Express Connect

User Guide

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User Guide

Router interface

Express Connect router interface is a virtual device used to set up a communication channel and control the working status.

Express Connect abstracts the process of building intranet communication channels between networks by creating and connecting router interfaces on the VRouters of both networks. This allows both VRouters to send messages to each other through the channel.

When creating a router interface, you have to choose the connection role of the router interface, either the initiator or acceptor. Only the initiator can initiate a connection.

Prerequisite

Acquire the information of the peer region and the peer VPC.

Procedure

Log on to Express Connect console.

In the left-side navigation pane, select **Router Interface**.

In the upper-right corner, click **Create Router Interface**. The **purchase page** appears.

For the billing method, select **Subscription**.

> **Attention**: If **Initiator** and **Receiver** are in different account, for **Receiver** router interfaces, select **Pay-As-You-Go** as the billing method.

Select a scenario from the following options:

VPC Interconnection

Choose this scenario if you’ d like to connect two VPCs. For detail configuration, see Configure a router interface (VPC Interconnection).

Physical Access

Choose this scenario in the situation that you need to create a router interface for a VBR and a VPC seperately when you want to connect a leased line with a VPC. For detail configuration, see Configure a router interface (Physical Access).

Whichever scenario you choose, after the creation of the router interfaces, you need to:

- If you create Initiator and Receiver under the same account, configure a route for each router interface.
- If you create Initiator and Receiver in different account, add peer router interface > Initiate a connection > configure a route.

Click **Buy Now**.

On the **Confirm Order** page, click **Activate**.

On the **Payment** page, click **Pay**.

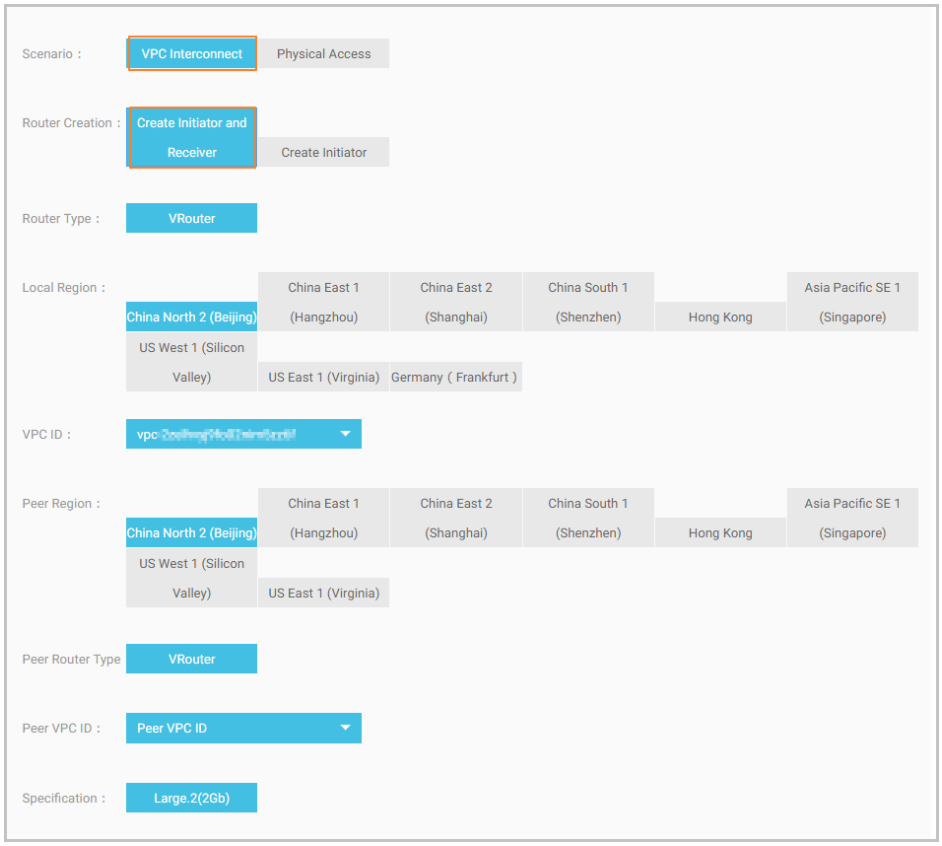
When configuring a router interface, you have to choose **Scenario** first: **VPC Interconnection**, **Physical Access**.

This tutorial instruct you to configure a router interface in **VPC Interconnection** scenario.

If you create router interfaces for two VPCs under the same account, choose **Create Initiator and Receiver** for **Router Creation**. Other configurations are as follows:

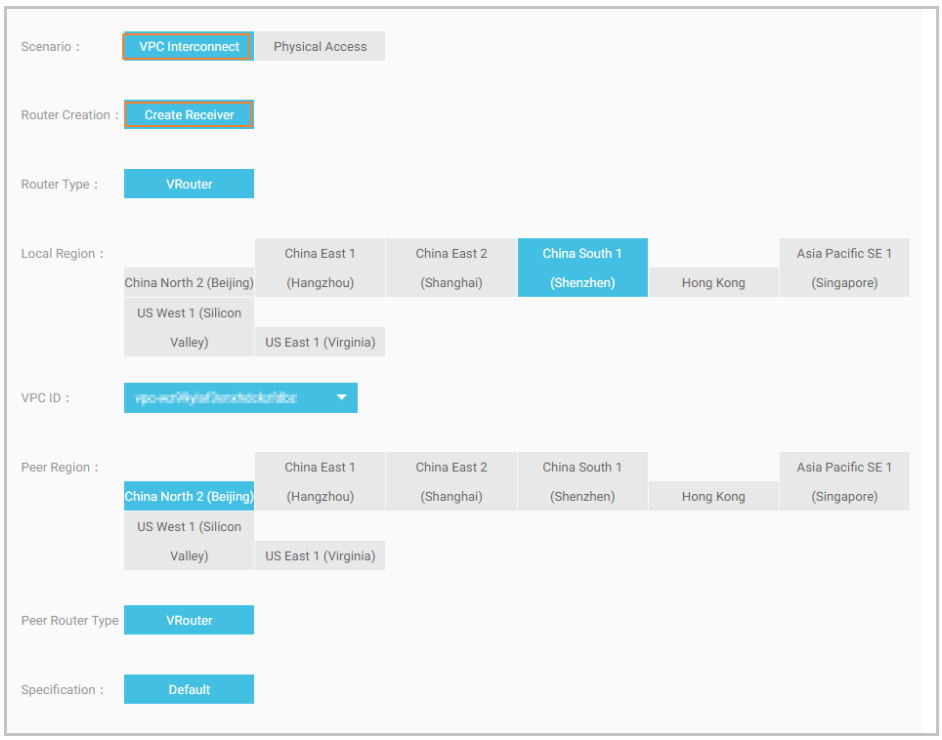
Configuration	Description
Router Type	Defaults to VRouter.
Region	The region that the VPC belongs to. For example, if the VPC is in Hangzhou, select **China East 1**. Once the router interface is created, the region cannot be modified any more.
VPC ID	Choose the VPC ID in the drop-down list.
Peer Region	The region of peer VPC.
Peer Route Type	Defaults to VRouter.

