

Direct Connect

API Reference

Issue 01
Date 2023-12-07



Copyright © Huawei Technologies Co., Ltd. 2023. All rights reserved.

No part of this document may be reproduced or transmitted in any form or by any means without prior written consent of Huawei Technologies Co., Ltd.

Trademarks and Permissions



HUAWEI and other Huawei trademarks are trademarks of Huawei Technologies Co., Ltd.

All other trademarks and trade names mentioned in this document are the property of their respective holders.

Notice

The purchased products, services and features are stipulated by the contract made between Huawei and the customer. All or part of the products, services and features described in this document may not be within the purchase scope or the usage scope. Unless otherwise specified in the contract, all statements, information, and recommendations in this document are provided "AS IS" without warranties, guarantees or representations of any kind, either express or implied.

The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied.

Security Declaration

Vulnerability

Huawei's regulations on product vulnerability management are subject to "Vul. Response Process". For details about the policy, see the following website:<https://www.huawei.com/en/psirt/vul-response-process>
For enterprise customers who need to obtain vulnerability information, visit:<https://securitybulletin.huawei.com/enterprise/en/security-advisory>

Contents

1 API Overview.....	1
2 Calling APIs.....	2
2.1 Making an API Request.....	2
2.2 Authentication.....	6
2.3 Response.....	7
3 API Usage.....	10
4 APIs.....	11
4.1 Connection.....	11
4.1.1 Querying Details About a Connection.....	11
4.1.2 Updating a Connection.....	18
4.1.3 Deleting a Connection.....	26
4.1.4 Querying the Connection List.....	28
4.1.5 Querying the Hosted Connection List.....	36
4.1.6 Creating a Hosted Connection.....	42
4.1.7 Querying Details About a Hosted Connection.....	48
4.1.8 Updating a Hosted Connection.....	52
4.1.9 Deleting a Hosted Connection.....	57
4.2 Virtual Gateway.....	59
4.2.1 Querying Details About a Virtual Gateway.....	59
4.2.2 Updating a Virtual Gateway.....	62
4.2.3 Deleting a Virtual Gateway.....	66
4.2.4 Querying Virtual Gateways.....	68
4.2.5 Creating a Virtual Gateway.....	73
4.3 Virtual Interface.....	77
4.3.1 Querying Details About a Virtual Interface.....	77
4.3.2 Updating a Virtual Interface.....	86
4.3.3 Deleting a Virtual Interface.....	96
4.3.4 Querying the Virtual Interface List.....	97
4.3.5 Creating a Virtual Interface.....	107
4.4 Tag management.....	119
4.4.1 Querying Tags by Resource Type.....	119
4.4.2 Querying Resource Tags.....	121

4.4.3 Adding a Resource Tag.....	123
4.4.4 Adding or Deleting Tags in Batches.....	126
4.4.5 Deleting a Resource Tag.....	128
4.4.6 Querying Resources by Tag.....	130
4.5 Quota Management.....	137
4.5.1 Querying Resource Quotas.....	137
5 Public Parameters.....	140
5.1 Common Status Codes.....	140
5.2 Error Codes	141
A Appendixes.....	147
A.1 Obtaining a Project ID.....	147
B Change History.....	149

1 API Overview

Direct Connect provides Huawei-developed REST APIs.

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

Table 1-1 describes the APIs provided by Direct Connect.

Table 1-1 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, and creating a virtual interface
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

2 Calling APIs

2.1 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 2-1 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 Regions and Endpoints. For example, the endpoint of IAM in region Dublin is iam.myhuaweicloud.eu .
resource-path	Access path of an API for performing a specified operation. Obtain the path from the URI of an API. For example, the resource-path of the API used to obtain a user token is /v3/auth/tokens .

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, ?limit=10 indicates that a maximum of 10 data records will be displayed.

For example, to obtain an IAM token in the **Dublin** region, obtain the endpoint of IAM (**iam.myhuaweicloud.eu**) 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.myhuaweicloud.eu/v3/auth/tokens
```

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 2-2 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.
PATCH	Requests the server to update partial content of a specified resource. 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.myhuaweicloud.eu/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 2-3 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 https is 443 .	No This field is mandatory for AK/SK authentication.	code.test.com or code.test.com:443
Content-Type	Specifies the type (or format) of the message body. The default value application/json 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
X-Project-Id	Specifies the project ID. Obtain the project ID by following the instructions in Obtaining a Project ID .	No This field is mandatory for requests that use AK/SK authentication in the Dedicated Cloud (DeC) scenario or multi-project scenario.	e9993fc787d94b6c886cbaa340f9c0f4

Parameter	Description	Mandatory	Example Value
X-Auth-Token	<p>Specifies the user token. It is a response to the API for obtaining a user token (This is the only API that does not require authentication).</p> <p>After the request is processed, the value of X-Subject-Token in the response header is the token value.</p>	<p>No</p> <p>This field is mandatory for token authentication.</p>	<p>The following is part of an example token:</p> <p>MIIPAgYJKoZlhvcNAQcCo...ggg1BBIINPXsidG9rZ</p>

 **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.myhuaweicloud.eu/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*, ******* (login password), and *xxxxxxxxxxxxxxxxxxxx* (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.myhuaweicloud.eu/v3/auth/tokens
Content-Type: application/json
```

```
{
  "auth": {
    "identity": {
      "methods": [
        "password"
      ],
      "password": {
        "user": {
          "name": "username",
          "password": "*****",
          "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.

2.2 Authentication

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

- Token authentication: Requests are authenticated using tokens.
- 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

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": "*****", // IAM user password
"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.myhuaweicloud.eu/v3/auth/projects
Content-Type: application/json
X-Auth-Token: ABCDEFJ....
```

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.

2.3 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 2-1 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.

Figure 2-1 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 → MIIVXQVJKoZlhcNAQcCoIIYJCCGEoCAQExDTALBglghkgBZQMEAgEwgharBgkqhkiG9w0B8wGgghacBIIIWmHsidG9rZW4iOnsiZXhwaXJlc19hdCI6IjwMTktMDItMTNUMC
fj3KJs6YgKnpVNRbW2eZ5eb78SZOkqjACgklqO1wi4JlGzrpd18LGXK5bldfq4lqHCYb8P4NaY0NYejcAgzJVeFYtLWT1GSO0zxKZmlQHqj82HBqHdgIZO9fuEbL5dMhdavj+33wEI
xHRCE9I87o+k9-
j+CMZSEB7bUGd5Uj6eRASXl1jipPEGA270g1FruooL6jaglfKkNPQuFSOU8+uSsttVwRtNfsC+qTp22Rkd5MCqFGQ8LcuUxC3a+9CMBnOintWW7oeRUVhVpxk8pxiX1wTEboX-
RzT6MUbpvGw-oPNFYxJECKnoH3HRozv0vN--n5d6Nbxg==
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 format of message is error",

```

```
} "error_code": "AS.0001"
```

In the response body, **error_code** is an error code, and **error_msg** provides information about the error.

3 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.

4 APIs

4.1 Connection

4.1.1 Querying Details About a Connection

Function

This API is used to query details about a connection.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v3/{project_id}/dcaas/direct-connects/{direct_connect_id}

Table 4-1 Path Parameters

Parameter	Mandatory	Type	Description
direct_connect_id	Yes	String	Specifies the connection ID. Minimum: 36 Maximum: 36
project_id	Yes	String	Specifies the project ID.

Table 4-2 Query Parameters

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

Request Parameters

Table 4-3 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 X-Subject-Token in the response header. Minimum: 0 Maximum: 10240

Response Parameters

Status code: **200**

Table 4-4 Response body parameters

Parameter	Type	Description
request_id	String	Specifies the request ID.
direct_connect	DirectConnect object	Specifies parameters for creating a connection.

Table 4-5 DirectConnect

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

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

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

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

Parameter	Type	Description
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. Default: default Enumeration values: <ul style="list-style-type: none"> • default
lag_id	String	Specifies the ID of the LAG that the connection belongs to.
signed_agreement_status	String	Specifies the signing status of the Direct Connect agreement. Enumeration values: <ul style="list-style-type: none"> • signed
signed_agreement_time	String	Specifies the time when the line agreement is signed.
enterprise_project_id	String	Specifies the ID of the enterprise project that the connection belongs to. Minimum: 36 Maximum: 36
locales	LocalesBody 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 Error .

Parameter	Type	Description
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.
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. Minimum: 0 Maximum: 100

Table 4-6 LocalesBody

Parameter	Type	Description
en_us	String	Specifies the region name in English. Minimum: 0 Maximum: 255

Parameter	Type	Description
zh_cn	String	Specifies the region name in Chinese. Minimum: 0 Maximum: 255

Example Requests

Querying details about a connection

```
GET https://{dc_endpoint}/v3/6f9e9263116a4b68818cf1edce16bc4f/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](#).

4.1.2 Updating a Connection

Function

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

Calling Method

For details, see [Calling APIs](#).

URI

```
PUT /v3/{project_id}/dcaas/direct-connects/{direct_connect_id}
```

Table 4-7 Path Parameters

Parameter	Mandatory	Type	Description
direct_connect_id	Yes	String	Specifies the connection ID. Minimum: 36 Maximum: 36
project_id	Yes	String	Specifies the project ID.

