

Direct Connect

Getting Started

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1 Overview

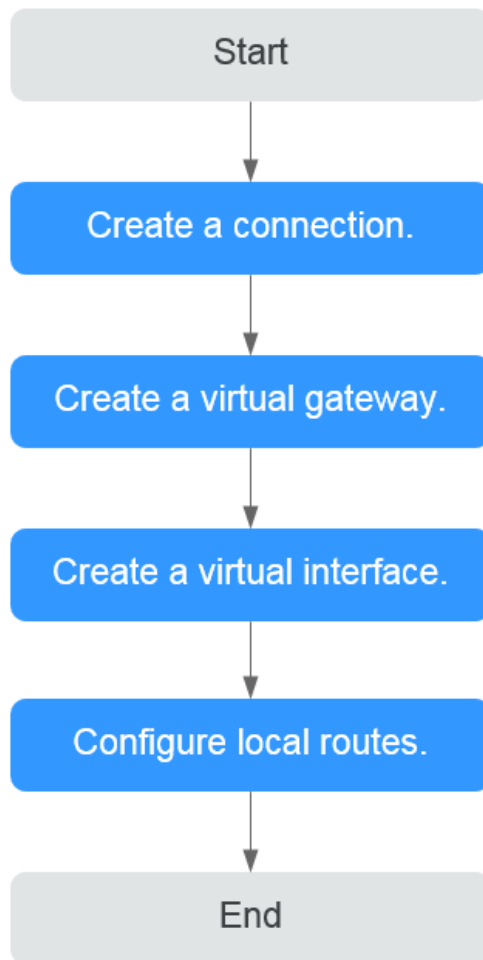
When your on-premises network needs to communicate with a VPC, you can create a Direct Connect connection on the console to establish network connectivity between your premises and the cloud.

 **NOTE**

The telecom carrier needs to perform a site survey and lay the leased line, which takes about two or three months. Make sure that you arrange enough time for the project.

Figure 1-1 shows the process for connecting your on-premises environment to Huawei Cloud.

Figure 1-1 Process for establishing network connectivity



Registering with Huawei Cloud

To access the Direct Connect console, you need a Huawei Cloud account. If you do not have an account, register one with Huawei Cloud.

1. Visit the <https://www.huaweicloud.com/eu/>.
2. Click **Register** in the upper right corner.

The registration page is displayed. Enter required information as prompted. After the registration, the system automatically redirects you to your personal information page.

After registration, your account will have permissions to access the Direct Connect service, as well as all other Huawei Cloud services.

2 Preparations

Before you use Direct Connect to establish connectivity, you need to make preparations, including selecting an appropriate Direct Connect location and consulting the carrier about the site survey.

Selecting a Direct Connect Location

When selecting a location, you need to consider the distance to your on-premises data center, which carrier you want to choose, and which type of port will be used.

- Distance to your data center

Select a location nearest to your data center to reduce network latency. The telecom carriers and bandwidth capabilities vary at different locations.

- Carrier

Select whichever carrier that can best meet your service requirements. Generally, you can choose one from carriers such as China Unicom, China Telecom, and China Mobile.

- Port type

Decide what type of port you want to use, an optical port or electrical port.

- Optical port: The carrier directly provides a fiber optic transmission path for the end user. The port speed is effectively infinite, only limited by the auto-negotiation rate of the optical modules at both ends, for example, 1GE, 10GE, 40GE, and 100GE.
- Electrical port: Generally, RJ45 ports are used. The carrier uses an optical transceiver to convert electrical signals to optical signals required on the transmission network. The industry standard is to use this type of port when the bandwidth is less than 100 Mbit/s.

NOTE

- Currently, 1GE and 10GE single-mode optical ports can transmit data up to 10 km. If you need an optical port to transmit data for more than 10 km, or you need a 40GE or 100GE port, you need to purchase the optical modules by yourself.
- Ensure that the leased line provider can provide the optical fibers to connect to Direct Connect devices.
- No O/E conversion device is allowed on Huawei Cloud. Ensure that the leased line provider uses the correct line type to connect to Direct Connect devices.

To obtain detailed address of a Direct Connect location, contact the Direct Connect manager or submit a service ticket.

Contact the Carrier for Site Survey

After you select a location, contact the carrier for a site survey.

1. Consult the carrier about how to access the cloud.
You can contact the Direct Connect manager or submit a service ticket to obtain the detailed address of the equipment room.
2. Submit an application to Huawei Cloud for conducting a site survey in the equipment room.

The application must include the name, ID card number, and contact information of the personnel who will go to the equipment room for the site survey.