Peer VPC ID	Choose the peer VPC ID in the drop-down list.
Specification	Choose according to your business needs.



If you create router interfaces for two VPCs under different accounts, choose **Create Initiator** or **Create Receiver** for **Router Creation**. Other configurations are as follows:

Configuration	Description
Router Type	Defaults to VRouter.
Region	The region that the VPC belongs to. For example, if your VPC is in Hangzhou, select **China East 1**. Once the router interface is created, the region cannot be modified any more.
VPC ID	Choose the VPC ID in the drop-down list.
Peer Region	The region of peer VPC.
Peer Route Type	Defaults to VRouter.
Specification	For initiator, choose the specification according to your business needs. For receiver, the specification is not selectable.

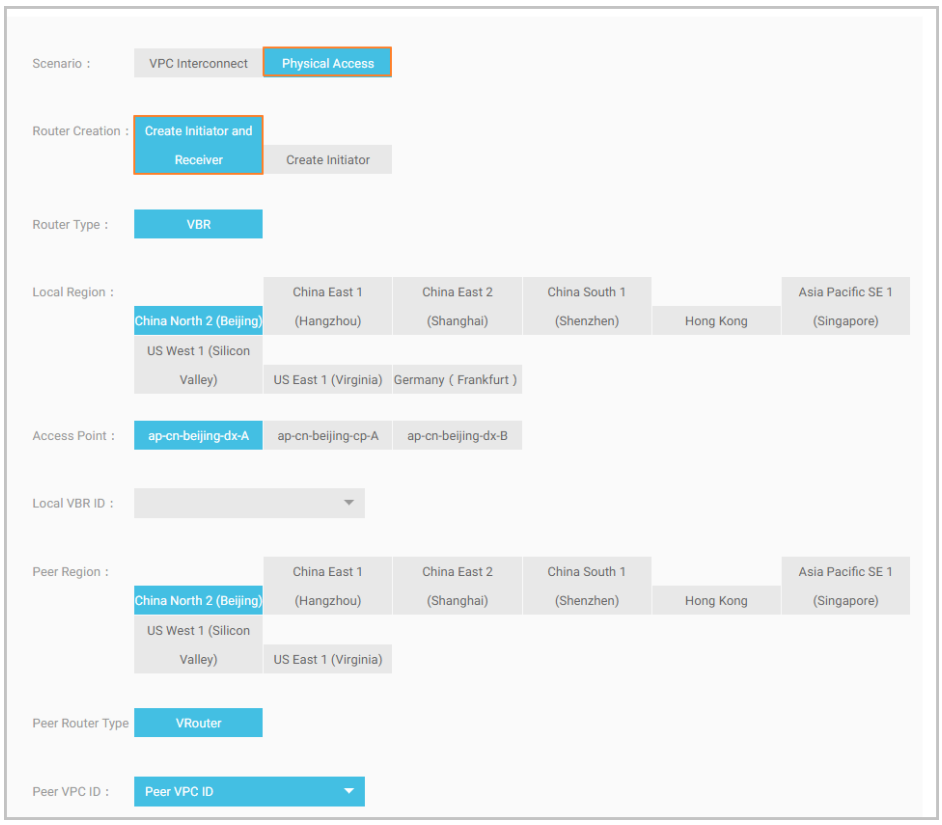


When configuring a router interface, you have to choose **Scenario** first: **VPC Interconnection**, **Physical Access**.

This tutorial instruct you to configure a router interface in **Physical Access** scenario.

If you want to connect a leased line and a VPC under the same account, you need to create a router interface for the VPC and the VBR. Choose **Create Initiator and Receiver** for **Router Creation**. Other configurations are as follows:

Configuration	Description
Router Type	Defaults to VBR.
Local Region	Choose the region of the leased line.
Access Point	The access point of the leased line.
VBR ID	Choose the VBR ID in the drop-down list.
Peer Region	The region of the peer VPC.
Peer Router Type	Defaults to VRouter.
Peer VPC ID	Choose the peer VPC in the drop-down list.
Specification	Choose according to your business needs.



If you want to connect a leased line and a VPC under different account, you need to create a router interface for the VBR on the leased line. In this situation, choose **Create Initiator** for **Router Creation**. Other configurations are as follows:

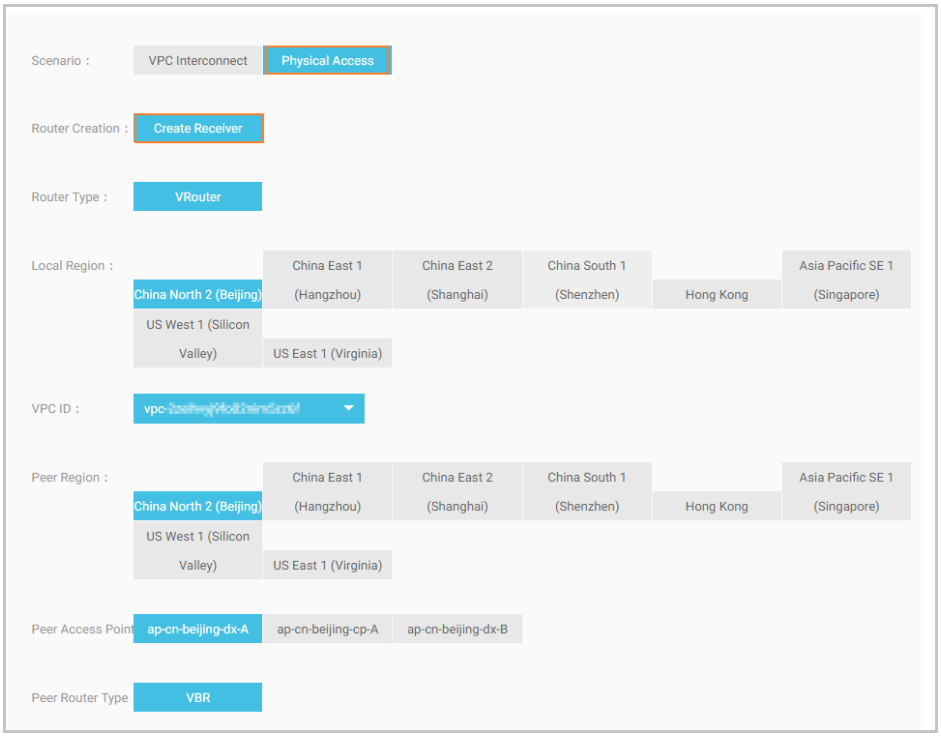
Note: VBR router must serve as the Initiator.

Configuration	Description
Router Type	Defaults to VBR.
Local Region	Choose the region of the leased line.
Access Point	The access point of the leased line.
VBR ID	Choose the VBR ID in the drop-down list.
Peer Region	The region of the peer VPC.
Peer Router Type	Defaults to VRouter.
Specification	Choose the specification according to your business needs.

If you want to connect a leased line and a VPC under different account, you need to create a router interface for VPC. In this situation, choose **Create Receiver** for **Router Creation**. Other configurations are as follows:

Note: VBR router must serve as the Initiator.

Configuration	Description
Router Type	Defaults to VRouter.
Region	Choose the region of the leased line.
VPC ID	Choose the VPC ID in the drop-down list.
Peer Region	The region of the leased line.
Peer Access Point	The access point of the lease line.
Peer Router Type	Defaults to VBR.
Specification	Not selectable.



Add peer router interface

Prerequisite

When creating a router interface, if you choose the scene of **Custom**, the purchase page will not contain the configuration of the peer router interface. You need to add peer router interface as the following steps.

Before creating a router interface, you need to acquire peer account ID, peer router ID, peer router interface ID.

Procedure

Log on to Express Connect console.

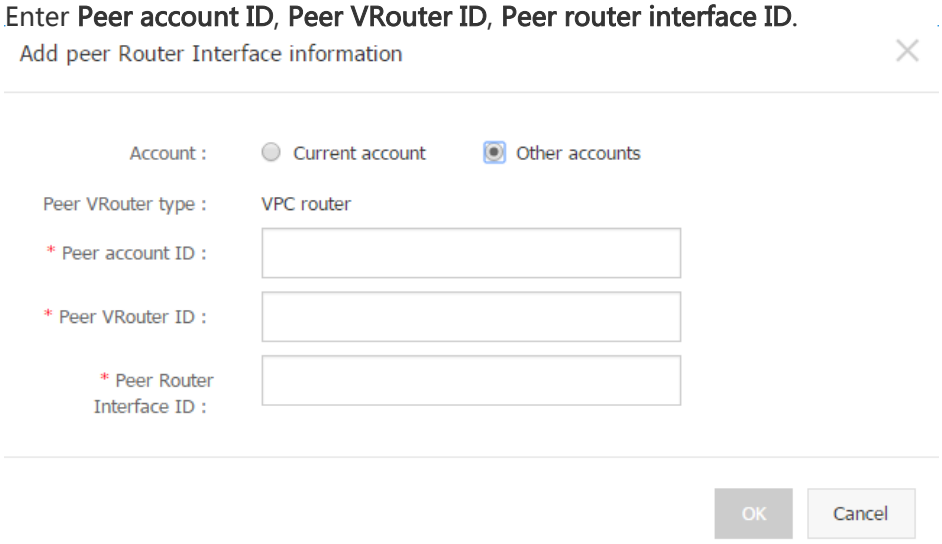
In the left-side navigation pane, select **Router Interface**. The **Router Interface List** page appears.

Select the region where the router interface is created.

Select the target router interface, and click **Add**.

In the pop-up dialog box, complete the following information:

- **Account**: Select **Other accounts**.
- **Peer VRouter Type**: Defaults to **VPC VRouter**.
- Enter **Peer account ID**, **Peer VRouter ID**, **Peer router interface ID**.



Click **Confirm**.

Note: If the peer interface information need to be modified, click **Change Router Interface** to modify information, or click **More** > **Edit Peer Interface Information**.

Overview

A router interface serves as the initiating side can initiate a connection. You only need to initiate a connection for router interfaces under different accounts. The system automatically initiates a connection for router interfaces under the same account.

After the connection is created, the initiating side starts to be billed.

Procedure

Log on to Express Connect console.

In the left-side navigation pane, select **Router Interface**. The **Router Interface List** page appears.

Select the region where the router interface is created.

Select the router interface, and click **Initiate Connection**.

In the pop-up dialog box, click **Confirm**.

Configure a route

Procedure

Log on to Express Connect console.

In the left-side navigation pane, select **Router Interface**. The **Router Interface List** page appears.

Select the region where the router interface is created.

Select the router interface, and click **Route Configuration**.

Click **Add Route Entry**.

On the pop-up dialog box, complete the following information:

- **Destination CIDR Block**: The CIDR block of the peer VSwitch.
- **Next Hop Type**: Select **Router Interface**.
- **Router Interface**: If you had established a redundant leased line, select **ECMP Routing**; if not, select **General Routing**. In the drop-down box, choose the router interface serves as data outlet of the local router.

Click **OK**.

Activate a router interface

Overview

You can activate the inactive router interface to restart data transfer.

Procedure

Log on to Express Connect console.