Request Parameters

Table 4-8 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 X-Subject-Token in the response header. Minimum: 0 Maximum: 10240

Table 4-9 Request body parameters

Parameter	Mandatory	Type	Description
direct_connect	No	UpdateDirectConnect object	Specifies parameters required for updating a connection.

Table 4-10 UpdateDirectConnect

Parameter	Mandatory	Type	Description
name	No	String	Specifies the connection name. Minimum: 0 Maximum: 64

Parameter	Mandatory	Type	Description
description	No	String	Provides supplementary information about the connection. Minimum: 0 Maximum: 128
bandwidth	No	Integer	Specifies the bandwidth size of the hosted connection in Mbit/s. Minimum: 2 Maximum: 100000
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. Minimum: 0 Maximum: 255
status	No	String	Specifies the resource status, which can be PENDING_PAY . Enumeration values: <ul style="list-style-type: none"> • PENDING_PAY
provider_statuses	No	String	Specifies the carrier status, which can be ACTIVE or DOWN . Enumeration values: <ul style="list-style-type: none"> • ACTIVE • DOWN

Response Parameters

Status code: 200

Table 4-11 Response body parameters

Parameter	Type	Description
request_id	String	Specifies the request ID.
direct_connect	DirectConnect object	Specifies parameters for creating a connection.

Table 4-12 DirectConnect

Parameter	Type	Description
id	String	Specifies the connection ID.
tenant_id	String	Specifies the ID of the project that the instance belongs to.
name	String	Specifies the connection name. Minimum: 0 Maximum: 64
description	String	Provides supplementary information about the connection. Minimum: 0 Maximum: 128
port_type	String	Specifies the type of the port used by the connection. The value can be 1G , 10G , 40G , or 100G . Enumeration values: <ul style="list-style-type: none">• 1G• 10G• 40G• 100G
bandwidth	Integer	Specifies the connection bandwidth in Mbit/s. Minimum: 2 Maximum: 100000
location	String	Specifies information about the Direct Connect location. Minimum: 0 Maximum: 255
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. Minimum: 0 Maximum: 255
device_id	String	Specifies the ID of the device connected to the connection. Minimum: 0 Maximum: 36

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

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

Parameter	Type	Description
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. Default: default Enumeration values: <ul style="list-style-type: none"> • default
lag_id	String	Specifies the ID of the LAG that the connection belongs to.
signed_agreement_status	String	Specifies the signing status of the Direct Connect agreement. Enumeration values: <ul style="list-style-type: none"> • signed
signed_agreement_time	String	Specifies the time when the line agreement is signed.
enterprise_project_id	String	Specifies the ID of the enterprise project that the connection belongs to. Minimum: 36 Maximum: 36
locales	LocalesBody 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 Error .

Parameter	Type	Description
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.
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. Minimum: 0 Maximum: 100

Table 4-13 LocalesBody

Parameter	Type	Description
en_us	String	Specifies the region name in English. Minimum: 0 Maximum: 255

Parameter	Type	Description
zh_cn	String	Specifies the region name in Chinese. Minimum: 0 Maximum: 255

Example Requests

Updating the name and description of a connection

```
PUT https://{dc_endpoint}/v3/6f9e9263116a4b68818cf1edce16bc4f/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](#).

4.1.3 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.

Calling Method

For details, see [Calling APIs](#).

URI

```
DELETE /v3/{project_id}/dcaas/direct-connects/{direct_connect_id}
```

Table 4-14 Path Parameters

Parameter	Mandatory	Type	Description
direct_connect_id	Yes	String	Specifies the connection ID. Minimum: 36 Maximum: 36
project_id	Yes	String	Specifies the project ID.

Request Parameters

Table 4-15 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 X-Subject-Token in the response header. Minimum: 0 Maximum: 10240

Response Parameters

None

Example Requests

Deleting a connection

