 5-143** Tag

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                             |
|-----------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| key       | Yes       | String | Specifies the tag key. The key can contain a maximum of 36 Unicode characters, including letters, digits, hyphens (-), and underscores (_).<br>Minimum: <b>0</b><br>Maximum: <b>36</b>                  |
| value     | No        | String | Specifies the tag value. The value can contain a maximum of 43 Unicode characters, including letters, digits, hyphens (-), underscores (_), and periods (.).<br>Minimum: <b>0</b><br>Maximum: <b>43</b> |

## Response Parameters

None

## Example Requests

- Batch adding tags to resources

```
POST https://{endpoint}/v3/cfa563efb77d4b6d9960781d82530fd8/dc-vgw/3320166e-b937-40cc-a35c-02cd3f2b3ee2/tags/action
```

```
{
  "action": "create",
  "tags": [ {
    "key": "key1",
    "value": "value1"
  }, {
    "key": "key2",
    "value": "value2"
  } ]
}
```

- Batch deleting resource tags

```
POST https://{endpoint}/v3/cfa563efb77d4b6d9960781d82530fd8/dc-vgw/3320166e-b937-40cc-a35c-02cd3f2b3ee2/tags/action
```

```
{
  "action": "delete",
  "tags": [ {
    "key": "key1"
  }, {
    "key": "key2",
    "value": "value3"
  } ]
}
```

## Example Responses

None

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 204         | No Content  |

## Error Codes

See [Error Codes](#).

## 5.4.5 Deleting a Resource Tag

### Function

When a tag is deleted, the tag character set is not verified. Before calling this API, the API URL must be encoded. If the key to be deleted does not exist, 404 is displayed. The key cannot be left blank or an empty string.

### URI

```
DELETE /v3/{project_id}/{resource_type}/{resource_id}/tags/{key}
```

Table 5-144 Path Parameters

| Parameter     | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                         |
|---------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| key           | Yes       | String | Specifies the tag key.                                                                                                                                                                                                                                                                                                                                              |
| project_id    | Yes       | String | Specifies the project ID.                                                                                                                                                                                                                                                                                                                                           |
| resource_id   | Yes       | String | Specifies the resource ID.                                                                                                                                                                                                                                                                                                                                          |
| resource_type | Yes       | String | Specifies the Direct Connect resource type. <ul style="list-style-type: none"><li>● <b>dc-directconnect</b>: connection</li><li>● <b>dc-vgw</b>: virtual gateway</li><li>● <b>dc-vif</b>: virtual interface</li></ul> Enumeration values: <ul style="list-style-type: none"><li>● <b>dc-directconnect</b></li><li>● <b>dc-vgw</b></li><li>● <b>dc-vif</b></li></ul> |

Request Parameters

None

Response Parameters

None

Example Requests

Deleting tags from a resource

```
DELETE https://{dc-endpoint}/v3/cfa563efb77d4b6d9960781d82530fd8/instance/3320166e-b937-40cc-a35c-02cd3f2b3ee2/tags/key1
```

Example Responses

None

Status Codes

| Status Code | Description |
|-------------|-------------|
| 204         | No Content  |

Error Codes

See [Error Codes](#).



## 5.4.6 Querying Resources by Tag

### Function

This API is used to query resources such as virtual gateways and virtual interfaces by tag.

### URI

POST /v3/{project\_id}/{resource\_type}/resource-instances/action

**Table 5-145** Path Parameters

| Parameter     | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                         |
|---------------|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| project_id    | Yes       | String | Specifies the project ID.                                                                                                                                                                                                                                                                                                                                           |
| resource_type | Yes       | String | Specifies the Direct Connect resource type. <ul style="list-style-type: none"><li>• <b>dc-directconnect</b>: connection</li><li>• <b>dc-vgw</b>: virtual gateway</li><li>• <b>dc-vif</b>: virtual interface</li></ul> Enumeration values: <ul style="list-style-type: none"><li>• <b>dc-directconnect</b></li><li>• <b>dc-vgw</b></li><li>• <b>dc-vif</b></li></ul> |