In the left-side navigation pane, select **Router Interface**. The **Router Interface List** page appears.

Select the region where the router interface is created.

Select the interface to be activated and click **Activate**.

Click **Confirm**.

Freeze a router interface

Overview

Router interfaces in **Active** status can be frozen and data will no longer pass through them.

Procedure

Log on to Express Connect console.

In the left-side navigation pane, select **Router Interface**. The **Router Interface List** page appears.

Select the region where the router interface is created.

Select the interface to be frozen and click **Freeze**.

Click **Confirm**.

Delete a router interface

Overview

Router interfaces in **Unconnected** or **Inactive** status can be deleted.

Procedure

Log on to Express Connect console.

In the left-side navigation pane, select **Router Interface**. The **Router Interface List** page appears.

Select the region where the router interface is created.

Select the interface to be deleted, and click **More** > **Delete**.

Click **Confirm**.

Edit local interface information

Procedure

Log on to Express Connect console.

In the left-side navigation pane, select **Router Interface**. The **Router Interface List** page appears.

Select the region where the router interface is created.

Select the router interface to be edited, click **More > Edit Local Interface Information**.

In the pop-up dialog box, modify the router interface name and description.

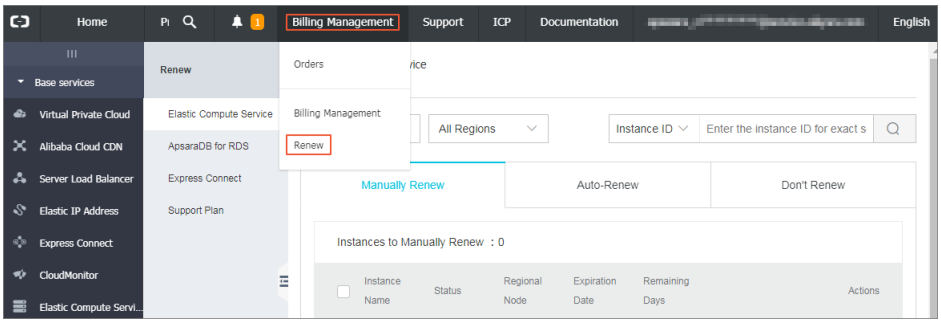
Click **Confirm**.

You can renew the subscribed initiator router interface within the contract or within 7 days after the router interface expires. Both manual and automatic renewals are supported. If you do not renew your router interface in time, your business may be affected.

Procedure

Log on to the Express Connect console.

On the top menu, click **Billing Management** > **Renew**.



In the left-side navigation pane, click **Express Connect**.

On the Express Connect renewal page, you can:

Click the **Manually Renew** tab and find the target router interface, and then:

- Click **Renew** and select the renewal period.
- Click **Enable Auto-Renew** to enable automatic renewal.
- Click **Don't Renew** if you do not want to renew the router interface.

Click the **Auto-Renew** tab and find the target router interface, and then:

- Click **Modify Auto-Renew** to select a renewal period or cancel automatic renewal.

- Click **Don't Renew** if you do not want to renew the router interface.

Click the **Don't Renew** tab and find the target router interface; then click **Enable Manual Renew** to cancel automatic renewal.

You can upgrade or downgrade an initiator router interface at any time. Changes take effect in real time.

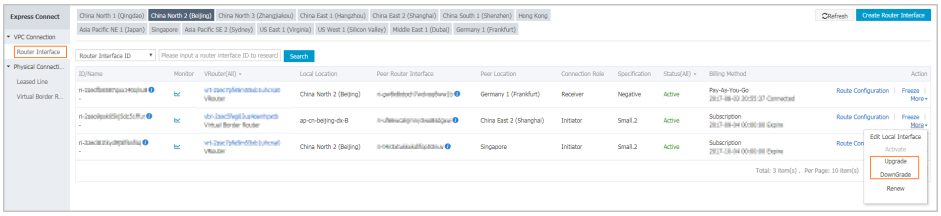
Procedure

Log on to Express Connect console.

In the left-side navigation pane, select **VPC Connection** > **Router Interface**.

Select a region and choose the target router interface.

Select **More** > **Upgrade/Downgrade**.



Select new specification and click **Pay**.

Leased line

Apply for leased line access

Overview

A leased line connects client’ s IDC with the associated access port of Alibaba Cloud (VPC).

Restrictions

- Alibaba Cloud provides one or more access points in each accessible region. Different access points have different carrier restrictions. Before applying for leased line access, open a ticket to Alibaba Cloud to obtain access point and carrier restriction information.
- Physical Connection does not support the SDH interface in G.703 and V.35 format.

Procedure

Log on to Express Connect console.

In the left-side navigation pane, choose **Leased Line**.

In the top right corner, click **Apply for Leased Line Access**.

In the application page, complete the following information:

- **Access Point**: Select a region where your IDC is located. An access point belongs to a certain region. Different access points in one region may be with different access capabilities. Please open a ticket to get detail information of each access point.
- **Carrier**: Different access point has its designated carrier, open a ticket to get more information.
- **Access Port Type**: Select according to your business needs.
- **Bandwidth for Access**: Select according to your business needs.
- **Leased Line Peer Address**: Enter the location of your IDC.
- **Redundant Physical Leased Line**: In the drop-down box, select the redundant physical leased line you have established a leased line for the IDC before.

Click **Confirm Application**.

After you open the application, the leased line status is **Application in Progress**. Alibaba Cloud will contact you to verify the application within two business days. After your application is approved, the leased line status will be updated to **Approved**, and you need to click **Pay Access Fee**.

Note: After the payment, Alibaba Cloud starts provisioning the leased line, and the leased line status is updated to **Access Construction in Progress**. After the provision is completed, the leased line status is updated to **Normal**, and the connection is established. If the provisioning fails, the leased line status shows **Construction Failed**, and you need to apply again.

Manage the leased line on the Express Connect console as follows:

Cancel access

Terminate access

Delete a leased line

Modify access information

Check access status

Check virtual border router

Cancel access

Overview

Leased line access can be canceled during provisioning (that is, its status is **Application in Progress** or **Access Construction in Progress**).