```
DELETE https://{dc_endpoint}/v3/6f9e9263116a4b68818cf1edce16bc4f/dcaas/direct-connects/6ecd9cf3-ca64-46c7-863f-f2eb1b9e838a
```

Example Responses

None

Status Codes

Status Code	Description
204	No Content

Error Codes

See [Error Codes](#).

4.1.4 Querying the Connection List

Function

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

Calling Method

For details, see [Calling APIs](#).

URI

GET /v3/{project_id}/dcaas/direct-connects

Table 4-16 Path Parameters

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

Table 4-17 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Specifies the number of records returned on each page. Value range: 1 to 2000 Minimum: 1 Maximum: 2000 Default: 2000
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 limit . Minimum: 0 Maximum: 36
fields	No	Array	Specifies the list of fields to be displayed. Array Length: 1 - 5

Parameter	Mandatory	Type	Description
sort_key	No	String	Specifies the sorting field. Default: id Minimum: 0 Maximum: 36
sort_dir	No	Array	Specifies the sorting order of returned results, which can be asc (ascending order) or desc (descending order). The default value is asc .
hosting_id	No	Array	Specifies operations connection ID by which hosted connections are filtered. Array Length: 0 - 5
enterprise_project_id	No	Array	Filters resource instances by enterprise project ID. Array Length: 1 - 10
id	No	Array	Specifies the resource ID by which instances are filtered. Array Length: 1 - 5
name	No	Array	Specifies the resource name by which instances are filtered. You can specify multiple names. Array Length: 1 - 5

Request Parameters

Table 4-18 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 X-Subject-Token in the response header. Minimum: 0 Maximum: 10240

Response Parameters

Status code: 200

Table 4-19 Response body parameters

Parameter	Type	Description
request_id	String	Specifies the request ID.
direct_connections	Array of DirectConnect objects	Specifies parameters for creating a connection.
page_info	PageInfo object	Specifies the pagination query information.

Table 4-20 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. Minimum: 0 Maximum: 64
description	String	Provides supplementary information about the connection. Minimum: 0 Maximum: 128
port_type	String	Specifies the type of the port used by the connection. The value can be 1G , 10G , 40G , or 100G . Enumeration values: <ul style="list-style-type: none">• 1G• 10G• 40G• 100G
bandwidth	Integer	Specifies the connection bandwidth in Mbit/s. Minimum: 2 Maximum: 100000

Parameter	Type	Description
location	String	Specifies information about the Direct Connect location. Minimum: 0 Maximum: 255
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. Minimum: 0 Maximum: 255
device_id	String	Specifies the ID of the device connected to the connection. Minimum: 0 Maximum: 36
type	String	Specifies the type of a connection. The value can be standard (a standard connection), hosting (an operations connection) or hosted (a hosted connection). Default: standard Enumeration values: <ul style="list-style-type: none"> • standard • hosting • hosted • onestop_standard • onestop_hosted
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 prepayment , bandwidth , or traffic . Enumeration values: <ul style="list-style-type: none"> • prepayment • bandwidth • traffic
provider	String	Specifies the line carrier of a connection.
admin_state_up	Boolean	Specifies the administrative status, which can be true or false . Default: true

Parameter	Type	Description
vlan	Integer	Specifies the VLAN allocated to the hosted connection. Minimum: 0 Maximum: 3999
status	String	Specifies the connection status. The options are as follows: ACTIVE : The connection is in the normal state. DOWN : The port for the connection is in the down state, which may cause line faults. BUILD : Operations related to the connection are being performed. ERROR : The connection configuration is incorrect. Contact customer service to rectify the fault. PENDING_DELETE : The connection is being deleted. DELETED : The connection has been deleted. APPLY : A request for a connection is submitted. DENY : A site survey is rejected because the customer fails to meet the requirements. PENDING_PAY : The order for the connection is to be paid. PAID : The order for the connection has been paid. PENDING_SURVEY : A site survey is required for the connection. Enumeration values: <ul style="list-style-type: none"> ● BUILD ● PAID ● APPLY ● PENDING_SURVEY ● ACTIVE ● DOWN ● ERROR ● PENDING_DELETE ● DELETED ● DENY ● PENDING_PAY
apply_time	String	Specifies when the connection was requested.
create_time	String	Specifies when the connection was created.
provider_statuses	String	Specifies the status of the carrier's leased line. The status can be ACTIVE or DOWN . Enumeration values: <ul style="list-style-type: none"> ● ACTIVE ● DOWN

Parameter	Type	Description
peer_port_type	String	Specifies the peer port type.
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. Default: default Enumeration values: <ul style="list-style-type: none"> • default
lag_id	String	Specifies the ID of the LAG that the connection belongs to.
signed_agreement_status	String	Specifies the signing status of the Direct Connect agreement. Enumeration values: <ul style="list-style-type: none"> • signed
signed_agreement_time	String	Specifies the time when the line agreement is signed.
enterprise_project_id	String	Specifies the ID of the enterprise project that the connection belongs to. Minimum: 36 Maximum: 36
locales	LocalesBody object	Specifies the region of the connection.

Parameter	Type	Description
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 Error .
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.
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. Minimum: 0 Maximum: 100

Table 4-21 LocalesBody

Parameter	Type	Description
en_us	String	Specifies the region name in English. Minimum: 0 Maximum: 255
zh_cn	String	Specifies the region name in Chinese. Minimum: 0 Maximum: 255

Table 4-22 PageInfo

Parameter	Type	Description
previous_marker	String	Specifies the marker of the previous page. The value is the resource UUID. Minimum: 0 Maximum: 36
current_count	Integer	Specifies the number of resources in the current list. Minimum: 0 Maximum: 2000
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. Minimum: 0 Maximum: 36

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](#).

4.1.5 Querying the Hosted Connection List

Function

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

Calling Method

For details, see [Calling APIs](#).

URI

GET /v3/{project_id}/dcaas/hosted-connects

Table 4-23 Path Parameters

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

Table 4-24 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Specifies the number of records returned on each page. Value range: 1 to 2000 Minimum: 1 Maximum: 2000 Default: 2000

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 limit . Minimum: 0 Maximum: 36
fields	No	Array	Specifies the list of fields to be displayed. Array Length: 1 - 5
sort_dir	No	Array	Specifies the sorting order of returned results, which can be asc (ascending order) or desc (descending order). The default value is asc .
sort_key	No	String	Specifies the sorting field. Default: id Minimum: 0 Maximum: 36
hosting_id	No	Array	Specifies operations connection ID by which hosted connections are filtered. Array Length: 0 - 5
id	No	Array	Specifies the resource ID by which instances are filtered. Array Length: 1 - 5
name	No	Array	Specifies the resource name by which instances are filtered. You can specify multiple names. Array Length: 1 - 5

Request Parameters

Table 4-25 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 X-Subject-Token in the response header. Minimum: 0 Maximum: 10240

Response Parameters

Status code: 200

Table 4-26 Response body parameters

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

Table 4-27 HostedDirectConnect

Parameter	Type	Description
id	String	Specifies the hosted connection ID. Minimum: 36 Maximum: 36
tenant_id	String	Specifies the ID of the project that the instance belongs to.

Parameter	Type	Description
name	String	Specifies the connection name. Minimum: 0 Maximum: 64
description	String	Provides supplementary information about the connection. Minimum: 0 Maximum: 128
bandwidth	Integer	Specifies the connection bandwidth in Mbit/s. Minimum: 2 Maximum: 400000
location	String	Specifies information about the Direct Connect location. Minimum: 0 Maximum: 255
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. Minimum: 0 Maximum: 255
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 true or false . Default: true
vlan	Integer	Specifies the VLAN allocated to the hosted connection. Minimum: 0 Maximum: 3999

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"> ● BUILD: The hosted connection has been created. ● ACTIVE: The associated virtual gateway is normal. ● DOWN: The port used by the hosted connection is down, indicating that there may be line faults. ● ERROR: The associated virtual gateway is abnormal. ● PENDING_DELETE: The hosted connection is being deleted. ● PENDING_UPDATE: The hosted connection is being updated. ● PENDING_CREATE: The hosted connection is being created. <p>Enumeration values:</p> <ul style="list-style-type: none"> ● BUILD ● ACTIVE ● DOWN ● ERROR ● PENDING_DELETE ● PENDING_UPDATE ● PENDING_CREATE
apply_time	String	Specifies when the connection was requested.
create_time	String	Specifies when the connection was created.
provider_statuses	String	<p>Specifies the status of the carrier's leased line. The status can be ACTIVE or DOWN.</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> ● ACTIVE ● DOWN
port_type	String	<p>Specifies the type of the port used by the connection. The value can be 1G, 10G, 40G, or 100G.</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> ● 1G ● 10G ● 40G ● 100G

Parameter	Type	Description
type	String	Specifies the type of a connection. The value can be standard (a standard connection), hosting (an operations connection) or hosted (a hosted connection). Default: standard Enumeration values: <ul style="list-style-type: none"> • standard • hosting • hosted • onestop_standard • onestop_hosted

Table 4-28 PageInfo

Parameter	Type	Description
previous_marker	String	Specifies the marker of the previous page. The value is the resource UUID. Minimum: 0 Maximum: 36
current_count	Integer	Specifies the number of resources in the current list. Minimum: 0 Maximum: 2000
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. Minimum: 0 Maximum: 36

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](#).

4.1.6 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.

Calling Method

For details, see [Calling APIs](#).

URI

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

Table 4-29 Path Parameters

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

Request Parameters

Table 4-30 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 X-Subject-Token in the response header. Minimum: 0 Maximum: 10240

Table 4-31 Request body parameters

Parameter	Mandatory	Type	Description
hosted_connect	Yes	CreateHostedDirectConnect object	Specifies the parameters for creating a hosted connection.

Table 4-32 CreateHostedDirectConnect

Parameter	Mandatory	Type	Description
name	No	String	Specifies the hosted connection name. Minimum: 0 Maximum: 64
description	No	String	Provides supplementary information about the hosted connection. Minimum: 0 Maximum: 128
bandwidth	Yes	Integer	Specifies the bandwidth size of the hosted connection in Mbit/s. Minimum: 2 Maximum: 400000
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. Minimum: 0 Maximum: 3999
resource_tenant_id	Yes	String	Specifies the project ID of the specified tenant for whom a hosted connection is to be created. Minimum: 0 Maximum: 32

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. Minimum: 0 Maximum: 255

Response Parameters

Status code: 201

Table 4-33 Response body parameters

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

Table 4-34 HostedDirectConnect

Parameter	Type	Description
id	String	Specifies the hosted connection ID. Minimum: 36 Maximum: 36