## Request Parameters

**Table 5-146** Request body parameters

| Parameter | Mandatory | Type   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------|-----------|--------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| offset    | No        | String | Specifies the index position. The query starts from the next data record indexed by this parameter. You do not need to specify this parameter when you query resources on the first page. When you query resources on subsequent pages, set this parameter to the value returned in the response body for the previous query. This parameter is not available when <b>action</b> is set to <b>count</b> . If <b>action</b> is set to <b>filter</b> , the value must be a number, and the default value is <b>0</b> . The value cannot be a negative number. |
| limit     | No        | String | Specifies the number of records to be queried. This parameter is not available when <b>action</b> is set to <b>count</b> . If <b>action</b> is set to <b>filter</b> , the default value is <b>1000</b> . The maximum value is <b>1000</b> , and the minimum value is <b>1</b> . The value cannot be a negative number.                                                                                                                                                                                                                                      |
| action    | Yes       | String | Specifies the operation to perform, which can only be <b>filter</b> (filtering) or <b>count</b> (querying the total number). <b>filter</b> indicates pagination query. <b>count</b> indicates that the total number of query results meeting the search criteria will be returned. Returning other fields is not allowed.<br>Enumeration values: <ul style="list-style-type: none"><li>• <b>filter</b></li><li>• <b>count</b></li></ul>                                                                                                                     |

| Parameter | Mandatory | Type                          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------|-----------|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| matches   | No        | Array of <b>Match</b> objects | Specifies the search criteria. <b>key</b> is the field to match, for example, <b>resource_name</b> . <b>value</b> indicates the value to be matched. This field is a fixed dictionary value. Determine whether fuzzy match is required based on different fields. For example, if <b>key</b> is <b>resource_name</b> , fuzzy search (case insensitive) is used by default. If <b>value</b> is an empty string, exact match is used. If <b>key</b> is <b>resource_id</b> , exact match is used. Currently, only <b>resource_name</b> is supported. |
| not_tags  | No        | Array of <b>Tags</b> objects  | Specifies tags that are not included. Each tag contains a maximum of 10 keys, and each key contains a maximum of 10 values. The structure body cannot be missing, and the key cannot be left blank or set to an empty string. Keys must be unique and values of a key must be unique. Resources not identified by different keys are in AND relationship, and values in one tag are in OR relationship. If no filtering condition is specified, full data is returned.                                                                            |
| tags      | No        | Array of <b>Tags</b> objects  | Specifies tags that are included. Each tag contains a maximum of 10 keys, and each key contains a maximum of 10 values. The structure body cannot be missing, and the key cannot be left blank or set to an empty string. Keys must be unique and values of a key must be unique. Resources identified by different keys are in AND relationship, and values in one tag are in OR relationship. If no tag filtering criteria is specified, full data is returned.                                                                                 |

| Parameter    | Mandatory | Type                                  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------|-----------|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| tags_any     | No        | Array of <a href="#">Tags</a> objects | Specifies any tag that is included. Each tag contains a maximum of 10 keys, and each key contains a maximum of 10 values. The structure body cannot be missing, and the key cannot be left blank or set to an empty string. Keys must be unique and values of a key must be unique. Resources identified by different keys are in OR relationship, and values in one tag are in OR relationship. If no filtering condition is specified, full data is returned.         |
| not_tags_any | No        | Array of <a href="#">Tags</a> objects | Specifies any tag that is not included. Each tag contains a maximum of 10 keys, and each key contains a maximum of 10 values. The structure body cannot be missing, and the key cannot be left blank or set to an empty string. Keys must be unique and values of a key must be unique. Resources not identified by different keys are in OR relationship, and values in one tag are in OR relationship. If no filtering condition is specified, full data is returned. |

| Parameter | Mandatory | Type                         | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------|-----------|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| sys_tags  | No        | Array of <b>Tags</b> objects | Only users with the <b>op_service</b> permission can use this field to filter resources. Only one tag structure is contained when this API is called by Tag Management Service (TMS). <b>key</b> is <b>_sys_enterprise_project_id</b> , and <b>value</b> is the enterprise project ID list. When TMS invokes this API, a key can have only one value. <b>0</b> indicates the default enterprise project. <b>sys_tags</b> and tenant tag filtering conditions ( <b>without_any_tag</b> , <b>tags</b> , <b>tags_any</b> , <b>not_tags</b> , and <b>not_tags_any</b> ) cannot be used at the same time. |