NOTE

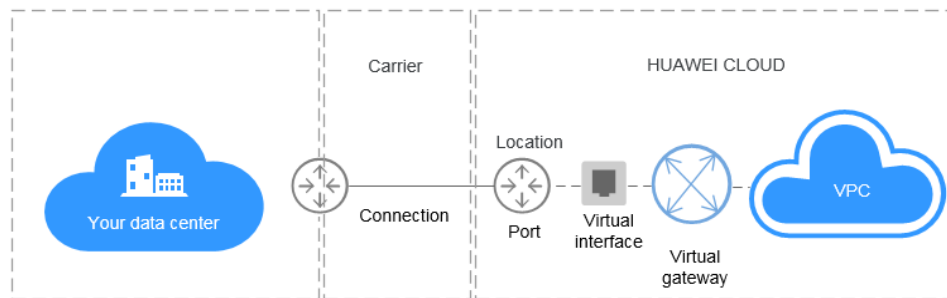
If the site survey can be completed at the carrier's meet-me room, you do not need to submit an application.

3. After the application is approved, Huawei Cloud will assist the carrier in entering the equipment room for completing the site survey within two working days.
4. Request the carrier to carry out the site survey and confirm the fees, including the costs of:
 - The port (paid to Huawei Cloud) and one-time setup (free for now)
 - The leased line (paid to the carrier)
 - The in-building cabling

3 Step 1: Create a Connection

Figure 3-1 shows how Direct Connect connects your on-premises data center to a VPC.

Figure 3-1 Connecting your data center to a VPC

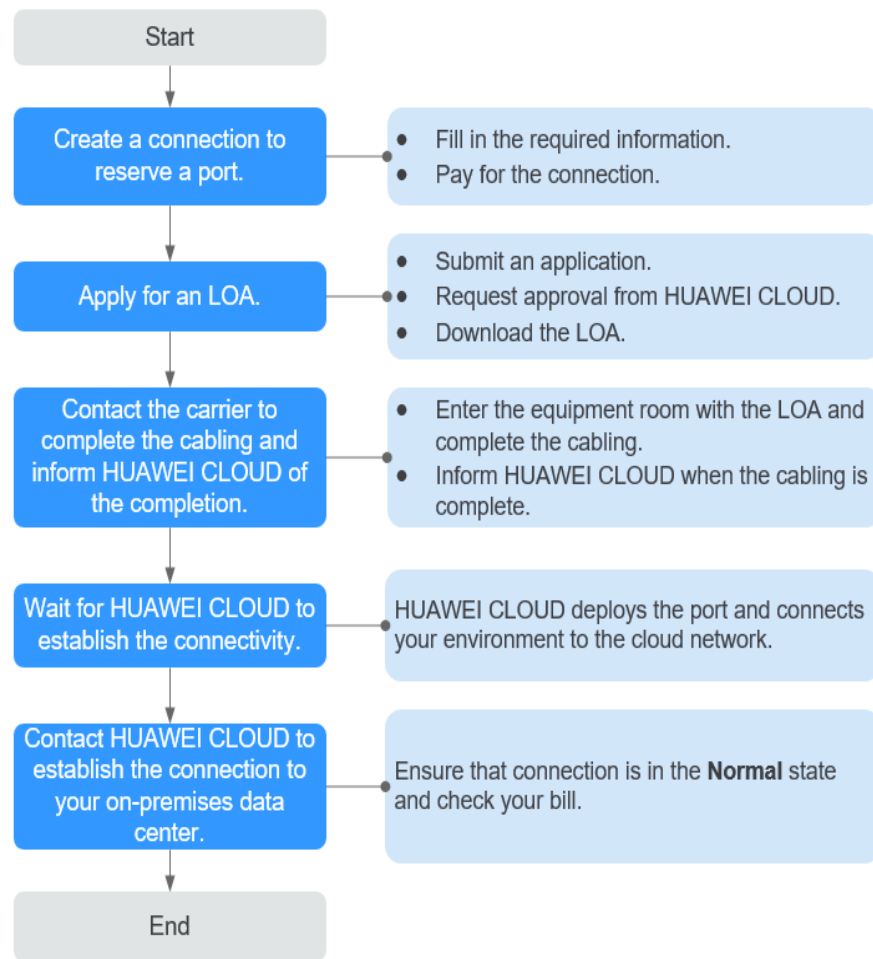


- **Scenario**

You need to create a connection to connect your data center to the Direct Connect location you have selected to build a hybrid cloud.

After you create a connection on the console, Huawei Cloud will provide you with a port for exclusive use. To establish the connection, you need to connect the leased line to the Direct Connect location you have selected. **Figure 3-2** shows the process of connecting your data center to Huawei Cloud using Direct Connect.