tenant_id	String	Specifies the ID of the project that the instance belongs to.
name	String	Specifies the connection name. Minimum: 0 Maximum: 64
description	String	Provides supplementary information about the connection. Minimum: 0 Maximum: 128
bandwidth	Integer	Specifies the connection bandwidth in Mbit/s. Minimum: 2 Maximum: 400000

Parameter	Type	Description
location	String	Specifies information about the Direct Connect location. Minimum: 0 Maximum: 255
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. Minimum: 0 Maximum: 255
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 true or false . Default: true
vlan	Integer	Specifies the VLAN allocated to the hosted connection. Minimum: 0 Maximum: 3999

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"> ● BUILD: The hosted connection has been created. ● ACTIVE: The associated virtual gateway is normal. ● DOWN: The port used by the hosted connection is down, indicating that there may be line faults. ● ERROR: The associated virtual gateway is abnormal. ● PENDING_DELETE: The hosted connection is being deleted. ● PENDING_UPDATE: The hosted connection is being updated. ● PENDING_CREATE: The hosted connection is being created. <p>Enumeration values:</p> <ul style="list-style-type: none"> ● BUILD ● ACTIVE ● DOWN ● ERROR ● PENDING_DELETE ● PENDING_UPDATE ● PENDING_CREATE
apply_time	String	Specifies when the connection was requested.
create_time	String	Specifies when the connection was created.
provider_statuses	String	<p>Specifies the status of the carrier's leased line. The status can be ACTIVE or DOWN.</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> ● ACTIVE ● DOWN
port_type	String	<p>Specifies the type of the port used by the connection. The value can be 1G, 10G, 40G, or 100G.</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> ● 1G ● 10G ● 40G ● 100G

Parameter	Type	Description
type	String	Specifies the type of a connection. The value can be standard (a standard connection), hosting (an operations connection) or hosted (a hosted connection). Default: standard Enumeration values: <ul style="list-style-type: none"> • standard • hosting • hosted • onestop_standard • onestop_hosted

Example Requests

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

POST https://{dc_endpoint}/v3/6f9e9263116a4b68818cf1edce16bc4f/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](#).

4.1.7 Querying Details About a Hosted Connection

Function

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

Calling Method

For details, see [Calling APIs](#).

URI

GET /v3/{project_id}/dcaas/hosted-connects/{hosted_connect_id}

Table 4-35 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Specifies the project ID.
hosted_connect_id	Yes	String	Specifies the hosted connection ID. Minimum: 36 Maximum: 36

Table 4-36 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Specifies the number of records returned on each page. Value range: 1 to 2000 Minimum: 1 Maximum: 2000 Default: 2000
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 limit . Minimum: 0 Maximum: 36
fields	No	Array	Specifies the list of fields to be displayed. Array Length: 1 - 5

Parameter	Mandatory	Type	Description
sort_dir	No	Array	Specifies the sorting order of returned results, which can be asc (ascending order) or desc (descending order). The default value is asc .
sort_key	No	String	Specifies the sorting field. Default: id Minimum: 0 Maximum: 36
hosting_id	No	Array	Specifies operations connection ID by which hosted connections are filtered. Array Length: 0 - 5

Request Parameters

Table 4-37 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 X-Subject-Token in the response header. Minimum: 0 Maximum: 10240

Response Parameters

Status code: 200

Table 4-38 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 4-39 HostedDirectConnect

Parameter	Type	Description
id	String	Specifies the hosted connection ID. Minimum: 36 Maximum: 36
tenant_id	String	Specifies the ID of the project that the instance belongs to.
name	String	Specifies the connection name. Minimum: 0 Maximum: 64
description	String	Provides supplementary information about the connection. Minimum: 0 Maximum: 128
bandwidth	Integer	Specifies the connection bandwidth in Mbit/s. Minimum: 2 Maximum: 400000
location	String	Specifies information about the Direct Connect location. Minimum: 0 Maximum: 255
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. Minimum: 0 Maximum: 255
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 true or false . Default: true
vlan	Integer	Specifies the VLAN allocated to the hosted connection. Minimum: 0 Maximum: 3999

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"> ● BUILD: The hosted connection has been created. ● ACTIVE: The associated virtual gateway is normal. ● DOWN: The port used by the hosted connection is down, indicating that there may be line faults. ● ERROR: The associated virtual gateway is abnormal. ● PENDING_DELETE: The hosted connection is being deleted. ● PENDING_UPDATE: The hosted connection is being updated. ● PENDING_CREATE: The hosted connection is being created. <p>Enumeration values:</p> <ul style="list-style-type: none"> ● BUILD ● ACTIVE ● DOWN ● ERROR ● PENDING_DELETE ● PENDING_UPDATE ● PENDING_CREATE
apply_time	String	Specifies when the connection was requested.
create_time	String	Specifies when the connection was created.
provider_statuses	String	<p>Specifies the status of the carrier's leased line. The status can be ACTIVE or DOWN.</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> ● ACTIVE ● DOWN
port_type	String	<p>Specifies the type of the port used by the connection. The value can be 1G, 10G, 40G, or 100G.</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> ● 1G ● 10G ● 40G ● 100G

Parameter	Type	Description
type	String	Specifies the type of a connection. The value can be standard (a standard connection), hosting (an operations connection) or hosted (a hosted connection). Default: standard Enumeration values: <ul style="list-style-type: none"> • standard • hosting • hosted • onestop_standard • onestop_hosted

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](#).

4.1.8 Updating a Hosted Connection

Function

Updating a hosted connection by a partner

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v3/{project_id}/dcaas/hosted-connects/{hosted_connect_id}

Table 4-40 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Specifies the project ID.
hosted_connect_id	Yes	String	Specifies the hosted connection ID. Minimum: 36 Maximum: 36

Request Parameters

Table 4-41 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 X-Subject-Token in the response header. Minimum: 0 Maximum: 10240

Table 4-42 Request body parameters

Parameter	Mandatory	Type	Description
hosted_connect	No	UpdateHostedDirectConnect object	Specifies parameters required for updating a hosted connection.

Table 4-43 UpdateHostedDirectConnect

Parameter	Mandatory	Type	Description
name	No	String	Specifies the connection name. Minimum: 0 Maximum: 64
description	No	String	Provides supplementary information about the connection. Minimum: 0 Maximum: 128
bandwidth	No	Integer	Specifies the bandwidth size of the hosted connection in Mbit/s. Minimum: 2 Maximum: 400000
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. Minimum: 0 Maximum: 255

Response Parameters

Status code: 200

Table 4-44 Response body parameters

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

Table 4-45 HostedDirectConnect

Parameter	Type	Description
id	String	Specifies the hosted connection ID. Minimum: 36 Maximum: 36
tenant_id	String	Specifies the ID of the project that the instance belongs to.
name	String	Specifies the connection name. Minimum: 0 Maximum: 64
description	String	Provides supplementary information about the connection. Minimum: 0 Maximum: 128
bandwidth	Integer	Specifies the connection bandwidth in Mbit/s. Minimum: 2 Maximum: 400000
location	String	Specifies information about the Direct Connect location. Minimum: 0 Maximum: 255
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. Minimum: 0 Maximum: 255
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 true or false . Default: true
vlan	Integer	Specifies the VLAN allocated to the hosted connection. Minimum: 0 Maximum: 3999

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"> ● BUILD: The hosted connection has been created. ● ACTIVE: The associated virtual gateway is normal. ● DOWN: The port used by the hosted connection is down, indicating that there may be line faults. ● ERROR: The associated virtual gateway is abnormal. ● PENDING_DELETE: The hosted connection is being deleted. ● PENDING_UPDATE: The hosted connection is being updated. ● PENDING_CREATE: The hosted connection is being created. <p>Enumeration values:</p> <ul style="list-style-type: none"> ● BUILD ● ACTIVE ● DOWN ● ERROR ● PENDING_DELETE ● PENDING_UPDATE ● PENDING_CREATE
apply_time	String	Specifies when the connection was requested.
create_time	String	Specifies when the connection was created.
provider_statuses	String	<p>Specifies the status of the carrier's leased line. The status can be ACTIVE or DOWN.</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> ● ACTIVE ● DOWN
port_type	String	<p>Specifies the type of the port used by the connection. The value can be 1G, 10G, 40G, or 100G.</p> <p>Enumeration values:</p> <ul style="list-style-type: none"> ● 1G ● 10G ● 40G ● 100G

Parameter	Type	Description
type	String	Specifies the type of a connection. The value can be standard (a standard connection), hosting (an operations connection) or hosted (a hosted connection). Default: standard Enumeration values: <ul style="list-style-type: none"> • standard • hosting • hosted • onestop_standard • onestop_hosted

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](#).

4.1.9 Deleting a Hosted Connection

Function

This API is used by partners to delete hosted connections.

Calling Method

For details, see [Calling APIs](#).

URI

DELETE /v3/{project_id}/dcaas/hosted-connects/{hosted_connect_id}

Table 4-46 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Specifies the project ID.
hosted_connect_id	Yes	String	Specifies the hosted connection ID. Minimum: 36 Maximum: 36

Request Parameters

Table 4-47 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 X-Subject-Token in the response header. Minimum: 0 Maximum: 10240

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](#).

4.2 Virtual Gateway

4.2.1 Querying Details About a Virtual Gateway

Function

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

Calling Method

For details, see [Calling APIs](#).

URI

GET /v3/{project_id}/dcaas/virtual-gateways/{virtual_gateway_id}

Table 4-48 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 4-49 Query Parameters

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

Request Parameters

Table 4-50 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 X-Subject-Token in the response header. Minimum: 0 Maximum: 10240

Response Parameters

Status code: 200

Table 4-51 Response body parameters

Parameter	Type	Description
virtual_gateway	VirtualGateway object	Specifies parameters for creating a virtual gateway.
request_id	String	Specifies the request ID.

Table 4-52 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. Minimum: 32 Maximum: 32
name	String	Specifies the virtual gateway name. Minimum: 0 Maximum: 64

Parameter	Type	Description
description	String	Provides supplementary information about the virtual gateway. Minimum: 0 Maximum: 128
type	String	Specifies the virtual gateway type. The value can only be default . Default: default
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 true or false . Default: true
status	String	Specifies the virtual gateway status, which can be ACTIVE , DOWN , BUILD , ERROR , PENDING_CREATE , PENDING_UPDATE , or PENDING_DELETE .
bgp_asn	Integer	Specifies the local BGP ASN of the virtual gateway. Minimum: 1 Maximum: 4294967295
enterprise_project_id	String	Specifies the ID of the enterprise project that the virtual gateway belongs to. Minimum: 36 Maximum: 36
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](#).

4.2.2 Updating a Virtual Gateway

Function

This API is used to update a virtual gateway.

Calling Method

For details, see [Calling APIs](#).

URI