Procedure

1. Log on to **Express Connect console**.
2. In the left navigation bar, select **Leased Line**. The **Leased Line List** page appears.
3. Choose the region where the leased line is created.
4. Choose the leased line to be canceled.
5. Click **Cancel access**.
6. Click **Confirm**.

Terminate access

Overview

A leased line can be terminated when it is in **Normal** status.

Procedure

Log on to Express Connect console.

In the left navigation bar, choose **Leased Line**. The **Leased Line List** page appears.

Choose the region where the leased line is created.

Choose the leased line to be terminated.

Click **Terminate access**.

Click **Confirm**.

Delete a leased line

Overview

A leased line can be deleted when it is in **Canceled**, **Terminated** or **Construction failed** status.

Procedure

Log on to Express Connect console.

In the left navigation bar, choose **Leased Line**. The **Leased Line List** page appears.

Choose the region where the leased line is created.

Choose the leased line to be deleted.

Click **Delete**.

Click **Confirm**.

Modify access information

Procedure

Log on to Express Connect console.

In the left navigation bar, choose **Leased Line**. The **Leased Line List** page appears.

Choose the region where the leased line is created.

Choose the leased line to be modified.

Click **Modify Info**.

Modify the information and click **Confirm**.

Check access status

Procedure

Log on to Express Connect console.

In the left navigation bar, choose **Leased Line**. The **Leased Line List** page appears.

Choose the region where the leased line is created.

Choose the leased line.

Click **View** to check its status.

Check virtual border router

Overview

The virtual border router can be checked in the virtual border router list for completed leased lines in **Normal** status.

Procedure

Log on to Express Connect console.

In the left navigation bar, choose **Leased Line**. The **Leased Line list** page appears.

Choose the region where the leased line is created.

Choose the leased line and click **Virtual Border Router**.

Virtual border router

Overview

A virtual border router (VBR) serves as the router between the Customer Premise Equipment (CPE) and the cloud-based VPC VRouter, which forwards data from VPC to IDC.

Restrictions

Like VRouters in VPCs, a VBR also manage a route table and route entries. Add route entries to manage the traffic of the VBR.

- A VBR can only have one route table.
- The maximum number of custom route entries in a route table is 48.
- Source address policy route is not supported.
- A VBR only supports static route.

Procedure

Log on to Express Connect console.

In the left-side navigation pane, select **Virtual Border Router**.

In the top-right corner, click **Create VBR**.

Select **Create for this account** or **Create for other account**:

Choose **Create for other account** when you need to share VLAND ID to other users.

Choose **Create for this account** when you create a VBR for the leased line under the same account. Then complete the following information:

- **Name**: Name the VBR.
- **Description**: Enter the description about the VBR, such as the leased line ID, the carrier of the leased line.
- **Leased Line**: In the drop-down box, select the leased line on which to establish a VBR. The system has matched all the physical leased lines for the current account.
- **VLANID**: Enter a value from 1-2999.
- **Circuit Code**: The carrier that builds the leased line provides a circuit code for you. Enter the circuit code.
- **IP Address**: Create private IP addresses for **Ali Cloud side**, **Customer side** and **Subnet mask**. The Ali Cloud side and Customer side IP address must be in the same network.

Click **Confirm Creation**.

Procedure

Log on to Express Connect console.

In the left-side navigation pane, select **Virtual Border Router**. The **Virtual Border Router List** appears.

Select the VBR.

Click **Manage**.

In the VBR detail page, click **Create Router Interface**. The purchase page appears.

Complete the required information, for each configuration item, refer to Create a router interface.

Click **Buy Now**.

Overview

Add two route entries to this VBR. One to specify that the VBR router interface forwards data to VPC, and the other one to specify that the VBR router interface forwards data to IDC. So repeat this operation twice.

Add a route entry

Procedure

Log on to Express Connect console.

In the left-side navigation pane, select **Virtual Border Router**. The **Virtual Border Router List** appears.

Choose the virtual border router to be configured.

Click **Manage**.

On the pop-up dialog box, complete the following information:

Destination CIDR Block: The CIDR Block of peer VSwitch or the CIDR Block of IDC.

Next Hop Direction: To forward data to VPC, select **To VPC**. To forward data to IDC, select **Leased Line**.

- **Next Hop**: To forward data to VPC, select the outlet of data, namely, the router interface of the VBR.

Click **OK**.

Manage the virtual border router on the Express Connect console as follows:

Modify information

Modify an IP address

Delete a virtual border router

Modify information

Procedure

Log on to Express Connect console.

In the left-side navigation pane, select **Virtual Border Router**. The **Virtual Border Router List** appears.

Choose the VBR to be modified.

Click **Manage**.

On the **VBR Details** page, click **Modify Info**.

In the pop-up dialog box, modify the **VRouter Name**, **Circuit Code** and **VRouter Description**.

Click **OK**.

Modify an IP address

Procedure

Log on to Express Connect console.

In the left-side navigation pane, select **Virtual Border Router**. The **Virtual Border Router List** appears.

Choose the VBR to be configured.

Click **Manage**.

On the **VBR Details** page and click **Modify IP Address**.

Complete the required information in the popup dialog box.

Click **Ok**.

Delete a virtual border router

Procedure

Log on to Express Connect console.

In the left-side navigation pane, select **Virtual Border Router**. The **Virtual Border Router List** appears.

Choose the VBR to be configured.

Click **Delete**.

Click **Confirm**.

Note

- Before deleting a VBR, confirm all VBR router interfaces have been deleted.
- If the VBR you deleted was created by access partner, you must contact them to create a new VBR when you require additional ones.