Table 5-147 Match

| Parameter | Mandatory | Type   | Description                                                                                          |
|-----------|-----------|--------|------------------------------------------------------------------------------------------------------|
| key       | Yes       | String | Specifies the tag key. The value can be <b>dc-directconnect</b> , <b>dc-vgw</b> , or <b>dc-vif</b> . |
| value     | Yes       | String | Specifies the tag value. Each value can contain a maximum of 255 Unicode characters.                 |

Table 5-148 Tags

| Parameter | Mandatory | Type             | Description                                                                                                        |
|-----------|-----------|------------------|--------------------------------------------------------------------------------------------------------------------|
| key       | Yes       | String           | Specifies the tag key. Each tag key can contain a maximum of 127 Unicode characters. <b>key</b> must be specified. |
| values    | Yes       | Array of strings | Specifies the list of tag values. Each value can contain a maximum of 255 Unicode characters.                      |

## Response Parameters

Status code: 200

**Table 5-149** Response body parameters

| Parameter   | Type                             | Description                            |
|-------------|----------------------------------|----------------------------------------|
| resources   | Array of <b>Resource</b> objects | Specifies the resource list.           |
| total_count | Integer                          | Specifies the total number of records. |
| request_id  | String                           | Specifies the request ID.              |

**Table 5-150** Resource

| Parameter       | Type                        | Description                                                                                             |
|-----------------|-----------------------------|---------------------------------------------------------------------------------------------------------|
| resource_detail | Object                      | Specifies the resource details.                                                                         |
| resource_id     | String                      | Specifies the resource ID.                                                                              |
| resource_name   | String                      | Specifies the resource name. This parameter is an empty string by default if there is no resource name. |
| tags            | Array of <b>Tag</b> objects | Specifies the list of queried tags. If no tag is matched, an empty array is returned.                   |
| sys_tags        | Array of <b>Tag</b> objects | Specifies the list of queried tags. If no tag is matched, an empty array is returned.                   |

**Table 5-151** Tag

| Parameter | Type   | Description                                                                                                                                                                                             |
|-----------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| key       | String | Specifies the tag key. The key can contain a maximum of 36 Unicode characters, including letters, digits, hyphens (-), and underscores (_).<br>Minimum: <b>0</b><br>Maximum: <b>36</b>                  |
| value     | String | Specifies the tag value. The value can contain a maximum of 43 Unicode characters, including letters, digits, hyphens (-), underscores (_), and periods (.).<br>Minimum: <b>0</b><br>Maximum: <b>43</b> |

## Example Requests

- Querying resources (**action** set to **filter**)

`https://{endpoint}/v3/cfa563efb77d4b6d9960781d82530fd8/dc-vgw/resource-instances/action`

```
{
  "offset": "10",
  "limit": "10",
  "action": "filter",
  "matches": [ {
    "key": "resource_name",
    "value": "resource1"
  } ],
  "not_tags": [ {
    "key": "key1",
    "values": [ "*value1", "value2" ]
  } ],
  "tags": [ {
    "key": "key1",
    "values": [ "*value1", "value2" ]
  } ],
  "tags_any": [ {
    "key": "key1",
    "values": [ "value1", "value2" ]
  } ],
  "not_tags_any": [ {
    "key": "key1",
    "values": [ "value1", "value2" ]
  } ]
}
```

- Querying the total number of resources (**action** set to **count**)