```
PUT /v3/{project_id}/dcaas/virtual-gateways/{virtual_gateway_id}
```

Table 4-53 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 4-54 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 X-Subject-Token in the response header. Minimum: 0 Maximum: 10240

Table 4-55 Request body parameters

Parameter	Mandatory	Type	Description
virtual_gateway	No	UpdateVirtualGateway object	Specifies the virtual gateway to be updated.

Table 4-56 UpdateVirtualGateway

Parameter	Mandatory	Type	Description
name	No	String	Specifies the virtual gateway name. Minimum: 0 Maximum: 64

Parameter	Mandatory	Type	Description
description	No	String	Provides supplementary information about the virtual gateway. Minimum: 0 Maximum: 128
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. Array Length: 1 - 200
local_ep_group_ipv6	No	Array of strings	Lists the IPv6 subnets that can be accessed over the virtual gateway. Generally, the list contains the subnet CIDR blocks of the VPC. Array Length: 1 - 50

Response Parameters

Status code: 200

Table 4-57 Response body parameters

Parameter	Type	Description
virtual_gateway	VirtualGateway object	Specifies parameters for creating a virtual gateway.
request_id	String	Specifies the request ID.

Table 4-58 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. Minimum: 32 Maximum: 32

Parameter	Type	Description
name	String	Specifies the virtual gateway name. Minimum: 0 Maximum: 64
description	String	Provides supplementary information about the virtual gateway. Minimum: 0 Maximum: 128
type	String	Specifies the virtual gateway type. The value can only be default . Default: default
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 true or false . Default: true
status	String	Specifies the virtual gateway status, which can be ACTIVE , DOWN , BUILD , ERROR , PENDING_CREATE , PENDING_UPDATE , or PENDING_DELETE .
bgp_asn	Integer	Specifies the local BGP ASN of the virtual gateway. Minimum: 1 Maximum: 4294967295
enterprise_project_id	String	Specifies the ID of the enterprise project that the virtual gateway belongs to. Minimum: 36 Maximum: 36
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](#).

4.2.3 Deleting a Virtual Gateway

Function

The API is used to delete a specified virtual gateway.

Calling Method

For details, see [Calling APIs](#).

URI

DELETE /v3/{project_id}/dcaas/virtual-gateways/{virtual_gateway_id}

Table 4-59 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 4-60 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 X-Subject-Token in the response header. Minimum: 0 Maximum: 10240

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](#).

4.2.4 Querying Virtual Gateways

Function

This API is used to query virtual gateways.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v3/{project_id}/dcaas/virtual-gateways

Table 4-61 Path Parameters

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

Table 4-62 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Specifies the number of records returned on each page. Value range: 1 to 2000 Minimum: 1 Maximum: 2000 Default: 2000

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 limit . Minimum: 0 Maximum: 36
fields	No	Array	Specifies the list of fields to be displayed. Array Length: 1 - 5
sort_dir	No	Array	Specifies the sorting order of returned results, which can be asc (ascending order) or desc (descending order). The default value is asc .
sort_key	No	String	Specifies the sorting field. Default: id Minimum: 0 Maximum: 36
id	No	Array	Specifies the resource ID by which instances are filtered. Array Length: 1 - 5
enterprise_project_id	No	Array	Filters resource instances by enterprise project ID. Array Length: 1 - 10
vpc_id	No	Array	Specifies the VPC ID by which virtual gateways are filtered.

Request Parameters

Table 4-63 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 X-Subject-Token in the response header. Minimum: 0 Maximum: 10240

Response Parameters

Status code: 200

Table 4-64 Response body parameters

Parameter	Type	Description
request_id	String	Specifies the request ID.
virtual_gateways	Array of VirtualGateway objects	Specifies parameters for creating a virtual gateway.
page_info	PageInfo object	Specifies the pagination query information.

Table 4-65 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. Minimum: 32 Maximum: 32

Parameter	Type	Description
name	String	Specifies the virtual gateway name. Minimum: 0 Maximum: 64
description	String	Provides supplementary information about the virtual gateway. Minimum: 0 Maximum: 128
type	String	Specifies the virtual gateway type. The value can only be default . Default: default
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 true or false . Default: true
status	String	Specifies the virtual gateway status, which can be ACTIVE , DOWN , BUILD , ERROR , PENDING_CREATE , PENDING_UPDATE , or PENDING_DELETE .
bgp_asn	Integer	Specifies the local BGP ASN of the virtual gateway. Minimum: 1 Maximum: 4294967295
enterprise_project_id	String	Specifies the ID of the enterprise project that the virtual gateway belongs to. Minimum: 36 Maximum: 36
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 4-66 PageInfo

Parameter	Type	Description
previous_marker	String	Specifies the marker of the previous page. The value is the resource UUID. Minimum: 0 Maximum: 36
current_count	Integer	Specifies the number of resources in the current list. Minimum: 0 Maximum: 2000
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. Minimum: 0 Maximum: 36

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-9f61-004fdf03420c",
    "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](#).

4.2.5 Creating a Virtual Gateway

Function

This API is used to create a virtual gateway.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v3/{project_id}/dcaas/virtual-gateways

Table 4-67 Path Parameters

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

Request Parameters

Table 4-68 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 X-Subject-Token in the response header. Minimum: 0 Maximum: 10240

Table 4-69 Request body parameters

Parameter	Mandatory	Type	Description
virtual_gateway	No	CreateVirtualGateway object	Specifies parameters for creating a virtual gateway.

Table 4-70 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. Minimum: 0 Maximum: 64
description	No	String	Provides supplementary information about the virtual gateway. Minimum: 0 Maximum: 128
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. Minimum: 1 Maximum: 4294967295
enterprise_project_id	No	String	Specifies the ID of the enterprise project that the virtual gateway belongs to. Minimum: 36 Maximum: 36

Response Parameters

Status code: 201

Table 4-71 Response body parameters

Parameter	Type	Description
virtual_gateway	VirtualGateway object	Specifies parameters for creating a virtual gateway.
request_id	String	Specifies the request ID.

Table 4-72 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.
tenant_id	String	Specifies the ID of the project that the instance belongs to. Minimum: 32 Maximum: 32
name	String	Specifies the virtual gateway name. Minimum: 0 Maximum: 64
description	String	Provides supplementary information about the virtual gateway. Minimum: 0 Maximum: 128
type	String	Specifies the virtual gateway type. The value can only be default . Default: default
local_endpoint	Array of strings	Specifies the IPv4 subnets connected by the virtual gateway, which is usually the CIDR blocks of a VPC.
local_endpoint_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 true or false . Default: true

Parameter	Type	Description
status	String	Specifies the virtual gateway status, which can be ACTIVE , DOWN , BUILD , ERROR , PENDING_CREATE , PENDING_UPDATE , or PENDING_DELETE .
bgp_asn	Integer	Specifies the local BGP ASN of the virtual gateway. Minimum: 1 Maximum: 4294967295
enterprise_project_id	String	Specifies the ID of the enterprise project that the virtual gateway belongs to. Minimum: 36 Maximum: 36
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

- 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](#).

4.3 Virtual Interface

4.3.1 Querying Details About a Virtual Interface

Function

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

Calling Method

For details, see [Calling APIs](#).

URI

GET /v3/{project_id}/dcaas/virtual-interfaces/{virtual_interface_id}

Table 4-73 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Specifies the project ID.
virtual_interface_id	Yes	String	Specifies the virtual interface ID. Minimum: 36 Maximum: 36

Table 4-74 Query Parameters

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

Request Parameters

Table 4-75 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 X-Subject-Token in the response header. Minimum: 0 Maximum: 10240

Response Parameters

Status code: 200

Table 4-76 Response body parameters

Parameter	Type	Description
request_id	String	Specifies the request ID.
virtual_interface	VirtualInterface object	Specifies parameters for creating a virtual interface.

Table 4-77 VirtualInterface

Parameter	Type	Description
id	String	Specifies the virtual interface ID. Maximum: 36
name	String	Specifies the virtual interface name. Maximum: 64

Parameter	Type	Description
admin_state_up	Boolean	Specifies the administrative status, which can be true or false .
bandwidth	Integer	Specifies the virtual interface bandwidth. Minimum: 2 Maximum: 2147483647
create_time	String	Specifies when the virtual interface was created. Maximum: 255
update_time	String	Specifies when the virtual interface was updated.
description	String	Provides supplementary information about the virtual interface. Maximum: 128
direct_connect_id	String	Specifies the connection ID. Maximum: 36
service_type	String	Specifies the gateway type, which can be VGW , GDGW , or LGW . Enumeration values: <ul style="list-style-type: none"> • VGW • GDGW • LGW
status	String	Specifies the operating status, which can be ACTIVE , DOWN , BUILD , ERROR , PENDING_CREATE , PENDING_UPDATE , PENDING_DELETE , DELETED , AUTHORIZATION , or REJECTED .
tenant_id	String	Specifies the project ID. Minimum: 32 Maximum: 32
type	String	Specifies the type of the virtual interface. The value is private . Default: private Maximum: 255 Enumeration values: <ul style="list-style-type: none"> • private • public

Parameter	Type	Description
vgw_id	String	Specifies the virtual gateway ID. Minimum: 36 Maximum: 36
vlan	Integer	Specifies the VLAN for connecting to the user gateway. The value ranges from 0 to 3999 . Minimum: 0 Maximum: 3999
route_limit	Integer	Specifies the remote subnet route configurations of the virtual interface. Minimum: 1 Maximum: 200 Default: 50
enable_nqa	Boolean	Specifies whether to enable NQA. The value can be true or false .
enable_bfd	Boolean	Specifies whether to enable Bidirectional Forwarding Detection (BFD). The value can be true or false .
lag_id	String	Specifies the ID of the LAG associated with the virtual interface. Minimum: 36 Maximum: 36
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. Minimum: 36 Maximum: 36
local_gateway_v4_ip	String	Specifies the IPv4 interface address of the gateway used on the cloud. This parameter has been migrated to the vifpeer 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 vifpeer 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 Error .

Parameter	Type	Description
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 IPv4 or IPv6 . This parameter has been migrated to the vifpeer 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 vifpeer 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 vifpeer 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 vifpeer 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 vifpeer 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 normal or low . 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. Default: normal Enumeration values: <ul style="list-style-type: none"> • normal • low
vif_peers	Array of VifPeer objects	Specifies the peer information of the virtual interface.
extend_attribute	VifExtendAttribute object	Specifies extended attributes when BFD or NQA is used for reliability detection.

Table 4-78 VifPeer

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

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 static or bgp . Maximum: 255 Enumeration values: <ul style="list-style-type: none">• bgp• static
bgp_asn	Integer	Specifies the ASN of the BGP peer. Minimum: 1 Maximum: 4294967295