Application scenario

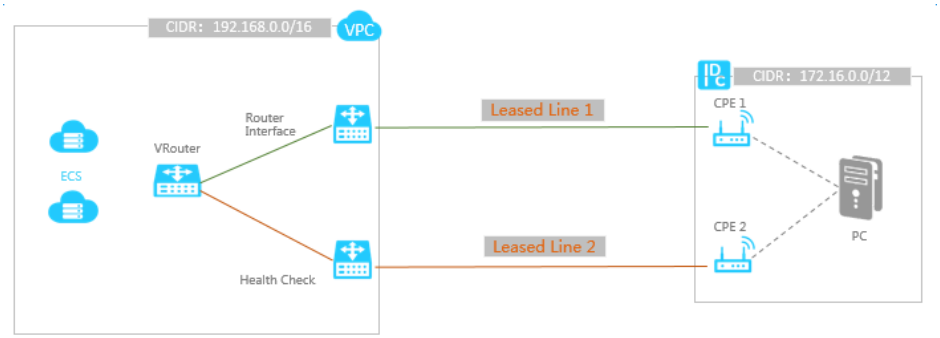
You can apply redundant physical connection to connect your on-premises IDC to your VPC. Redundant physical connection provides a disaster tolerant environment, delivering a more efficient and resilient intranet communication.

Physical connection is comprised with a leased line and a VBR. You can apply up to four leased lines to set up redundant physical connection.

In the following example, we apply two leased lines to build redundant physical connection. Assume that you have:

- An IDC (private CIDR Block: 172.16.0.0/12) in China North 2 (Beijing) region
- A VPC (name: Cloud_Data_Center, CIDR Block: 192.168.0.0/16) in the China East 1 (Hangzhou) region

You then apply for two 100 Mbit/s leased lines from two carriers separately to connect your Beijing IDC with the Alibaba Cloud access point in Beijing.



Procedure

To set up redundant physical connection:

Step 1: Apply for leased lines

Step 2: Offline physical connection deployment

Step 3: Create VBRs

Step 4: Create router interfaces

Step 5: Configure routes on the two VBRs

Step 6: Open a ticket to apply for ECMP health check

Step 7: Forward equivalent route traffic from the VPC to the VBR

Step 1: Apply for leased lines

Open a ticket to Alibaba Cloud to get the approximate geographical location of the access point, and then inquiry carriers about price according to the location.

Apply for the first leased line:

Log on to Express Connect console.

In the left-side navigation pane, select **Leased Line**.

Click **Apply for Leased Line Access**.

Complete the required information, for example:

- Leased Line Name: Beijing_Local
- Access Point: Beijing Beijing-Daxing-A
- Carrier: China, Other
- Access Port Type: 100Base-T-100M electrical port

- Access Bandwidth: 100 Mbit/s
- Peer Address: No. XX, XX Street, XX District, Beijing
- Redundant Leased Line: None

Click **Confirm Application**.

On leased line list page, choose **China North 2 (Beijing)** on the top of the page. Find the leased line you applied for, the status of the physical connection is **Application in Progress**.

Note: The application is approved in the following workday in most cases. Then, the physical connection status changes to **Approved**.

After the application is approved, click **Pay Access Fee**. Then the system automatically assigns you a port and physical connection ID. In this example, the physical leased line ID is **pc- 123xyz**.

Note: After the system assigned you a port, the leased line status changes to **Access Construction in Progress**.

Click **View** to see the leased line construction information, such as the machine room location, server rack location, and port information.

Apply for the second leased line:

Log on to Express Connect console.

In the left-side navigation pane, select **Leased Line**.

Click **Apply for Leased Line Access**.

Complete the required information, for example:

Leased Line Name: Beijing_Local

Access Point: Beijing Beijing-Daxing-A

Carrier: China Telecom

Access Port Type: 100Base-T-100M electrical port

Access Bandwidth: 100 Mbit/s

Peer Address: No. XX, XX Street, XX District, Beijing

Redundant Leased Line: pc-123xyz

Note: For the second leased line, you can select any access point in the same region. If you select the same access point as the first connection, use the ID of the first leased line as its redundant leased line. If you select a different access point, the two lines will be inherently redundant and you do not have to select **Redundant Physical Connection**.

Click **Confirm Application**. After approval, pay the fee to receive the port location.

Step 2: Offline physical connection deployment

Provide the port information to your carrier and instruct them to connect the leased line to this port.

After the carrier investigates the resources, they provide a staff list detailing who will be sent to the designated Alibaba Cloud data center (including their names, ID numbers, and phone numbers).

Open a ticket to Alibaba Cloud to inform the after-sales staff of when the carrier staff will visit the data center and provide them with your received staff list and the acquired connection ID.

The next working day, Alibaba Cloud after-sales staff schedules an appointment at the data center for the carrier staff and provide you with contact information.

Inform the carrier the contact information.

After the carrier completes deployment in the Alibaba Cloud data center, Alibaba Cloud after-sales staff change the connection status to **Waiting for Confirmation**.

After the carrier notifies you that the connection is deployed, go to the physical connection page on the console and click **Confirm**.

*This will change the connection status to **Normal**. The physical connection is now in operation.*

Step 3: Create VBRs

Log on to **Express Connect console**.

In the left-side navigation pane, select **Virtual Border Router**.

Click **Create VBR**.

Complete the relevant parameters. For example:

Note:
• VLAN ID: If you need to use logical lines, use 1- 2999 to define the logical VLAN. For a simple interconnection that does not need to be divided into logical channels, use VLAN0.
• The interconnection IP address of each VBR must be mutually independent, and the addresses for the two VBRs should belong to different CIDR Blocks.

VBR 1:

Name: Beijing_Border_Router 1

Description: Beijing leased line

Physical Connection: pc-123xxx (the ID for “Beijing_Local_Connection1”)

VLAN ID: 0 (When VLAN ID=0, this indicates a router is used. If you do not have special requirements, enter 0.)

Circuit Code: MSTPxxx1

Addresses: Alibaba Cloud side: 10.100.0.1; customer side: 10.100.0.10; subnet mask: 255.255.255.0

VBR 2:

Name: Beijing_Border_Router 2

Description: Beijing leased line

Physical Connection: pc-456xxx (the ID for “Beijing_Local_Connection2”)

VLAN ID: 0 (When VLAN ID=0, this indicates a router is used. If you do not have special requirements, enter 0.)

Circuit Code: MSTPxxx2

Addresses: Alibaba Cloud side: 10.100.1.1; customer side: 10.100.1.10; subnet mask: 255.255.255.0

Step 4: Create router interfaces

Connect VBR 1 to the VPC through a router interface

Log on to Express Connect console.