`https://{endpoint}/v3/cfa563efb77d4b6d9960781d82530fd8/dc-vgw/resource-instances/action`

```
{
  "action": "count",
  "not_tags": [ {
    "key": "key1",
    "values": [ "value1", "*value2" ]
  } ],
  "tags": [ {
    "key": "key1",
    "values": [ "value1", "value2" ]
  }, {
    "key": "key2",
    "values": [ "value1", "value2" ]
  } ],
  "tags_any": [ {
    "key": "key1",
    "values": [ "value1", "value2" ]
  } ],
  "not_tags_any": [ {
    "key": "key1",
    "values": [ "value1", "value2" ]
  } ],
  "sys_tags": [ {
    "key": "_sys_enterprise_project_id",
    "values": [ "5aa119a8-d25b-45a7-8d1b-88e127885635" ]
  } ],
  "matches": [ {
    "key": "resource_name",
    "value": "resource1"
  } ]
}
```

## Example Responses

Status code: 200

OK

```
{
  "resources" : [ ],
  "total_count" : 0,
  "request_id" : "9a4f4dfc4fb2fc101e65bba07d908535"
}
```

## Status Codes

| Status Code | Description |
|-------------|-------------|
| 200         | OK          |

## Error Codes

See [Error Codes](#).

# 5.5 Quota Management

## 5.5.1 Querying Resource Quotas

### Function

This API is used to query the usage of resources, for example, how many connections and virtual interfaces have been created.

### URI

GET /v3/{project\_id}/dcaas/quotas

**Table 5-152** Path Parameters

| Parameter  | Mandatory | Type   | Description               |
|------------|-----------|--------|---------------------------|
| project_id | Yes       | String | Specifies the project ID. |



Table 5-153 Query Parameters

| Parameter | Mandatory | Type  | Description                                                                                                                                                                                                            |
|-----------|-----------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| type      | No        | Array | Specifies the resource quotas. <ul style="list-style-type: none"><li>• <b>physicalConnect</b>: quota and usage of the connection</li><li>• <b>virtualInterface</b>: quota and usage of the virtual interface</li></ul> |

Request Parameters

None

Response Parameters

Status code: 201

Table 5-154 Response body parameters

| Parameter | Type                          | Description                  |
|-----------|-------------------------------|------------------------------|
| quotas    | <a href="#">quotas</a> object | Provides used quota details. |

Table 5-155 quotas

| Parameter | Type                                  | Description                         |
|-----------|---------------------------------------|-------------------------------------|
| resources | Array of <a href="#">Info</a> objects | Lists the used quotas of resources. |

Table 5-156 Info

| Parameter | Type   | Description                                                                                |
|-----------|--------|--------------------------------------------------------------------------------------------|
| type      | String | Specifies the quota type.                                                                  |
| quota     | Long   | Specifies the available quota. The value <b>-1</b> indicates that there is no quota limit. |
| used      | Long   | Specifies the used quotas.                                                                 |
| unit      | String | Specifies the measurement unit of resource usage.                                          |

## Example Requests

Querying quotas

```
GET https://{dc_endpoint}/v3/08d5a9564a704afda6039ae2babbe3c/dcaas/quotas
```

## Example Responses

**Status code: 201**

Quotas are queried.

```
{
  "quotas" : {
    "resources" : [ {
      "type" : "direct_connect",
      "quota" : 1,
      "used" : 0,
      "unit" : "count"
    } ]
  }
}
```

## Status Codes

| Status Code | Description         |
|-------------|---------------------|
| 201         | Quotas are queried. |

## Error Codes

See [Error Codes](#).

# 6 Public Parameters

## 6.1 Common Status Codes

| Successful Response | Message    | Description                                     |
|---------------------|------------|-------------------------------------------------|
| 200                 | OK         | Normal response code for GET and PUT operations |
| 201                 | Created    | Normal response code for POST operations        |
| 204                 | No Content | Normal response code for DELETE operations      |

| Error Response                    | Description                                                                            |
|-----------------------------------|----------------------------------------------------------------------------------------|
| 400 Bad Request                   | The server failed to process the request.                                              |
| 401 Unauthorized                  | You must enter the username and password to access the requested page.                 |
| 403 Forbidden                     | You are forbidden to access the requested page.                                        |
| 404 Not Found                     | The server could not find the requested page.                                          |
| 405 Method Not Allowed            | You are not allowed to use the method specified in the request.                        |
| 406 Not Acceptable                | The response generated by the server could not be received by the client.              |
| 407 Proxy Authentication Required | You must use the proxy server for authentication so that the request can be processed. |

