Direct Connect

Best Practices

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Contents

1 Accessing a VPC over a Connection That Uses Static Routing

Overview

Connect your on-premises network to the cloud through a connection that uses static routing so that your on-premises network can access the VPC.

Prerequisites

- Your on-premises network uses a single-mode fiber with a 1GE or 10GE optical module to connect to the access device in the cloud.
- Auto-negotiation for the port has been disabled.
- Port speed and full duplex mode have been manually configured.
- 802.1Q VLAN encapsulation is supported on your network.

Typical Topology

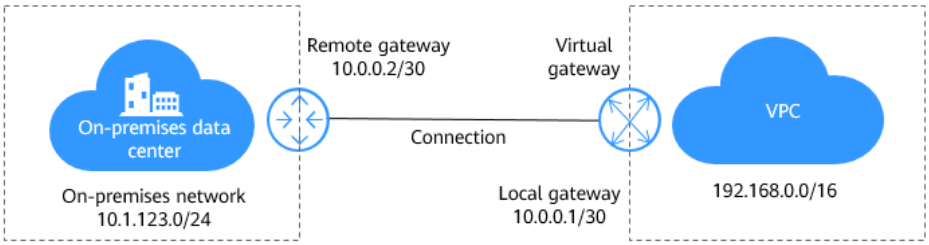
Your on-premises network is connected to a VPC in the CN North-Beijing4 region over a single connection. For details about how to create a VPC, see the **Virtual Private Cloud User Guide**.

Table 1-1 lists the CIDR blocks involved in this solution.

Table 1-1 CIDR blocks

Item	CIDR Block
Your network	10.1.123.0/24
Remote and local gateways (addresses for interconnection)	10.0.0.0/30
VPC	192.168.0.0/16

Figure 1-1 Accessing a VPC over a connection that uses static routing



Procedure

Step 1 Create a connection.

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** > **Connections**.
5. Click **Create Connection**. Select **Self Service Installation**.
6. On the **Create Connection** page, enter information about the equipment room and select the Direct Connect location and port based on **Table 1-2**.

Figure 1-2 Creating a connection

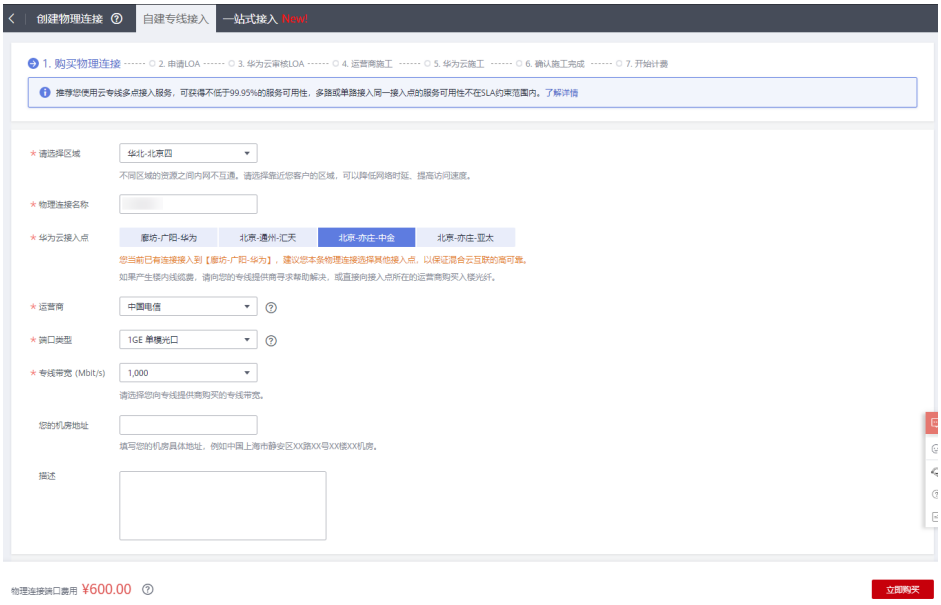


Table 1-2 Parameter description

Parameter	Description	Example Value
Region	Specifies the region where the connection resides. You can also change the region in the upper left corner of the console.	CN North-Beijing4
Connection Name	Specifies the name of your connection.	dc-test12
Location	Specifies the Direct Connect location where your leased line can be connected to.	Beijing-Yizhuang-Centrin
Carrier	Specifies the carrier that provides the leased line.	China Telecom
Port Type	Specifies the type of the port used by the connection. There are two types of ports: 1GE single-mode optical port and 10GE single-mode optical port.	1GE
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.	1,000 Mbit/s
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.	-
Description	Provides supplementary information about the connection.	-
Billing Mode	Specifies the billing model of the connection. Currently, only **Yearly/ Monthly** is supported.	Yearly/ Monthly
Required Duration	Specifies how long the connection will be used.	5 months
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.	5 months

Parameter	Description	Example Value
Contact Person/ Phone Number/ Email	Specifies information about the person who is responsible for your connection. If the contact information is not provided, your account information will be queried. This will increase the review period.	Tom +086 13912345678 (Chinese mainland) Tom@mail.com

7. Click **Next**.
8. Confirm the order and click **Pay**.
9. Click **Pay**.

Step 2 Create a virtual gateway.

1. In the navigation pane on the left, choose **Direct Connect** > **Virtual Gateways**.
2. Click **Create Virtual Gateway**.
3. Configure the parameters based on **Table 1-3**.

Figure 1-3 Creating a virtual gateway

Table 1-3 Parameter description

Parameter	Description	Example Value
Name	Specifies the virtual gateway name. The name can contain 1 to 64 characters.	vgw-test
VPC	Specifies the VPC to be associated with the virtual gateway.	VPC-001
Local Subnet	Specifies the CIDR blocks of the subnets in the VPC to be accessed using Direct Connect. You can add one or more CIDR blocks. Separate every entry with a comma (,) if there are multiple CIDR blocks.	192.168.0.0/16
Description	Provides supplementary information about the virtual gateway.	-

4. Click **OK**.

Step 3 Create a virtual interface.

1. In the navigation pane on the left, choose **Direct Connect** > **Virtual Interfaces**.
2. Click **Create Virtual Interface**.
3. Configure the parameters based on **Table 1-4**.

Figure 1-4 Create Virtual Interface

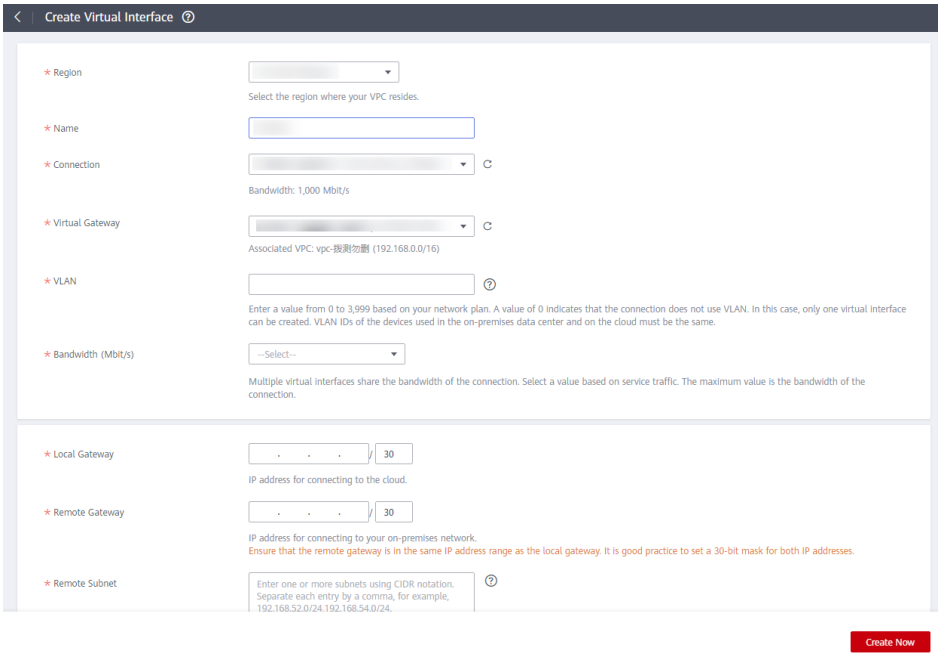


Table 1-4 Parameter description

Parameter	Description	Example Value
Region	Specifies the region where the connection resides. You can also change the region in the upper left corner of the console.	CN North-Beijing4
Name	Specifies the virtual interface name. The name can contain 1 to 64 characters.	vif-test
Connection	Specifies the connection you can use to connect your environment to HUAWEI CLOUD.	dc-test12
Virtual Gateway	Specifies the virtual gateway to which the virtual interface connects.	vgw-test
VLAN	Specifies the ID of the VLAN in which the virtual interface works. You need to configure the VLAN if you create a connection through self-service. The VLAN of the virtual interface of the hosting private line uses the VLAN allocated by the carrier or partner for the hosting private line. You do not need to configure the VLAN.	30
Bandwidth	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.	1,000 Mbit/s
Local Gateway	Specifies the IP address used to connect HUAWEI CLOUD to a connection.	10.0.0.1/30
Remote Gateway	Specifies the IP address for connecting to your network. 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.	10.0.0.2/30
Remote Subnet	Specifies the subnets and masks of your network. If there are multiple subnets, use commas (,) to separate them.	10.1.123.0/24
Routing Mode	Specifies the routing mode. Two options are available, static routing and BGP routing. If there are two connections or you want to have another connection in the future, select BGP routing.	Static