Figure 3-2 Self-service installation process



NOTE

A Letter of Authorization (LOA) is required for entering Huawei Cloud's equipment room for cabling.

● **Procedure**



- a. Create a connection.
 - i. Log in to the management console.
 - ii. On the console homepage, click  in the upper left corner and select the desired region and project.
 - iii. Hover on  to display **Service List** and choose **Networking > Direct Connect**.
 - iv. In the navigation pane on the left, choose **Direct Connect > Connections**.
 - v. Click **Create Connection**.
 - vi. On the **Create Connection** page, enter the equipment room details and select the Direct Connect location and port based on [Table 3-1](#).

Table 3-1 Parameter description

Parameter	Description
Region	Specifies the region where the connection resides. You can also change the region in the upper left corner of the console.
Connection Name	Specifies the name of your connection.
Location	Specifies the Direct Connect location where your leased line can be connected to.
Carrier	Specifies the carrier that provides the leased line.
Port Type	Specifies the type of the port used by the connection. There are four types of ports: 1GE, 10GE, 40GE, and 100GE.
Leased Line Bandwidth	Specifies the bandwidth of the connection in the unit of Mbit/s. This is the bandwidth of the leased line you bought from the carrier.
Your Equipment Room Address	Specifies the address of your equipment room. The address must be specific to the floor on which your equipment room is located, for example, XX Equipment Room, XX Building, No. XX, Huajing Road, Pudong District, Shanghai.
Tag	<p>Identifies the connection. A tag consists of a key and a value. You can add 10 tags to a connection.</p> <p>Tag keys and values must meet the requirements listed in Table 3-2.</p> <p>NOTE</p> <p>If a predefined tag has been created on Tag Management Service (TMS), you can directly select the corresponding tag key and value.</p> <p>For details about predefined tags, see Predefined Tag Overview.</p>
Description	Provides supplementary information about the connection.
Billing Mode	Specifies the billing model of the connection. Currently, only Yearly/Monthly is supported.
Required Duration	Specifies how long the connection will be used for.
Enterprise Project	Provides a cloud resource management mode where cloud resources and members are centrally managed by project.

Parameter	Description
Auto-renew	Specifies whether to automatically renew the subscription to ensure service continuity. For example, if the required duration is three months, the system automatically renews the subscription for another three months.
Contact Person/ Phone Number/ Email	Specifies information about the person who is responsible for your connection. CAUTION If the contact information is not provided, your account information will be queried. This will increase the review period.

Table 3-2 Tag key and value requirements

Parameter	Requirements
Key	<ul style="list-style-type: none">• Cannot be left blank.• Must be unique for each resource.• Can contain a maximum of 36 characters.• Can contain only letters, digits, hyphens, underscores, and Unicode characters from \u4e00 to \u9fff.
Value	<ul style="list-style-type: none">• Can be left blank.• Can contain a maximum of 43 characters.• Can contain only letters, digits, period, hyphens, underscores, and Unicode characters from \u4e00 to \u9fff.

- vii. Pay for the order.
- b. Connect your on-premises data center to the cloud.
 - i. After the payment is complete, switch back to the connection list. Enter the information required for the LOA, select the created connection, and click **Apply for LOA**.

NOTE

Apply for the LOA at least three days before the construction starts. Provide the required information as prompted during the application. Otherwise, your approval may be rejected.

- ii. Click **Confirm** to submit the application and wait for approval from Huawei Cloud. Generally, it takes about two working days to obtain the approval.
- iii. Contact your carrier for completing the cabling in the Huawei Cloud equipment room and ensure that construction personnel bring the LOA when they enter the equipment room.

- iv. After the cabling is complete, obtain the line code and in-building cable label from your carrier and click **Report Completion**.
- v. Contact Huawei Cloud to connect the leased line to the gateway provided by Huawei Cloud.
- vi. The construction requires two working days. After the construction is completed, click **Confirm Completion** in the **Operation** column.
- vii. Click **OK**. Ensure that the connection status changes to **Normal**.

 **NOTE**

More time may be required if there are special events or holidays during the construction.

4 Step 2: Create a Virtual Gateway

Scenarios

After creating a connection, you need to create a virtual gateway to associate it with the VPC to be accessed.

Procedure



1. Log in to the management console.
2. On the console homepage, click  in the upper left corner and select the desired region and project.
3. Hover on  to display **Service List** and choose **Networking > Direct Connect**.
4. In the navigation pane on the left, choose **Direct Connect > Virtual Gateways**.
5. Click **Create Virtual Gateway**.
6. Configure the parameters based on [Table 4-1](#).