| Error Response            | Description                                                                                           |
|---------------------------|-------------------------------------------------------------------------------------------------------|
| 408 Request Timeout       | The request timed out.                                                                                |
| 409 Conflict              | The request could not be processed due to a conflict.                                                 |
| 500 Internal Server Error | The request is not completed because the service is abnormal.                                         |
| 501 Not Implemented       | The request is not completed because the server does not support the requested function.              |
| 502 Bad Gateway           | The request is not completed because the server receives an invalid response from an upstream server. |
| 503 Service Unavailable   | The request is not completed because the system is out of service temporarily.                        |
| 504 Gateway Timeout       | A gateway timed out.                                                                                  |

## 6.2 Error Codes

| Status Code | Error Code | Description                   | Solution                                                   |
|-------------|------------|-------------------------------|------------------------------------------------------------|
| 400         | DC.0000    | The request body is abnormal. | Correct the parameter settings and send the request again. |
| 400         | DC.0001    | Request parameter error.      | Correct the parameter settings and send the request again. |
| 400         | DC.0002    | The resource does not exist.  | Correct the parameter settings and send the request again. |
| 400         | DC.0003    | System error.                 | Correct the parameter settings and send the request again. |
| 400         | DC.0004    | Invalid IP address.           | Correct the parameter settings and send the request again. |
| 400         | DC.0005    | Failed to call the VPC API.   | Correct the parameter settings and send the request again. |

| Status Code | Error Code | Description                                                               | Solution                                                   |
|-------------|------------|---------------------------------------------------------------------------|------------------------------------------------------------|
| 400         | DC.0006    | Failed to call the MO API.                                                | Correct the parameter settings and send the request again. |
| 400         | DC.0007    | The VPC does not exist.                                                   | Correct the parameter settings and send the request again. |
| 400         | DC.0008    | The BGP ASN is out of range.                                              | Correct the parameter settings and send the request again. |
| 400         | DC.0009    | Invalid policy.                                                           | Contact technical support.                                 |
| 400         | DC.0010    | The VPC_VNI does not exist.                                               | Contact technical support.                                 |
| 400         | DC.0011    | The AGENT is abnormal.                                                    | Correct the parameter settings and send the request again. |
| 400         | DC.0012    | Failed to call the CBC API.                                               | Contact technical support.                                 |
| 400         | DC.0013    | You have no permission to operate the field.                              | Contact technical support.                                 |
| 400         | DC.1000    | Insufficient connection bandwidth.                                        | Contact technical support.                                 |
| 400         | DC.1001    | A VLAN is specified for a non-hosted connection.                          | Contact technical support.                                 |
| 400         | DC.1002    | Failed to create a hosted connection.                                     | Contact technical support.                                 |
| 400         | DC.1003    | A VLAN is not specified for a hosted connection.                          | Contact technical support.                                 |
| 400         | DC.1004    | A non-operations connection is selected for creating a hosted connection. | Contact technical support.                                 |
| 400         | DC.1005    | The connection is abnormal.                                               | Contact technical support.                                 |
| 400         | DC.1006    | The device and type cannot be modified when the connection is in use.     | Contact technical support.                                 |
| 400         | DC.1007    | The connection is in use.                                                 | Contact technical support.                                 |