Parameter	Description	Example Value
BGP ASN	Specifies the ASN of the BGP peer. This parameter is required when BGP routing is selected.	N/A
BGP MD5 Authentication Key	Specifies the password used to authenticate the BGP peer using MD5. This parameter is required when BGP routing is selected.	N/A
Description	Provides supplementary information about the virtual interface.	N/A

4. Click **Create Now**.

Step 4 Wait for route advertisement on the cloud.

The Direct Connect device automatically advertises the routes after network connectivity is established.

Step 5 Advertise the routes on your device.

Example configuration (on a Huawei device):

```
ip route-static 192.168.0.0 255.255.0.0 10.0.0.1
```

----End

2 Accessing a VPC over a Connection That Uses BGP Routing

Overview

Connect your on-premises network that uses BGP routing so that your on-premises network can access the VPC.

Prerequisites

- Your on-premises network uses a single-mode fiber with a 1GE or 10GE optical module to connect to the access device in the cloud.
- Auto-negotiation for the port must be disabled. Port speed and full-duplex mode must be manually configured.
- 802.1Q VLAN encapsulation is supported on your network.
- Your device supports BGP and does not use ASN 64512, which is used by HUAWEI CLOUD.

Typical Topology

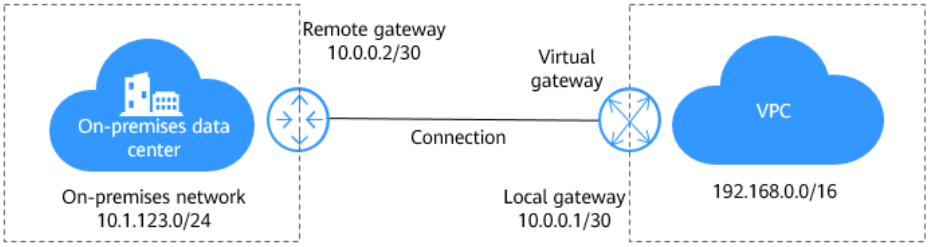
Your on-premises network is connected to a VPC in the CN North-Beijing4 region over a single connection. For details about how to create a VPC, see the **Virtual Private Cloud User Guide**.

The following is the network topology used in this solution:

Table 2-1 CIDR blocks

Item	CIDR Block
Your network	10.1.123.0/24
Remote and local gateways (addresses for interconnection)	10.0.0.0/30
VPC	192.168.0.0/16

Figure 2-1 Accessing a VPC over a connection that uses BGP routing



Procedure

Step 1 Create a connection.

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** > **Connections**.
5. Click **Create Connection**. Select **Self Service Installation**.
6. On the **Create Connection** page, enter information about the equipment room and select the Direct Connect location and port based on **Table 2-2**.

Figure 2-2 Creating a connection

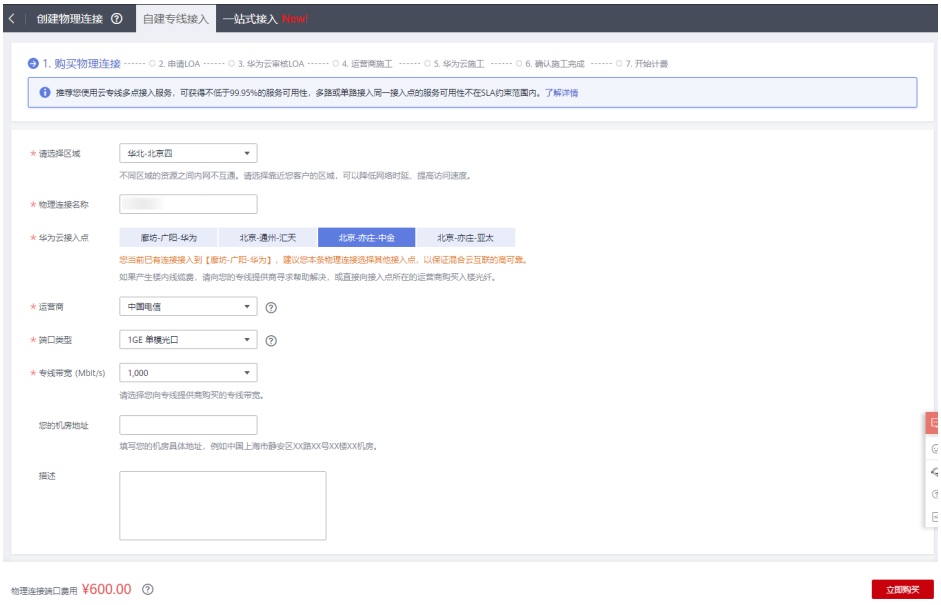


Table 2-2 Parameter description

Parameter	Description	Example Value
Region	Specifies the region where the connection resides. You can also change the region in the upper left corner of the console.	CN North-Beijing4
Connection Name	Specifies the name of your connection.	dc-test12
Location	Specifies the Direct Connect location where your leased line can be connected to.	Beijing-Yizhuang-Centrin
Carrier	Specifies the carrier that provides the leased line.	China Telecom
Port Type	Specifies the type of the port used by the connection. There are two types of ports: 1GE single-mode optical port and 10GE single-mode optical port.	1GE
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.	1,000 Mbit/s
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.	-
Description	Provides supplementary information about the connection.	-
Billing Mode	Specifies the billing model of the connection. Currently, only **Yearly/Monthly** is supported.	Yearly/Monthly
Required Duration	Specifies how long the connection will be used.	5 months

Parameter	Description	Example Value
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.	5 months
Contact Person Name/Contact Number/Contact Email	Specifies information about the person who is responsible for your connection. If the contact information is not provided, your account information will be queried. This will increase the review period.	Tom +086 13912345678 (Chinese mainland) Tom@mail.com

7. Click **Next**.
8. Confirm the order and click **Pay**.
9. Click **Pay**.

Step 2 Create a virtual gateway.

1. In the navigation pane on the left, choose **Direct Connect** > **Virtual Gateways**.
2. Click **Create Virtual Gateway**.
3. Configure the parameters based on **Table 2-3**.

Figure 2-3 Creating a virtual gateway

Table 2-3 Parameter description

Parameter	Description	Example Value
Name	Specifies the virtual gateway name. The name can contain 1 to 64 characters.	vgw-test
VPC	Specifies the VPC to be associated with the virtual gateway.	VPC-001
Local Subnet	Specifies the CIDR blocks of the subnets in the VPC to be accessed using Direct Connect. You can add one or more CIDR blocks. Separate every entry with a comma (,) if there are multiple CIDR blocks.	192.168.0.0/16
Description	Provides supplementary information about the virtual gateway.	-

4. Click **OK**.

Step 3 Create a virtual interface.

1. In the navigation pane on the left, choose **Direct Connect** > **Virtual Interfaces**.
2. Click **Create Virtual Interface**.
3. Configure the parameters based on **Table 2-4**.