Table 4-1 Parameter description

Parameter	Description
Name	Specifies the virtual gateway name. The name can contain 1 to 64 characters.
Enterprise Project	Provides a cloud resource management mode where cloud resources and members are centrally managed by project.
VPC	Specifies the VPC that will be associated with the virtual gateway.

Parameter	Description
Local Subnet	Specifies the CIDR blocks of the subnets in the VPC to be accessed using Direct Connect. This parameter is mandatory when you set Attachment to VPC . You can add one or more CIDR blocks. If there are multiple CIDR blocks, separate every entry with a comma (,).
BGP ASN	Specifies the BGP ASN of the virtual gateway.
Description	Provides supplementary information about the virtual gateway.

7. Click **OK**.
Ensure that the virtual gateway is in the **Normal** state.

5 Step 3: Create a Virtual Interface

Scenarios

After the connection and the virtual gateway are ready, you need to create a virtual interface so that your network can access the VPC you want to access.

Procedure



1. Log in to the management console.
2. On the console homepage, click  in the upper left corner and select the desired region and project.
3. Hover on  to display **Service List** and choose **Networking > Direct Connect**.
4. In the navigation pane on the left, choose **Direct Connect > Virtual Interfaces**.
5. Click **Create Virtual Interface**.
Configure the parameters based on [Table 5-1](#).

Table 5-1 Parameters for creating a virtual interface

Parameter	Description
Region	Specifies the region where the connection resides. You can also change the region in the upper left corner of the console.
Name	Specifies the virtual interface name. The name can contain 1 to 64 characters.
Connection	Specifies the connection you can use to connect your environment to Huawei Cloud.
Virtual Gateway	Specifies the virtual gateway to which the virtual interface connects.

Parameter	Description
VLAN	<p>Specifies the ID of the VLAN for the virtual interface.</p> <p>You need to configure the VLAN if you create a connection on your own.</p> <p>The VLAN for a hosted connection will be allocated by the carrier or partner. You do not need to configure the VLAN.</p>
Bandwidth	<p>Specifies the bandwidth that can be used by the virtual interface in the unit of Mbit/s. The bandwidth cannot exceed that of the connection.</p>
Enterprise Project	<p>Provides a cloud resource management mode where cloud resources and members are centrally managed by project.</p>
Local Gateway	<p>Specifies the IP address for connecting to the cloud.</p>
Remote Gateway	<p>Specifies the IP address for connecting to the on-premises network.</p> <p>The remote gateway must be in the same IP address range as the local gateway. Generally, a subnet with a 30-bit mask is recommended.</p>
Remote Subnet	<p>Specifies the subnets and masks of your network. If there are multiple subnets, use commas (,) to separate them.</p>
Routing Mode	<p>Specifies the routing mode. Two options are available, static routing and BGP routing.</p> <p>If there are two connections or you want to have another connection in the future, select BGP routing.</p>
BGP ASN	<p>Specifies the autonomous system number (ASN) of the BGP peer.</p> <p>This parameter is required when BGP routing is selected.</p>
BGP MD5 Authentication Key	<p>Specifies the password used to authenticate the BGP peer using MD5.</p> <p>This parameter is mandatory when BGP routing is selected, and the parameter values on both gateways must be the same.</p> <p>The key contains 8 to 255 characters and must contain at least two types of the following characters:</p> <ul style="list-style-type: none">• Uppercase letters• Lowercase letters• Digits• Special characters ~!, .;_- "(){ }[]/@#\$ %^&*+ =
Description	<p>Provides supplementary information about the virtual interface.</p>

 **NOTE**

When you configure the local and remote gateways, note the following:

- The local gateway is used by Huawei Cloud for connecting to your equipment room. After you configure **Local Gateway** on the console, the configuration will be automatically delivered to the gateway used by Huawei Cloud.
- The remote gateway is used by your equipment room for connecting to Huawei Cloud. After you configure **Remote Gateway** on the console, you also need to configure the gateway deployed in your equipment room.
- The local gateway must be in the same CIDR block as the remote gateway, and this CIDR block cannot conflict with the local subnet configured on the virtual gateway or the remote subnet configured on the virtual interface.

6. Click **Create Now**.

Ensure that the virtual interface is in the **Normal** state.

7. Ping the IP address of a host in the VPC from your environment to check network connectivity.

6 Step 4: Configure Routes

After your on-premises network is connected to Huawei Cloud, you need to configure routes in your data center.

For details about how to configure static routes, see [Accessing a VPC over a Connection That Uses Static Routing](#).

For details about how to configure BGP routes, see [Accessing a VPC over a Connection That Uses BGP Routing](#).