| Status Code | Error Code | Description                                                              | Solution                   |
|-------------|------------|--------------------------------------------------------------------------|----------------------------|
| 400         | DC.1008    | Hosted connection VLANs conflict.                                        | Contact technical support. |
| 400         | DC.1010    | Connection bandwidth is decreased.                                       | Contact technical support. |
| 400         | DC.1011    | Connection bandwidth cannot be changed.                                  | Contact technical support. |
| 400         | DC.1012    | The connection does not exist.                                           | Contact technical support. |
| 400         | DC.1014    | A redundant connection is set for a non-standard connection.             | Contact technical support. |
| 400         | DC.1015    | The connection or LAG does not exist.                                    | Contact technical support. |
| 400         | DC.1017    | The VLAN ID of the hosted connection is 0.                               | Contact technical support. |
| 400         | DC.1019    | The connection quota has been used up.                                   | Contact technical support. |
| 400         | DC.1100    | The local endpoint group ID of the virtual gateway is invalid.           | Contact technical support. |
| 400         | DC.1101    | The number of local subnets exceeds the limit.                           | Contact technical support. |
| 400         | DC.1102    | The standby device is specified when the active device is not specified. | Contact technical support. |
| 400         | DC.1103    | The active and standby devices are the same.                             | Contact technical support. |
| 400         | DC.1104    | The device information cannot be updated for the virtual gateway.        | Contact technical support. |
| 400         | DC.1105    | The local CIDR block overlap with the remote CIDR block.                 | Contact technical support. |
| 400         | DC.1106    | The virtual gateway is in use.                                           | Contact technical support. |
| 400         | DC.1107    | Virtual gateway VLANs are exhausted.                                     | Contact technical support. |
| 400         | DC.1108    | Virtual gateway VNIs are exhausted.                                      | Contact technical support. |

| Status Code | Error Code | Description                                                                                                  | Solution                   |
|-------------|------------|--------------------------------------------------------------------------------------------------------------|----------------------------|
| 400         | DC.1109    | Virtual gateway VRFs are exhausted.                                                                          | Contact technical support. |
| 400         | DC.1110    | A virtual gateway has been associated with the VPC.                                                          | Contact technical support. |
| 400         | DC.1111    | The virtual gateway does not exist.                                                                          | Contact technical support. |
| 400         | DC.1112    | The devices used by the virtual gateway are not in active/standby mode.                                      | Contact technical support. |
| 400         | DC.1113    | The virtual gateway is in the cutover state.                                                                 | Contact technical support. |
| 400         | DC.1114    | <b>traffic_mode</b> cannot be updated for VLANs or virtual gateways with a single VTEP device.               | Contact technical support. |
| 400         | DC.1115    | The VNI of the virtual gateway does not exist.                                                               | Contact technical support. |
| 400         | DC.1116    | Failed to update the route gateway.                                                                          | Contact technical support. |
| 400         | DC.1117    | The virtual gateway has been associated with two connections and cannot be associated with more connections. | Contact technical support. |
| 400         | DC.1118    | The virtual gateway is being operated (locked).                                                              | Contact technical support. |
| 400         | DC.1119    | Failed to create the route gateway device group.                                                             | Contact technical support. |
| 400         | DC.1120    | The <b>main_az_list</b> configuration item is incorrect.                                                     | Contact technical support. |
| 400         | DC.1200    | No LAG or connection is specified for the virtual interface.                                                 | Contact technical support. |
| 400         | DC.1201    | The connection does not match the virtual gateway type.                                                      | Contact technical support. |
| 400         | DC.1202    | Virtual interfaces of the <b>double ipsec</b> type cannot be created.                                        | Contact technical support. |

| Status Code | Error Code | Description                                                                                    | Solution                   |
|-------------|------------|------------------------------------------------------------------------------------------------|----------------------------|
| 400         | DC.1203    | No ASN is specified for the BGP virtual interface.                                             | Contact technical support. |
| 400         | DC.1204    | Creating virtual interfaces is not supported for operations connections.                       | Contact technical support. |
| 400         | DC.1205    | The status of the resource associated with the virtual interface is abnormal.                  | Contact technical support. |
| 400         | DC.1206    | The hosted connection has been associated with a virtual interface.                            | Contact technical support. |
| 400         | DC.1207    | The VLAN of the virtual interface is inconsistent with that of the hosted connection.          | Contact technical support. |
| 400         | DC.1208    | The bandwidth of the virtual interface associated with a hosted connection cannot be modified. | Contact technical support. |
| 400         | DC.1209    | Virtual interface VLANs conflict.                                                              | Contact technical support. |
| 400         | DC.1210    | The virtual interface status cannot be changed.                                                | Contact technical support. |
| 400         | DC.1211    | The virtual interface does not exist.                                                          | Contact technical support. |
| 400         | DC.1212    | The virtual gateway is in a different group from the connection.                               | Contact technical support. |
| 400         | DC.1213    | The virtual interface does not match the tenant.                                               | Contact technical support. |
| 400         | DC.1214    | The virtual interface has been used.                                                           | Contact technical support. |
| 400         | DC.1215    | The virtual interface type does not match.                                                     | Contact technical support. |
| 400         | DC.1216    | The local gateway is invalid.                                                                  | Contact technical support. |
| 400         | DC.1217    | The IES edge site ID of the connection does not match that of the local gateway.               | Contact technical support. |