Figure 2-4 Create Virtual Interface

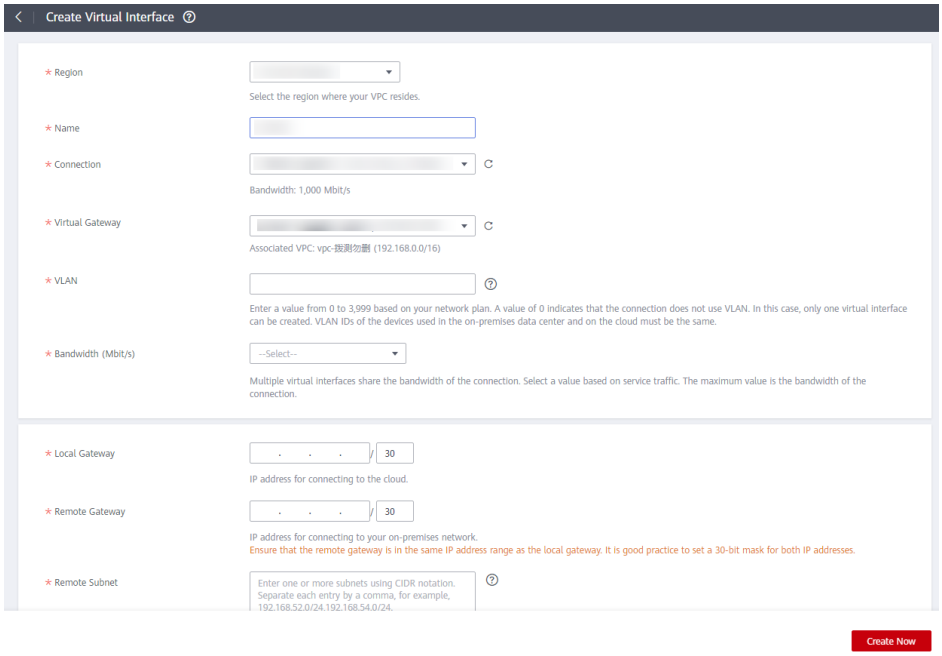


Table 2-4 Parameter description

Parameter	Description	Example Value
Region	Specifies the region where the connection resides. You can also change the region in the upper left corner of the console.	CN North-Beijing4
Name	Specifies the virtual interface name. The name can contain 1 to 64 characters.	vif-test
Connection	Specifies the connection you can use to connect your environment to HUAWEI CLOUD.	dc-test12
Virtual Gateway	Specifies the virtual gateway to which the virtual interface connects.	vgw-test

Parameter	Description	Example Value
VLAN	Specifies the ID of the VLAN in which the virtual interface works. You need to configure the VLAN if you create a connection through self-service. The VLAN of the virtual interface of the hosting private line uses the VLAN allocated by the carrier or partner for the hosting private line. You do not need to configure the VLAN.	30
Bandwidth	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.	1,000 Mbit/s
Local Gateway	Specifies the IP address used to connect HUAWEI CLOUD to a connection.	10.0.0.1/30
Remote Gateway	Specifies the IP address for connecting to your network. 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.	10.0.0.2/30
Remote Subnet	Specifies the subnets and masks of your network. If there are multiple subnets, use commas (,) to separate them.	10.1.123.0/24
Routing Mode	Specifies the routing mode. Two options are available, static routing and BGP routing. If there are two connections or you want to have another connection in the future, select BGP routing.	BGP
BGP ASN	Specifies the ASN of the BGP peer. This parameter is required when BGP routing is selected.	64510
BGP MD5 Authentication Key	Specifies the password used to authenticate the BGP peer using MD5. This parameter is required when BGP routing is selected.	1234567

Parameter	Description	Example Value
Description	Provides supplementary information about the virtual interface.	-

4. Click **Create Now**.

Step 4 Wait for route advertisement on the cloud.

The Direct Connect device automatically advertises the routes after network connectivity is established.

Step 5 Advertise the routes on your device.

Example configuration (on a Huawei device):

```
bgp 64510
peer 10.0.0.1 as-number 64512
peer 10.0.0.1 password simple 1234567
network 10.1.123.0 255.255.255.0
```

----End

3 Accessing a VPC over Two Connections That Uses BGP Routing

Overview

Connect your on-premises network to the cloud over two connections that are terminated at two locations in the same region and use BGP routing so that your on-premises network can access the VPC.

Prerequisites

- Your on-premises network uses a single-mode fiber with a 1GE or 10GE optical module to connect to the access device in the cloud.
- Auto-negotiation for the port must be disabled. Port speed and full-duplex mode must be manually configured.
- 802.1Q VLAN encapsulation is supported on your network.
- Your device supports BGP and does not use ASN 64512, which is used by HUAWEI CLOUD.

Typical Topology

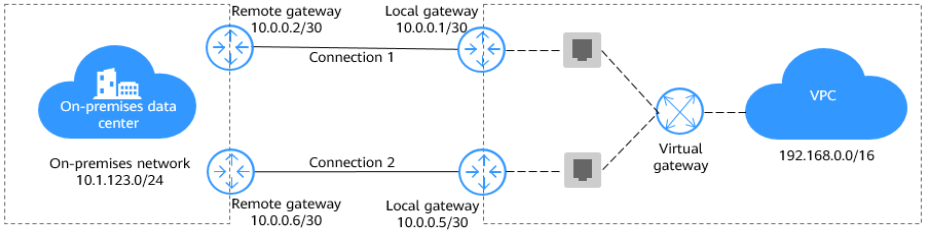
Your on-premises network is connected to a VPC in the CN North-Beijing4 region over two connections, with one terminated at Beijing-Zhongjin and the other one terminated at Langfang-Huawei Base. For details about how to create a VPC, see the **Virtual Private Cloud User Guide**.

CIDR blocks used in this solution are planned as below.

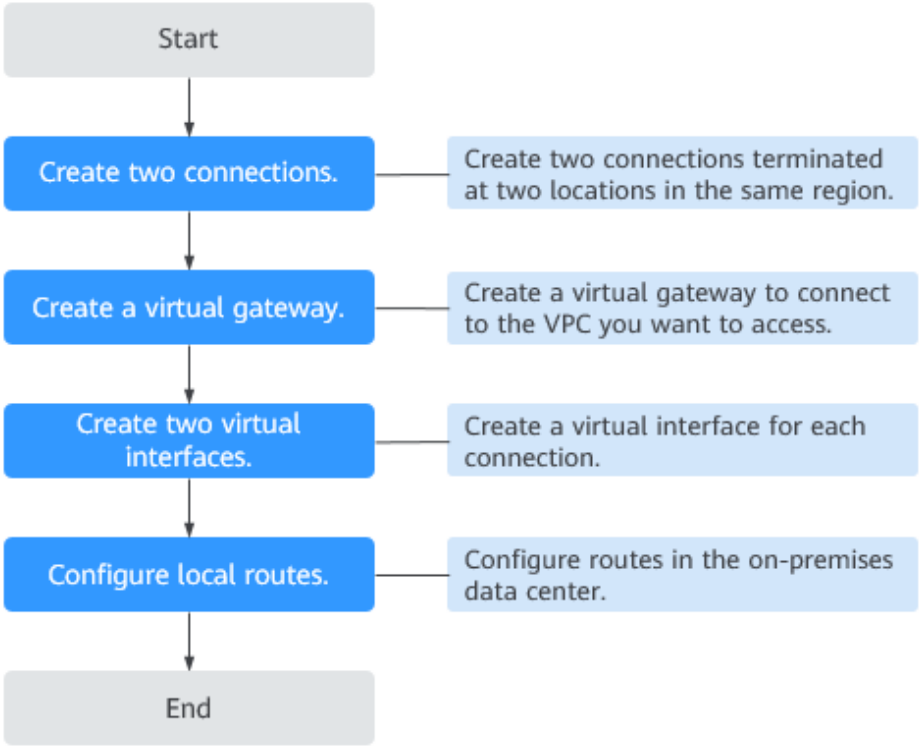
Table 3-1 CIDR blocks

Item	CIDR Block
Your on-premises network	10.1.123.0/24
Remote and local gateways (addresses for interconnection)	10.0.0.0/30 and 10.0.0.4/30
VPC	192.168.0.0/16

Figure 3-1 Accessing a VPC over two connections that use BGP routing



Operation process



Procedure

Step 1 Create two connections.

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** > **Connections**.
5. Click **Create Connection**. Select **Self Service Installation**.
6. On the **Create Connection** page, enter information about the equipment room and select the Direct Connect location and port based on **Table 3-2**.