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 null . Maximum: 10
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. Minimum: 36 Maximum: 36

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 -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 true or false .
enable_bfd	Boolean	Specifies whether to enable BFD. The value can be true or false .

Table 4-79 VifExtendAttribute

Parameter	Type	Description
ha_type	String	Specifies the availability detection type of the virtual interface. Enumeration values: <ul style="list-style-type: none"> • nqa • bfd
ha_mode	String	Specifies the availability detection mode. Enumeration values: <ul style="list-style-type: none"> • auto_single • auto_multi • static_single • static_multi • enhance_nqa
detect_multiplier	Integer	Specifies the number of detection retries. Default: 5
min_rx_interval	Integer	Specifies the interval for receiving detection packets. Default: 1000
min_tx_interval	Integer	Specifies the interval for sending detection packets. Default: 1000
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](#).

4.3.2 Updating a Virtual Interface

Function

This API is used to update a virtual interface.

Calling Method

For details, see [Calling APIs](#).

URI

PUT /v3/{project_id}/dcaas/virtual-interfaces/{virtual_interface_id}

Table 4-80 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Specifies the project ID.
virtual_interface_id	Yes	String	Specifies the virtual interface ID. Minimum: 36 Maximum: 36

Request Parameters

Table 4-81 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 X-Subject-Token in the response header. Minimum: 0 Maximum: 10240

Table 4-82 Request body parameters

Parameter	Mandatory	Type	Description
virtual_interface	Yes	UpdateVirtualInterface object	Virtual interface objects to be updated

Table 4-83 UpdateVirtualInterface

Parameter	Mandatory	Type	Description
name	No	String	Specifies the virtual interface name. Minimum: 0 Maximum: 64
description	No	String	Provides supplementary information about the virtual interface. Minimum: 0 Maximum: 128
bandwidth	No	Integer	Specifies the virtual interface bandwidth configuration. Minimum: 2 Maximum: 2147483647

Parameter	Mandatory	Type	Description
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 true or false .
enable_nqa	No	Boolean	Specifies whether to enable NQA. The value can be true or false .
status	No	String	Confirms the virtual interfaces created by other users. The value can be ACCEPTED or REJECTED . Enumeration values: <ul style="list-style-type: none">• ACCEPTED• REJECTED

Response Parameters

Status code: 200

Table 4-84 Response body parameters

Parameter	Type	Description
request_id	String	Specifies the request ID.
virtual_interface	VirtualInterface object	Specifies parameters for creating a virtual interface.

Table 4-85 VirtualInterface

Parameter	Type	Description
id	String	Specifies the virtual interface ID. Maximum: 36

Parameter	Type	Description
name	String	Specifies the virtual interface name. Maximum: 64
admin_state_up	Boolean	Specifies the administrative status, which can be true or false .
bandwidth	Integer	Specifies the virtual interface bandwidth. Minimum: 2 Maximum: 2147483647
create_time	String	Specifies when the virtual interface was created. Maximum: 255
update_time	String	Specifies when the virtual interface was updated.
description	String	Provides supplementary information about the virtual interface. Maximum: 128
direct_connect_id	String	Specifies the connection ID. Maximum: 36
service_type	String	Specifies the gateway type, which can be VGW , GDGW , or LGW . Enumeration values: <ul style="list-style-type: none"> • VGW • GDGW • LGW
status	String	Specifies the operating status, which can be ACTIVE , DOWN , BUILD , ERROR , PENDING_CREATE , PENDING_UPDATE , PENDING_DELETE , DELETED , AUTHORIZATION , or REJECTED .
tenant_id	String	Specifies the project ID. Minimum: 32 Maximum: 32
type	String	Specifies the type of the virtual interface. The value is private . Default: private Maximum: 255 Enumeration values: <ul style="list-style-type: none"> • private • public

Parameter	Type	Description
vgw_id	String	Specifies the virtual gateway ID. Minimum: 36 Maximum: 36
vlan	Integer	Specifies the VLAN for connecting to the user gateway. The value ranges from 0 to 3999 . Minimum: 0 Maximum: 3999
route_limit	Integer	Specifies the remote subnet route configurations of the virtual interface. Minimum: 1 Maximum: 200 Default: 50
enable_nqa	Boolean	Specifies whether to enable NQA. The value can be true or false .
enable_bfd	Boolean	Specifies whether to enable Bidirectional Forwarding Detection (BFD). The value can be true or false .
lag_id	String	Specifies the ID of the LAG associated with the virtual interface. Minimum: 36 Maximum: 36
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. Minimum: 36 Maximum: 36
local_gateway_v4_ip	String	Specifies the IPv4 interface address of the gateway used on the cloud. This parameter has been migrated to the vifpeer 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 vifpeer 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 Error .

Parameter	Type	Description
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 IPv4 or IPv6 . This parameter has been migrated to the vifpeer 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 vifpeer 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 vifpeer 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 vifpeer 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 vifpeer 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 normal or low . 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. Default: normal Enumeration values: <ul style="list-style-type: none"> • normal • low
vif_peers	Array of VifPeer objects	Specifies the peer information of the virtual interface.
extend_attribute	VifExtendAttribute object	Specifies extended attributes when BFD or NQA is used for reliability detection.

Table 4-86 VifPeer

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

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 static or bgp . Maximum: 255 Enumeration values: <ul style="list-style-type: none">• bgp• static
bgp_asn	Integer	Specifies the ASN of the BGP peer. Minimum: 1 Maximum: 4294967295
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 null . Maximum: 10
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. Minimum: 36 Maximum: 36

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 -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 true or false .
enable_bfd	Boolean	Specifies whether to enable BFD. The value can be true or false .

Table 4-87 VifExtendAttribute

Parameter	Type	Description
ha_type	String	Specifies the availability detection type of the virtual interface. Enumeration values: <ul style="list-style-type: none">• nqa• bfd
ha_mode	String	Specifies the availability detection mode. Enumeration values: <ul style="list-style-type: none">• auto_single• auto_multi• static_single• static_multi• enhance_nqa
detect_multiplier	Integer	Specifies the number of detection retries. Default: 5
min_rx_interval	Integer	Specifies the interval for receiving detection packets. Default: 1000
min_tx_interval	Integer	Specifies the interval for sending detection packets. Default: 1000
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](#).

4.3.3 Deleting a Virtual Interface

Function

This API is used to delete a virtual interface.

Calling Method

For details, see [Calling APIs](#).

URI

DELETE /v3/{project_id}/dcaas/virtual-interfaces/{virtual_interface_id}

Table 4-88 Path Parameters

Parameter	Mandatory	Type	Description
project_id	Yes	String	Specifies the project ID.
virtual_interface_id	Yes	String	Specifies the virtual interface ID. Minimum: 36 Maximum: 36

Request Parameters

Table 4-89 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 X-Subject-Token in the response header. Minimum: 0 Maximum: 10240

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](#).

4.3.4 Querying the Virtual Interface List

Function

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

Calling Method

For details, see [Calling APIs](#).

URI

GET /v3/{project_id}/dcaas/virtual-interfaces

Table 4-90 Path Parameters

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

Table 4-91 Query Parameters

Parameter	Mandatory	Type	Description
limit	No	Integer	Specifies the number of records returned on each page. Value range: 1 to 2000 Minimum: 1 Maximum: 2000 Default: 2000
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 limit . Minimum: 0 Maximum: 36
fields	No	Array	Specifies the list of fields to be displayed. Array Length: 1 - 5
sort_dir	No	Array	Specifies the sorting order of returned results, which can be asc (ascending order) or desc (descending order). The default value is asc .
sort_key	No	String	Specifies the sorting field. Default: id Minimum: 0 Maximum: 36

Parameter	Mandatory	Type	Description
enterprise_project_id	No	Array	Filters resource instances by enterprise project ID. Array Length: 1 - 10
id	No	Array	Specifies the resource ID by which instances are filtered. Array Length: 1 - 5
status	No	Array	Specifies the status by which instances are filtered. Array Length: 1 - 5
direct_connection_id	No	Array	Specifies the connection ID by which connections are filtered and queried. Array Length: 1 - 5
vgw_id	No	Array	Specifies the virtual gateway ID by which virtual gateways are filtered and queried. Array Length: 1 - 5

Request Parameters

Table 4-92 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 X-Subject-Token in the response header. Minimum: 0 Maximum: 10240

Response Parameters

Status code: 200

Table 4-93 Response body parameters

Parameter	Type	Description
request_id	String	Specifies the request ID.
virtual_interfaces	Array of VirtualInterface objects	Specifies parameters for creating a virtual interface.
page_info	PageInfo object	Specifies the pagination query information.

Table 4-94 VirtualInterface

Parameter	Type	Description
id	String	Specifies the virtual interface ID. Maximum: 36
name	String	Specifies the virtual interface name. Maximum: 64
admin_state_up	Boolean	Specifies the administrative status, which can be true or false .
bandwidth	Integer	Specifies the virtual interface bandwidth. Minimum: 2 Maximum: 2147483647
create_time	String	Specifies when the virtual interface was created. Maximum: 255
update_time	String	Specifies when the virtual interface was updated.
description	String	Provides supplementary information about the virtual interface. Maximum: 128
direct_connection_id	String	Specifies the connection ID. Maximum: 36
service_type	String	Specifies the gateway type, which can be VGW , GDGW , or LGW . Enumeration values: <ul style="list-style-type: none">• VGW• GDGW• LGW

Parameter	Type	Description
status	String	Specifies the operating status, which can be ACTIVE , DOWN , BUILD , ERROR , PENDING_CREATE , PENDING_UPDATE , PENDING_DELETE , DELETED , AUTHORIZATION , or REJECTED .
tenant_id	String	Specifies the project ID. Minimum: 32 Maximum: 32
type	String	Specifies the type of the virtual interface. The value is private . Default: private Maximum: 255 Enumeration values: <ul style="list-style-type: none">• private• public
vgw_id	String	Specifies the virtual gateway ID. Minimum: 36 Maximum: 36
vlan	Integer	Specifies the VLAN for connecting to the user gateway. The value ranges from 0 to 3999 . Minimum: 0 Maximum: 3999
route_limit	Integer	Specifies the remote subnet route configurations of the virtual interface. Minimum: 1 Maximum: 200 Default: 50
enable_nqa	Boolean	Specifies whether to enable NQA. The value can be true or false .
enable_bfd	Boolean	Specifies whether to enable Bidirectional Forwarding Detection (BFD). The value can be true or false .
lag_id	String	Specifies the ID of the LAG associated with the virtual interface. Minimum: 36 Maximum: 36
device_id	String	Specifies the ID of the device that the virtual interface belongs to.

Parameter	Type	Description
enterprise_project_id	String	Specifies the ID of the enterprise project that the virtual interface belongs to. Minimum: 36 Maximum: 36
local_gateway_v4_ip	String	Specifies the IPv4 interface address of the gateway used on the cloud. This parameter has been migrated to the vifpeer 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 vifpeer 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 Error .