| Status Code | Error Code | Description                                                                                               | Solution                   |
|-------------|------------|-----------------------------------------------------------------------------------------------------------|----------------------------|
| 400         | DC.1218    | The local gateway does not match.                                                                         | Contact technical support. |
| 400         | DC.1219    | A virtual interface with VLAN 0 is created.                                                               | Contact technical support. |
| 400         | DC.1220    | The <b>vif email</b> field on the public network is empty.                                                | Contact technical support. |
| 400         | DC.1221    | The selected virtual gateway device does not support access from Direct Connect locations.                | Contact technical support. |
| 400         | DC.1222    | Insufficient POP VNIs.                                                                                    | Contact technical support. |
| 400         | DC.1223    | The local BGP ASN is the same as the remote BGP ASN.                                                      | Contact technical support. |
| 400         | DC.1224    | The virtual interface of the connection terminated at a Direct Connect location does not support VLAN 0.  | Contact technical support. |
| 400         | DC.1225    | The number of virtual interfaces for which traffic statistics collection is enabled reaches the limit.    | Contact technical support. |
| 400         | DC.1226    | Traffic statistics collection cannot be enabled on Layer 2 remote interfaces that have no sub-interfaces. | Contact technical support. |
| 400         | DC.1227    | Traffic statistics cannot be updated because the virtual interface is abnormal.                           | Contact technical support. |
| 400         | DC.1400    | The number of endpoint groups reaches the limit.                                                          | Contact technical support. |
| 400         | DC.1401    | Duplicate CIDR blocks.                                                                                    | Contact technical support. |
| 400         | DC.1402    | The endpoint group is in use.                                                                             | Contact technical support. |
| 400         | DC.1403    | The endpoint group does not exist.                                                                        | Contact technical support. |

# A Appendixes

## A.1 Obtaining a Project ID

### Scenarios

A project ID is required for some URLs when an API is called. Therefore, you need to obtain a project ID in advance. Two methods are available:

- [Obtain the Project ID by Calling an API](#)
- [Obtain the Project ID from the Console](#)

### Obtain the Project ID by Calling an API

You can obtain the project ID by calling the IAM API used to query project information based on the specified criteria.

The API used to obtain a project ID is GET `https://{Endpoint}/v3/projects`. {Endpoint} is the IAM endpoint and can be obtained from [Regions and Endpoints](#). For details about API authentication, see [Authentication](#).

The following is an example response. The value of **id** is the project ID.

```
{
  "projects": [
    {
      "domain_id": "65ewtrgaggshhk1223245sghjlse684b",
      "is_domain": false,
      "parent_id": "65ewtrgaggshhk1223245sghjlse684b",
      "name": "project_name",
      "description": "",
      "links": {
        "next": null,
        "previous": null,
        "self": "https://www.example.com/v3/projects/a4adasfjljaaakla12334jklga9sasfg"
      },
      "id": "a4adasfjljaaakla12334jklga9sasfg",
      "enabled": true
    }
  ],
  "links": {
    "next": null,
    "previous": null,
  }
}
```

```
    "self": "https://www.example.com/v3/projects"  
  }  
}
```

## Obtain a Project ID from the Console

To obtain a project ID from the console, perform the following operations:

1. Log in to the management console.
2. Click the username and select **My Credentials** from the drop-down list.

On the **My Credentials** page, view the project ID (value in the **Project ID** column).

# B Change History

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| Released On | Description                               |
|-------------|-------------------------------------------|
| 2024-07-30  | This issue is the first official release. |