Figure 3-2 Creating a connection

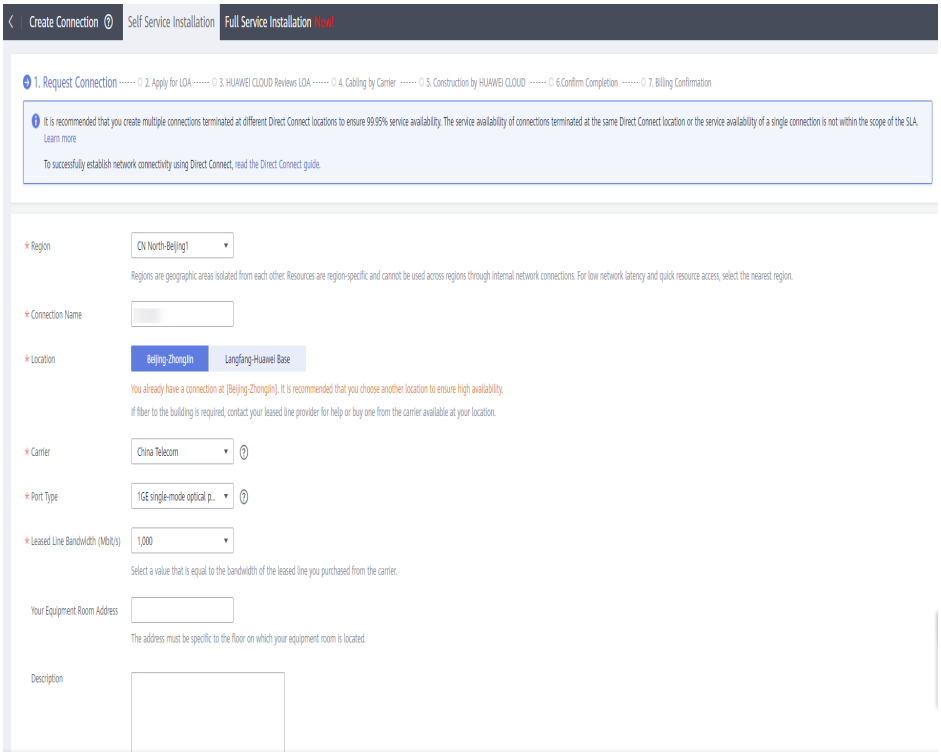


Table 3-2 Parameter description

Parameter	Description	Example Value
Region	Specifies the region where the connection resides. You can also change the region in the upper left corner of the console.	CN North-Beijing4
Connection Name	Specifies the name of your connection.	dc-connect1
Location	Specifies the Direct Connect location where your leased line can be connected to.	Beijing-Yizhuang-Centrin
Carrier	Specifies the carrier that provides the leased line.	China Telecom
Port Type	Specifies the type of the port used by the connection. There are two types of ports: 1GE single-mode optical port and 10GE single-mode optical port.	1GE
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.	1,000 Mbit/s

Parameter	Description	Example Value
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.	-
Description	Provides supplementary information about the connection.	-
Billing Mode	Specifies the billing model of the connection. Currently, only **Yearly/Monthly** is supported.	Yearly/Monthly
Required Duration	Specifies how long the connection will be used.	5 months
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.	5 months
Contact Person/Phone Number/Email	Specifies information about the person who is responsible for your connection. If the contact information is not provided, your account information will be queried. This will increase the review period.	Tom +086 13912345678 (Chinese mainland) Tom@mail.com

7. Click **Next**.
8. Confirm the order and click **Pay**.
9. Click **Pay**.
10. Repeat steps **4** to **9** to create connection **dc-connect2** and select **Langfang-Huawei Base** as its location.

Step 2 Create a virtual gateway.

1. In the navigation pane on the left, choose **Direct Connect** > **Virtual Gateways**.
2. Click **Create Virtual Gateway**.
3. Configure the parameters based on **Table 3-3**.

Figure 3-3 Creating a virtual gateway

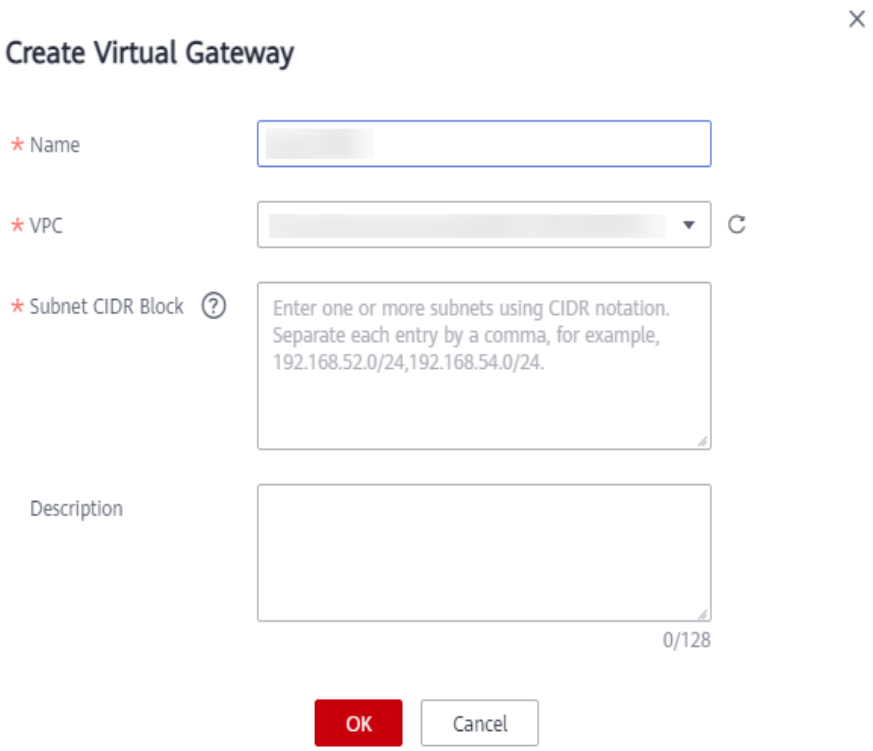


Table 3-3 Parameter description

Parameter	Description	Example Value
Name	Specifies the virtual gateway name. The name can contain 1 to 64 characters.	vgw-test
VPC	Specifies the VPC to be associated with the virtual gateway.	VPC-001
Local Subnet	Specifies the CIDR blocks of the subnets in the VPC to be accessed using Direct Connect. You can add one or more CIDR blocks. Separate every entry with a comma (,) if there are multiple CIDR blocks.	192.168.0.0/16
Description	Provides supplementary information about the virtual gateway.	-

4. Click **OK**.

Step 3 Create two virtual interfaces.

Create virtual interfaces **vif-test1** and **vif-test2** and associate them with virtual gateway **vgw-test**. Associate virtual interface **vif-test1** with connection **dc-connect1** and virtual interface **vif-test2** with connection **dc-connect2**.

1. In the navigation pane on the left, choose **Direct Connect** > **Virtual Interfaces**.
2. Click **Create Virtual Interface**.
3. Configure the parameters based on **Table 3-3**.