In the left-side navigation pane, choose **Create Router Interface**.

In the router interface purchase page, complete the required information, for example:

- Billing Method: Subscription

  Scenario: Physical Access

  Router Creation: Create Initiator and Receiver

  Router Type: VBR

  Local Region: China North 2 (Beijing)

  Access Point: Beijing Beijing-Daxing-A

  Local VBR ID: Beijing_Border_Router1

  Peer Region: China East 1 (Hangzhou)

  Peer Router Type: VRouter

  Peer VPC ID: Cloud_Data_Center

Click **Buy Now**.

Check the router interface status. When this status changes to **Active**, two router interface instances are created:

- The router interface instance connecting VBR 1 to the VPC router: ri-VBR1-to-VPC.
- The router interface instance connecting the VPC router to VBR 1: ri-VPC-to-VBR1.

Connect VBR 2 to the VPC through a router interface

Log on to Express Connect console.

In the left-side navigation pane, choose **Create Router Interface**.

In the router interface purchase page, complete the required information, for example:

- Billing Method: Subscription

  Scenario: Physical Access

  Router Creation: Create Initiator and Receiver

  Router Type: VBR

  Local Region: China North 2 (Beijing)

  Access Point: Beijing Beijing-Daxing-A

  Local VBR ID: Beijing_Border_Router2

  Peer Region: China East 1 (Hangzhou)

  Peer Router Type: VRouter

  Peer VPC ID: Cloud_Data_Center

Click **Buy Now**.

Check the router interface status. When this status changes to **Active**, two router interface instances are created:

- The router interface instance connecting VBR 2 to the VPC router: ri-VBR2-to-VPC.

- The router interface instance connecting the VPC router to VBR 2: ri-VPC-to-VBR2.

Step 5: Configure routes on the two VBRs

VBR 1

Forward traffic to the IDC address “172.16.0.0/12”.

Log on to Express Connect console.

Select VBR 1, and click **Manage** to go to the **VBR Details** page.

Click **Add Route** and complete the required information, for example:

Destination CIDR Block: The CIDR Block of IDC. In this example, enter 172.16.0.0/12.

Next Hop Direction: Physical Connection

Click **OK** to complete the configuration.

Use a server in the IDC to ping the Alibaba Cloud address 10.100.0.1.

Forward traffic to the VPC address “192.168.0.0/16”.

Log on to Express Connect console.

Select the VBR, and click **Manage**.

Click **Add Route** and complete the required information, for example:

Destination CIDR Block: The CIDR Block of peer VPC. In this example, enter 192.168.0.0/16.

Next Hop Direction: VPC

Next Hop: In the drop-down list, choose the router interface used as date outlet of the VBR, namely, the router interface of the VBR. In this example, choose Beijing_Router_Interface (ri-VBR1-to-VPC).

Click **OK** to complete the configuration.

VBR 2

Forward traffic to the IDC address “172.16.0.0/12”.

Log on to Express Connect console.

Select VBR 1, and click **Manage** to go to the **VBR Details** page.

Click **Add Route** and complete the required information, for example:

Destination CIDR Block: The CIDR Block of IDC. In this example, enter 172.16.0.0/12.

Next Hop Direction: Physical Connection

Click **OK** to complete the configuration.

Use a server in the IDC to ping the Alibaba Cloud address 10.100.1.1.

Forward traffic to the VPC address “192.168.0.0/16”.

Log on to Express Connect console.

Select the VBR, and click **Manage**.

Click **Add Route** and complete the required information, for example:

Destination CIDR Block: The CIDR Block of peer VPC. In this example, enter 192.168.0.0/16.

Next Hop Direction: VPC

Next Hop: In the drop-down list, choose the router interface used as date outlet of the VBR, namely, the router interface of the VBR. In this example, choose Beijing_Router_Interface (ri-VBR2-to-VPC).

Click **OK** to complete the configuration.

Step 6: Open a ticket to apply for ECMP health check

In ECMP traffic, Alibaba Cloud uses the hash algorithm to keep traffic on each of the two physical lines, and to keep the two lines one-on-one load balance.

After receiving your application, Alibaba Cloud reserves two IP addresses in your VPC within one business day. These addresses are used as health check source IP addresses. They are configured to send a ping packet every 2 seconds. If they send eight consecutive pings, and do not receive a response, the system switches over to the other line.

At the same time, Alibaba Cloud generates two 32-bit host anaphora routes for you, from the Beijing IDC to the two health check addresses. If the health check addresses are 192.168.1.241 and 192.168.1.242, you need to configure the leased line on the user side. For example:

```
ip route 192.168.1.241/32 10.100.1.1
ip route 192.168.1.242/32 10.100.0.1
```

Step 7: Forward equivalent route traffic from the VPC to the VBR

Log on to VPC console.

Find the VPC, and click **Manage**.

In the left-side navigation pane, select **VRouter**.

Click **Add Route** and complete the required information, for example:

Destination CIDR Block: The CIDR Block of IDC. In this example, enter 172.16.0.0/12.

Next Hop Type: Router Interface

Route Type: Equivalent Route

Router Interface: In the drop-down list, choose the router interface used as data outlet of the local router. In this example, choose Beijing_Router_Interface1 (ri-VPC-to-VBR1) and Beijing_Router_Interface2 (ri-VPC-to-VBR2).

Click **OK** to complete the configuration.

You have now finished route configurations on Alibaba Cloud. However, on the leased line access device of customer side, you need to add route entries forward traffic to the VPC.

```
ip route 192.168.0.0/16 10.100.0.1
ip route 192.168.0.0/16 10.100.1.1
```

Your total bandwidth is now the aggregate bandwidth of the two lines (100 Mbit/s*2). You can manage the access between IDC equipment and Alibaba Cloud products by adjusting the ECS security group rules, adding an RDS white list, or by using other methods as desired.

Remove a connection between VPCs

Application scenario

When you no longer require Express Connect for intercommunication between VPC-A and VPC- B, delete the router interfaces used to connect the two VPCs.

Procedure

Step 1: Delete route entries

Go to VPC-A, click **Manage Routes**.