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 IPv4 or IPv6 . This parameter has been migrated to the vifpeer 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 vifpeer 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 vifpeer 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 vifpeer parameter list and will be discarded later.

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. This parameter has been migrated to the vifpeer parameter list and will be discarded later.
bgp_route_limit	Integer	Specifies the BGP route configuration.
priority	String	Specifies the priority of a virtual interface. The value can be normal or low . 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. Default: normal Enumeration values: <ul style="list-style-type: none"> • normal • low
vif_peers	Array of VifPeer objects	Specifies the peer information of the virtual interface.
extend_attribute	VifExtendAttribute object	Specifies extended attributes when BFD or NQA is used for reliability detection.

Table 4-95 VifPeer

Parameter	Type	Description
id	String	Specifies the resource ID. Minimum: 36 Maximum: 36
tenant_id	String	Specifies the ID of the project that the virtual interface peer belongs to. Minimum: 36 Maximum: 36
name	String	Specifies the name of the virtual interface peer. Minimum: 0 Maximum: 64

Parameter	Type	Description
description	String	Provides supplementary information about the virtual interface peer. Minimum: 0 Maximum: 128
address_family	String	Specifies the address family type of the virtual interface, which can be IPv4 or IPv6 .
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 static or bgp . Maximum: 255 Enumeration values: <ul style="list-style-type: none">• bgp• static
bgp_asn	Integer	Specifies the ASN of the BGP peer. Minimum: 1 Maximum: 4294967295
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 null . Maximum: 10
status	String	Specifies the status of the virtual interface peer.

Parameter	Type	Description
vif_id	String	Specifies the ID of the virtual interface corresponding to the virtual interface peer. Minimum: 36 Maximum: 36
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 true or false .
enable_bfd	Boolean	Specifies whether to enable BFD. The value can be true or false .

Table 4-96 VifExtendAttribute

Parameter	Type	Description
ha_type	String	Specifies the availability detection type of the virtual interface. Enumeration values: <ul style="list-style-type: none">• nqa• bfd
ha_mode	String	Specifies the availability detection mode. Enumeration values: <ul style="list-style-type: none">• auto_single• auto_multi• static_single• static_multi• enhance_nqa
detect_multiplier	Integer	Specifies the number of detection retries. Default: 5
min_rx_interval	Integer	Specifies the interval for receiving detection packets. Default: 1000
min_tx_interval	Integer	Specifies the interval for sending detection packets. Default: 1000

Parameter	Type	Description
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 4-97 PageInfo

Parameter	Type	Description
previous_marker	String	Specifies the marker of the previous page. The value is the resource UUID. Minimum: 0 Maximum: 36
current_count	Integer	Specifies the number of resources in the current list. Minimum: 0 Maximum: 2000
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. Minimum: 0 Maximum: 36

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](#).

4.3.5 Creating a Virtual Interface

Function

This API is used to create a virtual interface.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v3/{project_id}/dcaas/virtual-interfaces

Table 4-98 Path Parameters

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

Request Parameters

Table 4-99 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 X-Subject-Token in the response header. Minimum: 0 Maximum: 10240

Table 4-100 Request body parameters

Parameter	Mandatory	Type	Description
virtual_interface	Yes	CreateVirtualInterface object	Specifies parameters for creating a virtual interface.

Table 4-101 CreateVirtualInterface

Parameter	Mandatory	Type	Description
name	No	String	Specifies the virtual interface name. Minimum: 0 Maximum: 64
description	No	String	Provides supplementary information about the virtual interface. Minimum: 0 Maximum: 128
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 direct_connect_id or lag_id . 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 private . Enumeration values: <ul style="list-style-type: none">• private• public
service_type	No	String	Specifies the gateway type, which can be VGW , GDGW , or LGW . Enumeration values: <ul style="list-style-type: none">• VGW• GDGW• LGW
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. Minimum: 0 Maximum: 3999

Parameter	Mandatory	Type	Description
bandwidth	Yes	Integer	Specifies the virtual interface bandwidth. Minimum: 2 Maximum: 2147483647
local_gateway_v4_ip	No	String	Specifies the IPv4 interface address of the gateway used on the cloud. This parameter is mandatory if address_family 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 address_family is set to an IPv4 address.
address_family	No	String	Specifies the address family type of the virtual interface, which can be IPv4 or IPv6 . Default: ipv4
local_gateway_v6_ip	No	String	Specifies the IPv6 interface address of the gateway used on the cloud. This parameter is mandatory if address_family 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 address_family 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 static or bgp . Default: static Enumeration values: <ul style="list-style-type: none"> • static • bgp

Parameter	Mandatory	Type	Description
bgp_asn	No	Integer	Specifies the ASN of the BGP peer on the customer side. Minimum: 1 Maximum: 4294967295
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 true or false . Default: false
enable_nqa	No	Boolean	Specifies whether to enable NQA. The value can be true or false . Default: false
lag_id	No	String	Specifies the ID of the LAG associated with the virtual interface. Minimum: 36 Maximum: 36
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. Minimum: 36 Maximum: 36

Response Parameters

Status code: 201

Table 4-102 Response body parameters

Parameter	Type	Description
request_id	String	Specifies the request ID.
virtual_interface	VirtualInterface object	Specifies parameters for creating a virtual interface.

Table 4-103 VirtualInterface

Parameter	Type	Description
id	String	Specifies the virtual interface ID. Maximum: 36
name	String	Specifies the virtual interface name. Maximum: 64
admin_state_up	Boolean	Specifies the administrative status, which can be true or false .
bandwidth	Integer	Specifies the virtual interface bandwidth. Minimum: 2 Maximum: 2147483647
create_time	String	Specifies when the virtual interface was created. Maximum: 255
update_time	String	Specifies when the virtual interface was updated.
description	String	Provides supplementary information about the virtual interface. Maximum: 128
direct_connection_id	String	Specifies the connection ID. Maximum: 36
service_type	String	Specifies the gateway type, which can be VGW , GDGW , or LGW . Enumeration values: <ul style="list-style-type: none">• VGW• GDGW• LGW

Parameter	Type	Description
status	String	Specifies the operating status, which can be ACTIVE , DOWN , BUILD , ERROR , PENDING_CREATE , PENDING_UPDATE , PENDING_DELETE , DELETED , AUTHORIZATION , or REJECTED .
tenant_id	String	Specifies the project ID. Minimum: 32 Maximum: 32
type	String	Specifies the type of the virtual interface. The value is private . Default: private Maximum: 255 Enumeration values: <ul style="list-style-type: none">• private• public
vgw_id	String	Specifies the virtual gateway ID. Minimum: 36 Maximum: 36
vlan	Integer	Specifies the VLAN for connecting to the user gateway. The value ranges from 0 to 3999 . Minimum: 0 Maximum: 3999
route_limit	Integer	Specifies the remote subnet route configurations of the virtual interface. Minimum: 1 Maximum: 200 Default: 50
enable_nqa	Boolean	Specifies whether to enable NQA. The value can be true or false .
enable_bfd	Boolean	Specifies whether to enable Bidirectional Forwarding Detection (BFD). The value can be true or false .
lag_id	String	Specifies the ID of the LAG associated with the virtual interface. Minimum: 36 Maximum: 36
device_id	String	Specifies the ID of the device that the virtual interface belongs to.

Parameter	Type	Description
enterprise_project_id	String	Specifies the ID of the enterprise project that the virtual interface belongs to. Minimum: 36 Maximum: 36
local_gateway_v4_ip	String	Specifies the IPv4 interface address of the gateway used on the cloud. This parameter has been migrated to the vifpeer 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 vifpeer 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 Error .
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 IPv4 or IPv6 . This parameter has been migrated to the vifpeer 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 vifpeer 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 vifpeer 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 vifpeer parameter list and will be discarded later.

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. This parameter has been migrated to the vifpeer parameter list and will be discarded later.
bgp_route_limit	Integer	Specifies the BGP route configuration.
priority	String	Specifies the priority of a virtual interface. The value can be normal or low . 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. Default: normal Enumeration values: <ul style="list-style-type: none"> • normal • low
vif_peers	Array of VifPeer objects	Specifies the peer information of the virtual interface.
extend_attribute	VifExtendAttribute object	Specifies extended attributes when BFD or NQA is used for reliability detection.

Table 4-104 VifPeer

Parameter	Type	Description
id	String	Specifies the resource ID. Minimum: 36 Maximum: 36
tenant_id	String	Specifies the ID of the project that the virtual interface peer belongs to. Minimum: 36 Maximum: 36
name	String	Specifies the name of the virtual interface peer. Minimum: 0 Maximum: 64

Parameter	Type	Description
description	String	Provides supplementary information about the virtual interface peer. Minimum: 0 Maximum: 128
address_family	String	Specifies the address family type of the virtual interface, which can be IPv4 or IPv6 .
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 static or bgp . Maximum: 255 Enumeration values: <ul style="list-style-type: none">• bgp• static
bgp_asn	Integer	Specifies the ASN of the BGP peer. Minimum: 1 Maximum: 4294967295
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 null . Maximum: 10
status	String	Specifies the status of the virtual interface peer.

Parameter	Type	Description
vif_id	String	Specifies the ID of the virtual interface corresponding to the virtual interface peer. Minimum: 36 Maximum: 36
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 true or false .
enable_bfd	Boolean	Specifies whether to enable BFD. The value can be true or false .

Table 4-105 VifExtendAttribute

Parameter	Type	Description
ha_type	String	Specifies the availability detection type of the virtual interface. Enumeration values: <ul style="list-style-type: none">• nqa• bfd
ha_mode	String	Specifies the availability detection mode. Enumeration values: <ul style="list-style-type: none">• auto_single• auto_multi• static_single• static_multi• enhance_nqa
detect_multiplier	Integer	Specifies the number of detection retries. Default: 5
min_rx_interval	Integer	Specifies the interval for receiving detection packets. Default: 1000
min_tx_interval	Integer	Specifies the interval for sending detection packets. Default: 1000

Parameter	Type	Description
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](#).

4.4 Tag management

4.4.1 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.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v3/{project_id}/{resource_type}/tags

Table 4-106 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">• dc-directconnect: connection• dc-vgw: virtual gateway• dc-vif: virtual interface Enumeration values: <ul style="list-style-type: none">• dc-directconnect• dc-vgw• dc-vif

Request Parameters

None

Response Parameters

Status code: 200

Table 4-107 Response body parameters

Parameter	Type	Description
tags	Array of Tag objects	Specifies the tags.
request_id	String	Specifies the request ID.

Table 4-108 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 (_). Minimum: 0 Maximum: 36

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

Example Requests