Figure 3-4 Create Virtual Interface

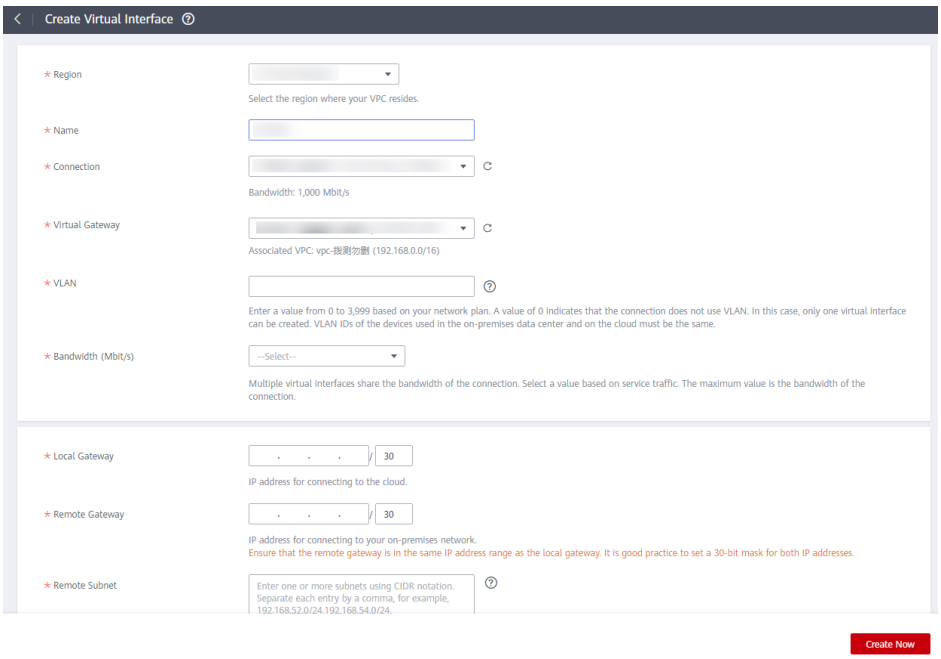


Table 3-4 Parameter description

Parameter	Description	Example Value
Region	Specifies the region where the connection resides. You can also change the region in the upper left corner of the console.	CN North-Beijing4
Name	Specifies the virtual interface name. The name can contain 1 to 64 characters.	vif-test1
Connection	Specifies the connection you can use to connect your environment to HUAWEI CLOUD.	dc-connect1
Virtual Gateway	Specifies the virtual gateway to which the virtual interface connects.	vgw-test

Parameter	Description	Example Value
VLAN	Specifies the ID of the VLAN in which the virtual interface works. You need to configure the VLAN if you create a connection through self-service. The VLAN of the virtual interface of the hosting private line uses the VLAN allocated by the carrier or partner for the hosting private line. You do not need to configure the VLAN.	30
Bandwidth	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.	1,000 Mbit/s
Local Gateway	Specifies the IP address for connecting to the cloud.	10.0.0.1/30
Remote Gateway	Specifies the IP address for connecting to your network. 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.	10.0.0.2/30
Remote Subnet	Specifies the subnets and masks of your network. If there are multiple subnets, use commas (,) to separate them.	10.1.123.0/24
Routing Mode	Specifies the routing mode. Two options are available, static routing and BGP routing. If there are two connections or you want to have another connection in the future, select BGP routing.	BGP
BGP ASN	Specifies the ASN of the BGP peer. This parameter is required when BGP routing is selected.	64510
BGP MD5 Authentication Key	Specifies the password used to authenticate the BGP peer using MD5. This parameter is required when BGP routing is selected.	Qaz12345678
Description	Provides supplementary information about the virtual interface.	-

4. Click **Create Now**.
5. Repeat steps 1 to 4 to create virtual interface **vif-test2**.

   NOTE

   When you create virtual interface **vif-test2**, select connection **dc-connect2**, and set **Local Gateway** to **10.0.0.5/30** and **Remote Gateway** to **10.0.0.6/30**.

Step 4 Wait for route advertisement on the cloud.

The Direct Connect device automatically advertises the routes after network connectivity is established.

Step 5 Advertise the routes on your device.

Example configuration (on a Huawei device):

```
bgp 64510
peer 10.0.0.1 as-number 64512
peer 10.0.0.1 password simple Qaz12345678
peer 10.0.0.5 as-number 64512
peer 10.0.0.5 password simple Qaz12345678
network 10.1.123.0 255.255.255.0
```

----End

Active/Standby Connections

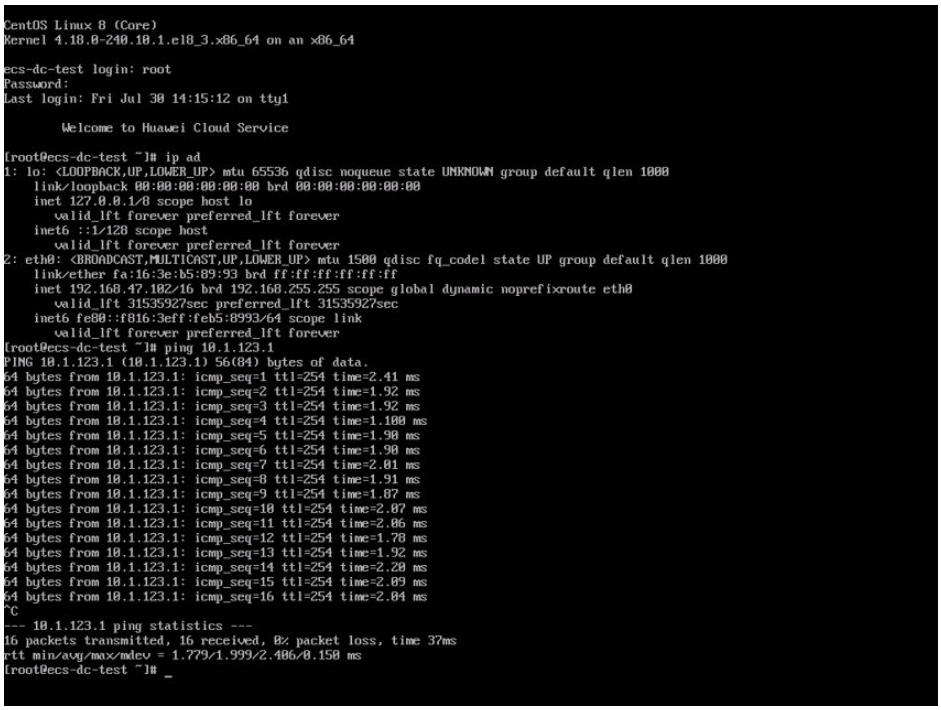
By default, the BGP protocol automatically selects the active and standby links. You can specify **as-path** and **local-preference** to configure the connection terminated at Beijing-Zhongjin as the active one.

The following is an example configuration:

```
bgp 64510
peer 10.0.0.1 as-number 64512
peer 10.0.0.1 password simple Qaz12345678
peer 10.0.0.5 as-number 64512
peer 10.0.0.5 password simple Qaz12345678
peer  10.0.0.5 route-policy slave_direct_in import
peer 10.0.0.5 route-policy slave_direct_out export
network 10.1.123.0 255.255.255.0
route-policy  slave_direct_in  permit node 10
apply local-preference 90
route-policy  slave_direct_out  permit node 10
apply as-path 64510 additive
```

Verification

Ping a VM in the on-premises data center from an ECS on the cloud.



Helpful Links

- For details about how to troubleshoot connection faults, see **Network and Connectivity** and **Routing**.
- For common problems about establishing network connectivity using Direct Connect, see **Leased Line Construction**.
- For common problems about Direct Connect interconnection, see **Interconnection with Cloud**.

4 Accessing Multiple VPCs Using a Connection

Overview

Your network accesses multiple VPCs through a connection. This topic uses a static routing connection as an example. For details, see **Accessing a VPC over a Connection That Uses Static Routing**. Assume that your data center accesses VPC-001 through 10.0.0.0/30 and accesses VPC-002 through 10.0.0.4/30.

NOTE

This solution applies to standard connections that provide dedicated ports for exclusive use.

Prerequisites

- Your on-premises network uses a single-mode fiber with a 1GE or 10GE optical module to connect to the access device in the cloud.
- Auto-negotiation for the port must be disabled. Port speed and full-duplex mode must be manually configured.
- 802.1Q VLAN encapsulation is supported on your network.

Typical Topology

Your on-premises network is connected to a VPC in the CN North-Beijing4 region over a single connection. For details about how to create a VPC, see the **Virtual Private Cloud User Guide**.

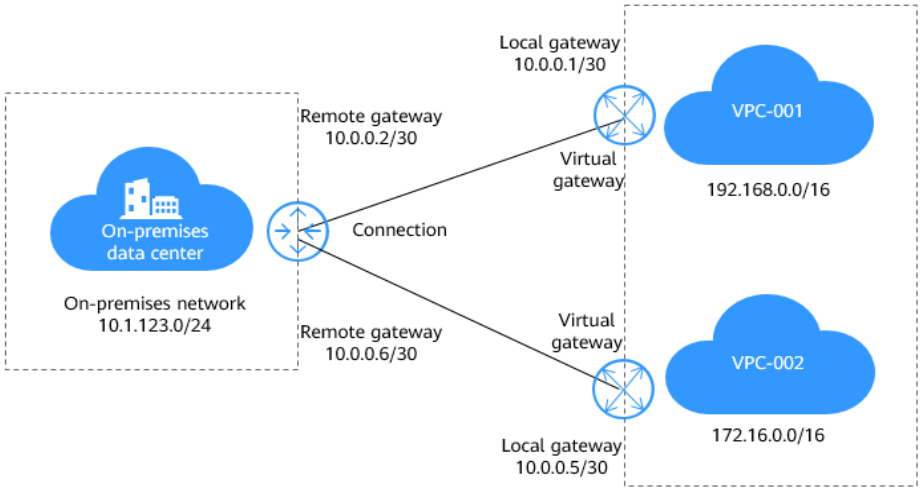
CIDR blocks used in this solution are planned as below.

Table 4-1 CIDR blocks

Item	CIDR Block
Your network	10.1.123.0/24
Remote and local gateways (addresses for interconnection)	10.0.0.0/30 and 10.0.0.4/30

Item	CIDR Block
VPC	VPC-001: 192.168.0.0/16 VPC-002: 172.16.0.0/16

Figure 4-1 Accessing multiple VPCs over a connection



Procedure

Step 1 Create a connection.

For details, see **Accessing a VPC over a Connection That Uses Static Routing**.

Step 2 Create a virtual gateway.

Create two virtual gateways, with one associated with VPC-001 and the other associated with VPC-002.

Figure 4-2 Create Virtual Gateway

Table 4-2 Virtual gateway 1 parameters

Parameter	Description	Example Value
Name	Specifies the virtual gateway name. The name can contain 1 to 64 characters.	vgw-test
VPC	Specifies the VPC to be associated with the virtual gateway.	VPC-001
Local Subnet	Specifies the CIDR blocks of the VPC to be accessed. You can add one or more CIDR blocks. Separate every entry with a comma (,) if there are multiple CIDR blocks.	192.168.0.0/16
Description	Provides supplementary information about the virtual gateway.	N/A

Figure 4-3 Create Virtual Gateway

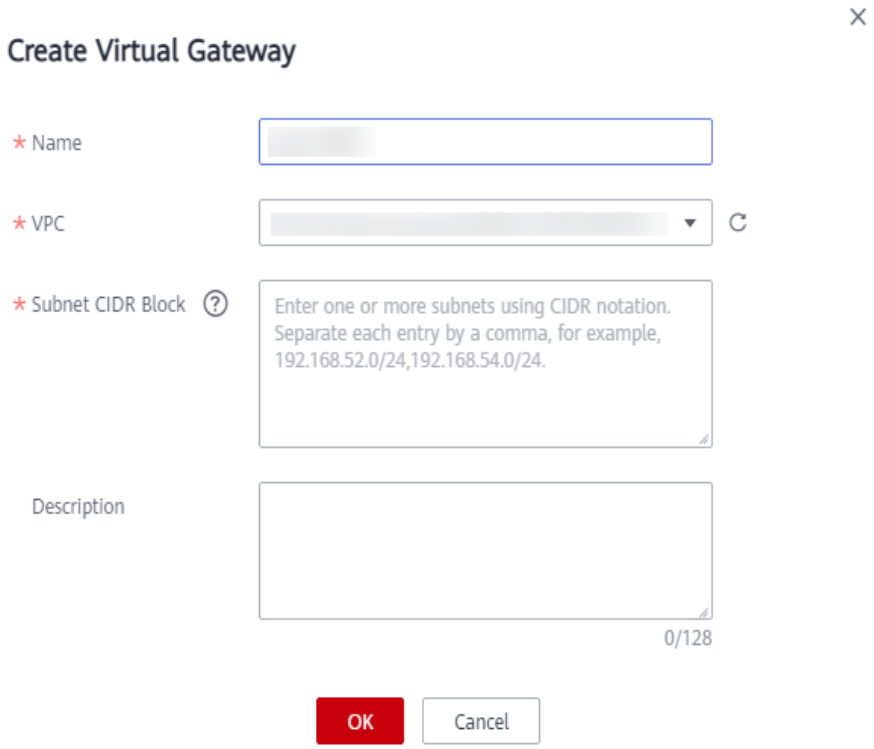


Table 4-3 Virtual gateway 2 parameters

Parameter	Description	Example Value
Name	Specifies the virtual gateway name. The name can contain 1 to 64 characters.	vgw-c413
VPC	Specifies the VPC to be associated with the virtual gateway.	VPC-002
Local Subnet	Specifies the CIDR blocks of the VPC to be accessed. You can add one or more CIDR blocks. Separate every entry with a comma (,) if there are multiple CIDR blocks.	172.16.0.0/16
Description	Provides supplementary information about the virtual gateway.	N/A

Step 3 Create a virtual interface.

Create two virtual interfaces, with each connected to a virtual gateway.

Figure 4-4 Create Virtual Interface

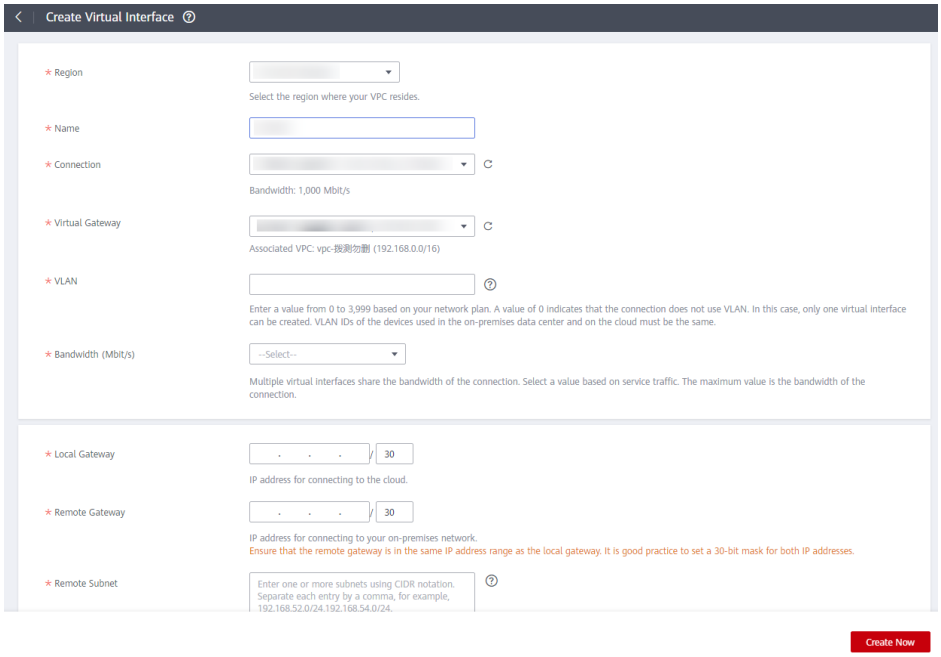


Table 4-4 Virtual interface 1 parameters

Parameter	Description	Example Value
Region	Specifies the region where the connection resides. You can also change the region in the upper left corner of the console.	CN North-Beijing4
Name	Specifies the virtual interface name. The name can contain 1 to 64 characters.	vif-test
Connection	Specifies the connection you can use to connect your environment to HUAWEI CLOUD.	dc-test12
Virtual Gateway	Specifies the virtual gateway to which the virtual interface connects.	vgw-test
VLAN	Specifies the ID of the VLAN in which the virtual interface works. You need to configure the VLAN if you create a connection through self-service. The VLAN of the virtual interface of the hosting private line uses the VLAN allocated by the carrier or partner for the hosting private line. You do not need to configure the VLAN.	30

Parameter	Description	Example Value
Bandwidth	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.	500 Mbit/s
Local Gateway	Specifies the IP address used to connect HUAWEI CLOUD to a connection.	10.0.0.1/30
Remote Gateway	Specifies the IP address for connecting to your network. 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.	10.0.0.2/30
Remote Subnet	Specifies the subnets and masks of your network. If there are multiple subnets, use commas (,) to separate them.	10.1.123.0/24
Routing Mode	Specifies the routing mode. Two options are available, static routing and BGP routing. If there are two connections or you want to have another connection in the future, select BGP routing.	Static
BGP ASN	Specifies the ASN of the BGP peer. This parameter is required when BGP routing is selected.	N/A
BGP MD5 Authentication Key	Specifies the password used to authenticate the BGP peer using MD5. This parameter is required when BGP routing is selected.	N/A
Description	Provides supplementary information about the virtual interface.	N/A