```
GET https://{dc_endpoint}/v3/ed28c294165741faeccab26913122a1/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](#).

4.4.2 Querying Resource Tags

Function

This API is used to query resource tags.

Calling Method

For details, see [Calling APIs](#).

URI

```
GET /v3/{project_id}/{resource_type}/{resource_id}/tags
```

Table 4-109 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">● dc-directconnect: connection● dc-vgw: virtual gateway● dc-vif: virtual interface Enumeration values: <ul style="list-style-type: none">● dc-directconnect● dc-vgw● dc-vif
resource_id	Yes	String	Specifies the resource ID.

Request Parameters

None

Response Parameters

Status code: 200

Table 4-110 Response body parameters

Parameter	Type	Description
tags	Array of Tag objects	Specifies the tag list.
sys_tags	Array of Tag 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 4-111 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 (_). Minimum: 0 Maximum: 36

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

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](#).

4.4.3 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.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v3/{project_id}/{resource_type}/{resource_id}/tags

Table 4-112 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">• dc-directconnect: connection• dc-vgw: virtual gateway• dc-vif: virtual interface Enumeration values: <ul style="list-style-type: none">• dc-directconnect• dc-vgw• dc-vif

Request Parameters

Table 4-113 Request body parameters

Parameter	Mandatory	Type	Description
tag	Yes	Tag object	Specifies the resource tag.

Table 4-114 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 (_). Minimum: 0 Maximum: 36
value	No	String	Specifies the tag value. The value can contain a maximum of 43 Unicode characters, including letters, digits, hyphens (-), underscores (_), and periods (.). Minimum: 0 Maximum: 43

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](#).

4.4.4 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.

Calling Method

For details, see [Calling APIs](#).

URI

POST /v3/{project_id}/{resource_type}/{resource_id}/tags/action

Table 4-115 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">● dc-directconnect: connection● dc-vgw: virtual gateway● dc-vif: virtual interface Enumeration values: <ul style="list-style-type: none">● dc-directconnect● dc-vgw● dc-vif

Request Parameters

Table 4-116 Request body parameters

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

Table 4-117 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 (_). Minimum: 0 Maximum: 36
value	No	String	Specifies the tag value. The value can contain a maximum of 43 Unicode characters, including letters, digits, hyphens (-), underscores (_), and periods (.). Minimum: 0 Maximum: 43

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](#).

4.4.5 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.

Calling Method

For details, see [Calling APIs](#).

URI

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

Table 4-118 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"> ● dc-directconnect: connection ● dc-vgw: virtual gateway ● dc-vif: virtual interface Enumeration values: <ul style="list-style-type: none"> ● dc-directconnect ● dc-vgw ● dc-vif

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](#).

4.4.6 Querying Resources by Tag

Function

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

Calling Method

For details, see [Calling APIs](#).

URI

POST /v3/{project_id}/{resource_type}/resource-instances/action

Table 4-119 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">• dc-directconnect: connection• dc-vgw: virtual gateway• dc-vif: virtual interface Enumeration values: <ul style="list-style-type: none">• dc-directconnect• dc-vgw• dc-vif

Request Parameters

Table 4-120 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 action is set to count . If action is set to filter , the value must be a number, and the default value is 0 . The value cannot be a negative number.
limit	No	String	Specifies the number of records to be queried. This parameter is not available when action is set to count . If action is set to filter , the default value is 1000 . The maximum value is 1000 , and the minimum value is 1 . The value cannot be a negative number.
action	Yes	String	Specifies the operation to perform, which can only be filter (filtering) or count (querying the total number). filter indicates pagination query. count indicates that the total number of query results meeting the search criteria will be returned. Returning other fields is not allowed. Enumeration values: <ul style="list-style-type: none"> • filter • count

Parameter	Mandatory	Type	Description
matches	No	Array of Match objects	Specifies the search criteria. key is the field to match, for example, resource_name . value 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 key is resource_name , fuzzy search (case insensitive) is used by default. If value is an empty string, exact match is used. If key is resource_id , exact match is used. Currently, only resource_name is supported.
not_tags	No	Array of Tags 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 Tags 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 Tags 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 Tags 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 Tags objects	Only users with the op_service permission can use this field to filter resources. Only one tag structure is contained when this API is called by Tag Management Service (TMS). key is _sys_enterprise_project_id , and value is the enterprise project ID list. When TMS invokes this API, a key can have only one value. 0 indicates the default enterprise project. sys_tags and tenant tag filtering conditions (without_any_tag , tags , tags_any , not_tags , and not_tags_any) cannot be used at the same time.

Table 4-121 Match

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

Table 4-122 Tags

Parameter	Mandatory	Type	Description
key	Yes	String	Specifies the tag key. Each tag key can contain a maximum of 127 Unicode characters. key 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 4-123 Response body parameters

Parameter	Type	Description
resources	Array of Resource objects	Specifies the resource list.
total_count	Integer	Specifies the total number of records.
request_id	String	Specifies the request ID.

Table 4-124 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 Tag objects	Specifies the list of queried tags. If no tag is matched, an empty array is returned.
sys_tags	Array of Tag objects	Specifies the list of queried tags. If no tag is matched, an empty array is returned.

Table 4-125 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 (_). Minimum: 0 Maximum: 36
value	String	Specifies the tag value. The value can contain a maximum of 43 Unicode characters, including letters, digits, hyphens (-), underscores (_), and periods (.). Minimum: 0 Maximum: 43

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](#).

4.5 Quota Management

4.5.1 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.

Calling Method

For details, see [Calling APIs](#).

URI

GET /v3/{project_id}/dcaas/quotas

Table 4-126 Path Parameters

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

Table 4-127 Query Parameters

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

Request Parameters

None

Response Parameters

Status code: 201

Table 4-128 Response body parameters

Parameter	Type	Description
quotas	quotas object	Provides used quota details.

Table 4-129 quotas

Parameter	Type	Description
resources	Array of Info objects	Lists the used quotas of resources.

Table 4-130 Info

Parameter	Type	Description
type	String	Specifies the quota type.
quota	Long	Specifies the available quota. The value -1 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](#).

5 Public Parameters

5.1 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.

5.2 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.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.
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.

Status Code	Error Code	Description	Solution
400	DC.1015	The connection or LAG does not exist.	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.
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.

Status Code	Error Code	Description	Solution
400	DC.1114	traffic_mode 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 main_az_list 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 double ipsec type cannot be created.	Contact technical support.
400	DC.1203	No ASN is specified for the BGP virtual interface.	Contact technical support.
400	DC.1205	The status of the resource associated with the virtual interface is abnormal.	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.1209	Virtual interface VLANs conflict.	Contact technical support.

Status Code	Error Code	Description	Solution
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.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 vif_email 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.

Status Code	Error Code	Description	Solution
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 a project ID by calling the API used to [query projects based on 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": "65382450e8f64ac0870cd180d14e684b",
      "is_domain": false,
      "parent_id": "65382450e8f64ac0870cd180d14e684b",
      "name": "project_name",
      "description": "",
      "links": {
        "next": null,
        "previous": null,
        "self": "https://www.example.com/v3/projects/a4a5d4098fb4474fa22cd05f897d6b99"
      },
      "id": "a4a5d4098fb4474fa22cd05f897d6b99",
      "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 **API Credentials** page, view the project ID in the project list.

B Change History

Released On	Description
2023-11-30	This issue is the first official release.