Figure 4-5 Create Virtual Interface

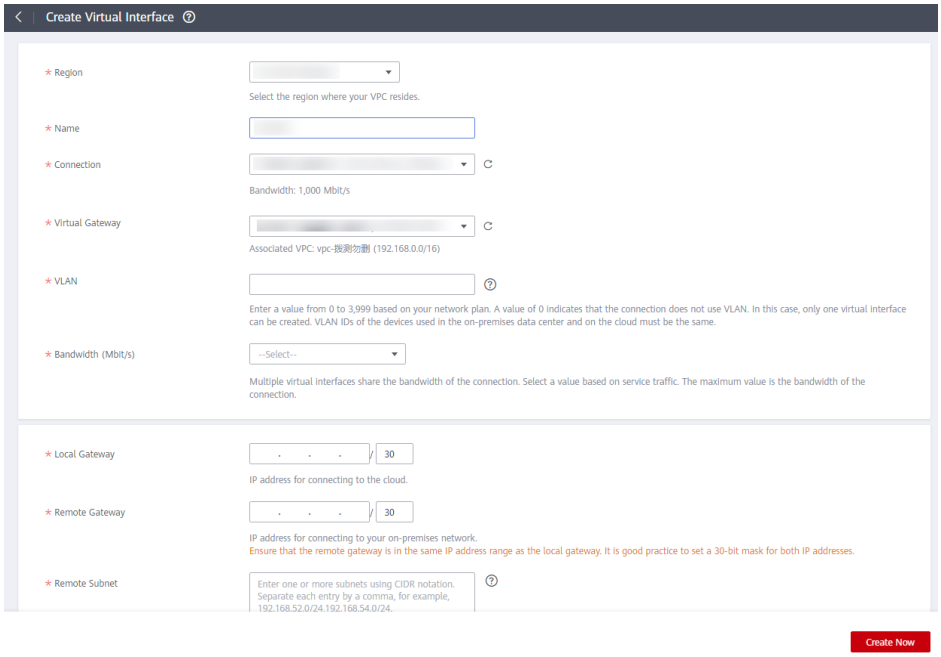


Table 4-5 Virtual interface 2 parameters

Parameter	Description	Example Value
Region	Specifies the region where the connection resides. You can also change the region in the upper left corner of the console.	CN North-Beijing4
Name	Specifies the virtual interface name. The name can contain 1 to 64 characters.	vif-c413
Connection	Specifies the connection you can use to connect your environment to HUAWEI CLOUD.	dc-test12
Virtual Gateway	Specifies the virtual gateway to which the virtual interface connects.	vgw-c413
VLAN	Specifies the ID of the VLAN in which the virtual interface works. You need to configure the VLAN if you create a connection through self-service. The VLAN of the virtual interface of the hosting private line uses the VLAN allocated by the carrier or partner for the hosting private line. You do not need to configure the VLAN.	31

Parameter	Description	Example Value
Bandwidth	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.	500 Mbit/s
Local Gateway	Specifies the IP address used to connect HUAWEI CLOUD to a connection.	10.0.0.5/30
Remote Gateway	Specifies the IP address for connecting to your network. 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.	10.0.0.6/30
Remote Subnet	Specifies the subnets and masks of your network. If there are multiple subnets, use commas (,) to separate them.	10.1.123.0/24
Routing Mode	Specifies the routing mode. Two options are available, static routing and BGP routing. If there are two connections or you want to have another connection in the future, select BGP routing.	Static
BGP ASN	Specifies the ASN of the BGP peer. This parameter is required when BGP routing is selected.	N/A
BGP MD5 Authentication Key	Specifies the password used to authenticate the BGP peer using MD5. This parameter is required when BGP routing is selected.	N/A
Description	Provides supplementary information about the virtual interface.	N/A

Step 4 Wait for route advertisement on the cloud.

The Direct Connect device automatically advertises the routes after network connectivity is established.

Step 5 Advertise the routes on your device.

Example configuration (on a Huawei device):

```
ip route-static 192.168.0.0 255.255.0.0 10.0.0.1
ip route-static 172.16.0.0 255.255.0.0 10.0.0.5
```

----End

5 Accessing Multiple VPCs Using VPC Peering

Scenarios

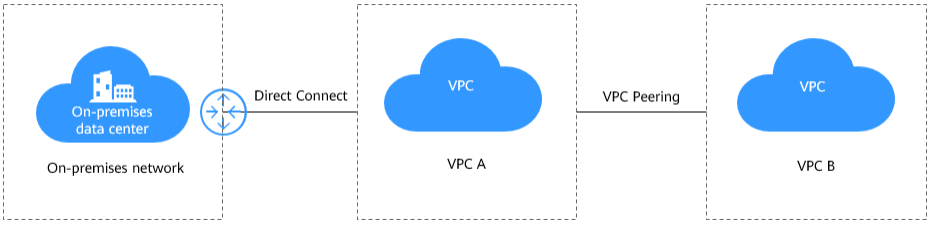
After your environment has been connected to HUAWEI CLOUD, you can use VPC Peering to access other VPCs in the same region.

In this practice, the two VPCs are in the CN North-Beijing4 region.

NOTE

The subnets of the VPCs must be unique.

Typical Topology



Procedure

Step 1 Configure Direct Connect to connect your on-premises data center to VPC A.

1. **Create a connection**.
2. **Create a virtual gateway**.

   When you create the virtual gateway, select VPC A for **VPC**.
3. **Create a virtual interface**.

Step 2 Create a VPC peering connection between VPC A and VPC B.

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** > **Virtual Private Cloud**.
4. In the navigation pane on the left, click **VPC Peering**.
5. On the **VPC Peering** page, click **Create VPC Peering Connection**.
6. Configure the parameters based on **Table 5-1**.

Figure 5-1 Creating a VPC peering connection

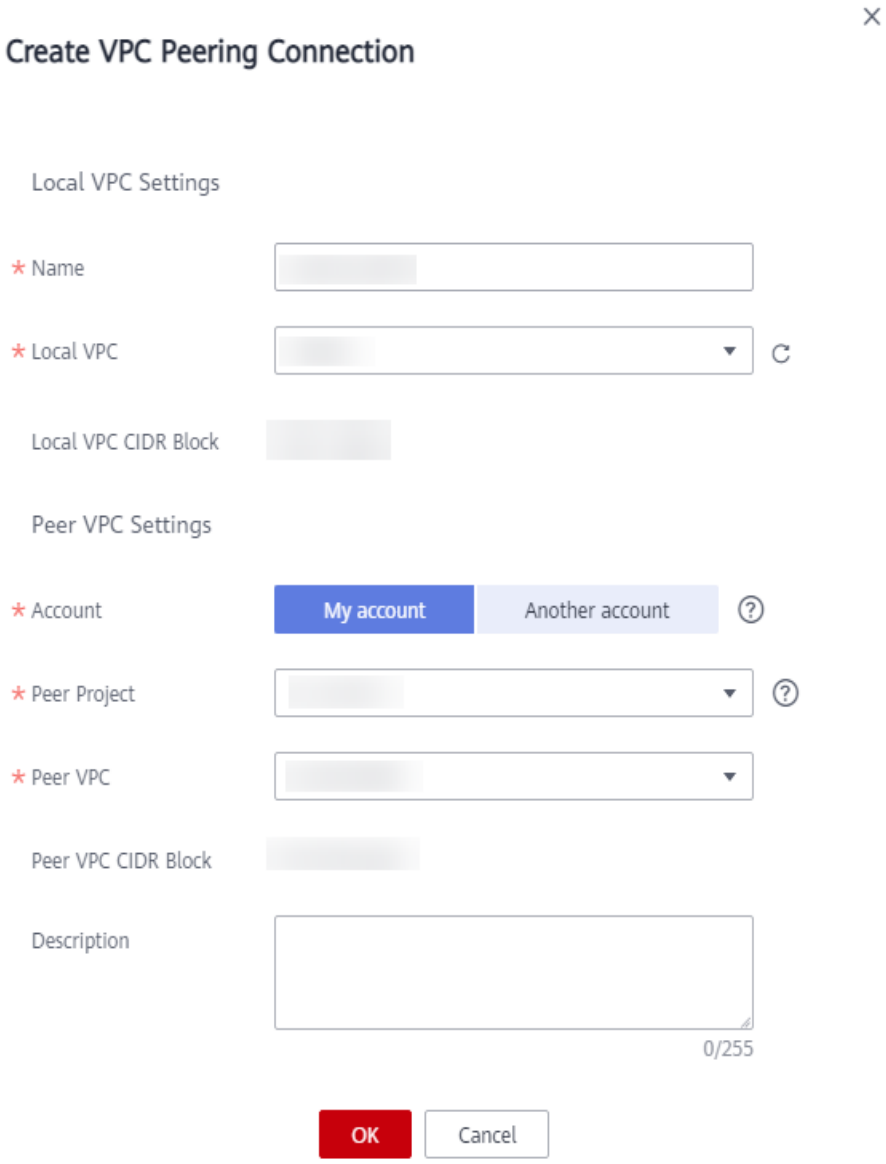


Table 5-1 Parameter description

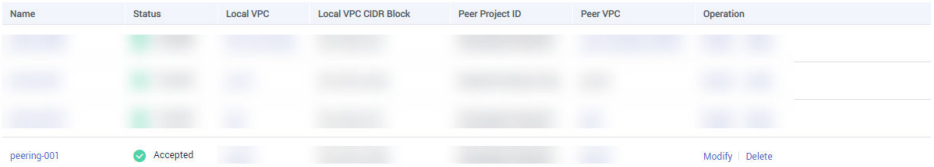
Parameter	Description	Example Value
Name	Specifies the name of the VPC peering connection. The name contains a maximum of 64 characters, which consist of letters, digits, hyphens (-), and underscores (_).	peering-001
Local VPC	Specifies the local VPC. You can select one from the drop-down list.	VPC B
Local VPC CIDR Block	Specifies the CIDR block for the local VPC.	192.168.2.0/24
Account	Specifies the account to which the VPC to peer with. – **My account**: The VPC peering connection will connect two VPCs in your account, in the same region. – **Another account**: The VPC peering connection will connect your VPC to a VPC in another account, in the same region.	My account
Peer Project	Specifies the project name. The project name of the current project is used by default. You can log in to the management console, hover the cursor over account name in the upper right corner, and choose **My Credentials**. On the **My Credentials** page, view the project name and project ID.	aaa
Peer VPC	Specifies the peer VPC. You can select one from the drop-down list if the VPC peering connection is created between two VPCs of your own.	VPC A
Peer VPC CIDR Block	Specifies the CIDR block for the peer VPC. The local and peer VPCs cannot have matching or overlapping CIDR blocks. Otherwise, the routes added for the VPC peering connection may not take effect.	192.168.10.0/24
Description	Provides supplementary information about the VPC peering connection.	-

7. Click **OK**.

Step 3 Add routes for the VPC peering connection.

1. Under **Networking**, click **Virtual Private Cloud**.
2. In the navigation pane on the left, click **VPC Peering**.
3. Locate the VPC peering connection in the connection list.

Figure 5-2 VPC peering connection list



4. Click the name of the VPC peering connection to switch to the page showing details about the connection.
5. Click the **Local Routes** tab.
6. In the **Local Routes** area, click **Add Local Route**. In the displayed dialog box, add a local route.

   Table 5-2 lists the parameters.

Figure 5-3 Add Local Route

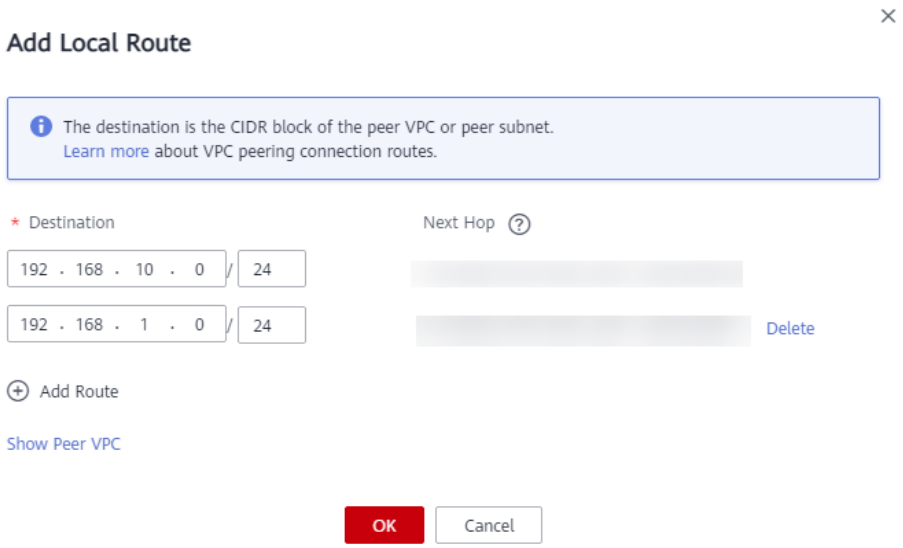


Table 5-2 Parameter description

Parameter	Description	Example Value
Destination	Specifies the destination address. Set it to the peer VPC or subnet CIDR block. Add the CIDR block of VPC A and the local subnet used by the on-premises data center.	192.168.10.0/24 192.168.1.0/24

Parameter	Description	Example Value
Next Hop	Specifies the next instance along the path to the destination. By default, the VPC peering connection ID is used as the next hop and cannot be changed.	-

NOTE

In some regions, you need to click **Route Tables** to add the local route to the VPC route table.

The operations may vary depending on the region.

7. Click **OK** to switch to the page showing the VPC peering connection details.
8. Click the **Peer Routes** tab.
9. In the **Peer Routes** area, click **Add Peer Route** and add a route.

   Table 5-3 lists the parameters.

Figure 5-4 Add Peer Route

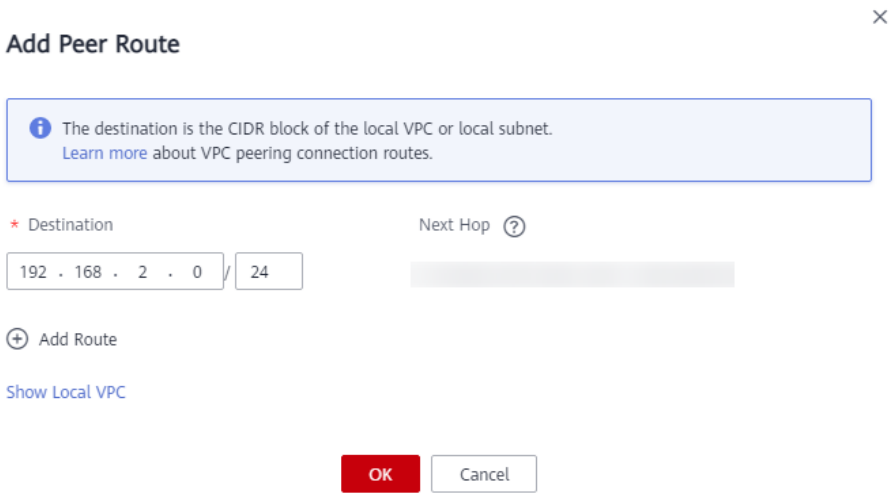


Table 5-3 Parameters for adding a peer route

Parameter	Description	Example Value
Destination	Specifies the destination address. Set it to the CIDR block of the local VPC or its subnet. CIDR block of VPC B: 192.168.2.0/24	192.168.2.0/24

Parameter	Description	Example Value
Next Hop	Specifies the next instance along the path to the destination. By default, the VPC peering connection ID is used as the next hop and cannot be changed.	-

NOTE

In some regions, you need to click **Route Tables** to add the peer route to the VPC route table.

The operations may vary depending on the region.

10. Click **OK**.

----End

6 Accessing OBS Using Direct Connect

Create a connection to connect your data center to HUAWEI CLOUD and then use VPC Endpoint service to access cloud services through a private network. This improves access efficiency and reduces costs.

For details, see **Accessing OBS**.

7 Accessing the Internet by Working with NAT Gateway

Create a connection to connect your on-premises data center to HUAWEI CLOUD and then set SNAT rules in NAT Gateway to enable servers to access the Internet in a secure and reliable way and at a high speed, or DNAT rules to enable servers to provide services accessible from the Internet. This is widely used in scenarios such as gaming, e-commerce, and finance.

For details, see **Using SNAT and DNAT Rules to Enable Inter-Cloud High-Speed Internet Access**.