In the route entry list, delete the route entries that meet the following conditions:

- Next hop type is **Router Interface**.
- Desitnation CIDR Block is the CIDR Block of VPC B.

Go to VPC-B, click **Manage Routes**.

In the route entry list, delete the route entries that meet the following conditions:

- Next hop type is **Router Interface**.
- Desitnation CIDR Block is the CIDR Block of VPC A.

Step 2: Freeze router interfaces

Log on to Express Connect console.

Click **Router Interfaces**.

Select the VPC-A router interface used to connect to VPC-B. Click **More** > **Freeze**.

4. Select the VPC-B router interface used to connect to VPC-A. Click **More** > **Freeze**.

Step 3: Delete router interfaces

Procedure

Log on to Express Connect console.

Click **Router Interfaces**.

Click **More** > **Delete** to delete the frozen interfaces.

Note:

- You cannot delete a router interface before you delete all route enties of the router interface.
- You will continue to be billed for frozen router interfaces. To stop being billed, you must delete the router interfaces.

Overview

To successfully remove a physical connection, you must delete the following resources and configurations:

- The leased line
- All VBRs associated with the leased line
- Router interfaces on the VPC router and VBR
- All the related route entries

Procedure

To remove the physical connection:

Step 1: Delete route entries

Step 2: Freeze router interfaces

Step 3: Delete router interfaces

Step 4: Delete VBRs

Step 5: Terminate access over the leased line

Step 6: Delete the leased line

Step 1: Delete route entries

On the VPC console

Delete all the route entries point to the IDC.

Log on to Express Connect console.

In the left-side navigation pane, select **VPC** to go to the VPC list page.

Select the target VPC, and click the corresponding **VPC ID/Name** or **Manage** to enter the **VPC Basic Info** page.

In the left-side navigation pane, select **VRouter** to show the **Route Entry List**.

Select route entries that point to the IDC and click **Delete**. Then the **Delete Route Entry** dialog box appears.

Click **OK** to delete the route entry.

Repeat Step 5 and Step 6 to delete other route entries that point to the IDC.

On the Express Connect console

On the VBR, delete all the route entries point to the VPC and the IDC.

Log on to Express Connect console.

In the left-side navigation pane, select **Virtual Border Router**. The VBR list page appears.

Select the target VBR. Click **Manage** on the right of the VBR to go to the **VBR Details** page.

In the route entry list, select the route entry that points to the IDC and click **Delete**. The **Delete Route Entry** dialog box appears.

Click **OK** to delete the route entry.

Repeat Step 4 and Step 5 to delete other route entries that point to the VPC.

Step 2: Freeze router interfaces

Before you delete a router interface, freeze it.

Log on to Express Connect console.

In the left-side navigation pane, select **Router Interface**. The **Router Interface List** page appears.

Select the target router interface.

Click **Freeze** on the right of the router interface. The **Freeze Router Interface** dialog box appears.

Click **OK** to set status of the router interface to **Frozen**.

Step 3: Delete router interfaces

Delete router interfaces of the VBR and the peer router interface in the VPC.

Log on to Express Connect console.

In the left-side navigation pane, select **Router Interface**. The router interface list page appears.

Select the target router interface that is in **Frozen** status.

Select **More** > **Delete**. The **Delete Router Interface** dialog box appears.

Click **OK** to delete the router interface.

Step 4: Delete VBRs

Log on to **Express Connect console**.

In the left-side navigation pane, select **Virtual Border Router**. The VBR list page appears.

Select the VBR to be deleted.

Click **Delete** on the right side of the VBR. The **Delete VBR** dialog box appears.

Click **OK**.

Repeat Step 3 and Step 4 to delete other VBRs.

Step 5: Terminate access over the leased line

Before you delete the leased line, terminate the access of the leased line.

Log on to **Express Connect console**.

In the left-side navigation pane, select **Leased Line**.

Select the target leased line. Click **Terminate Access** on the right of the leased line. The **Terminate Access** dialog box appears.

Click **OK**.

Note: The status of the leased line changes from **Normal** to **Terminating**, and then to **Terminated**. This process may take up to one minute.

Step 6: Delete the leased line

Log on to **Express Connect console**.

In the left-side navigation pane, select **Leased Line**.

Select the target leased line. Click **Delete** on the right of the leased line. The **Confirm Deletion** dialog box appears.

Click **OK**.

BGP Routing

Border Gateway Protocol (BGP) is a dynamic routing protocol based on TCP protocol designed to exchange routing and reachability information among autonomous systems (AS) on the Internet.

When establishing a dedicated network connection from your on-premises IDC to Alibaba Cloud, you can use BGP to establish a network connection between the Virtual Border Router (VBR) and the IDC. BGP can help you build a hybrid cloud in a more efficient, flexible and reliable way.

BGP group

Express Connect provides you with the BGP group function to simplify the BGP configurations by uniting the repeated configurations into a BGP group. You just need to create a BGP group based on the AS number and then add the BGP peers to the group.

BGP peers

The BGP peers that need to establish a neighbor relationship through BGP. Rather than configuring each BGP peer individually, you just need to add the BGP peers to the corresponding BGP groups.

Limitations

Note the following when using BGP:

BGP peers on the VBR only support pairing with the leased line.

The supported BGP version is BGP4.

Support IPv4 GBP.

Support configuring eBGP peers only for the VBR and the leased line peer.

Up to 100 dynamic routing can be added to each BGP peer.

The unique ASN of the Alibaba Cloud is 45104, accepting 2-bit and 4-bit AS numbers transiting from the user side.

Create a BGP peer group

Log on to Express Connect console.

In the left-side navigation pane, click **BGP Peer Group**.

Click **Create BGP Peer Group**.

Configure the BGP peer group and click **Submit**

Configuration	Description
Name	The name of the BGP peer group.
Peer AS Number	Peer AS number.
VBR	The VBR to connect with the on-premises IDC.
Description	The description of the BGP group.

Delete a BGP peer group

Log on to Express Connect console.

In the left-side navigation pane, click **BGP Peer Group**.

Find the target BGP peer group and then click **Delete**.

Click **Confirm** to delete the BGP peer group.

Modify a BGP peer group

Log on to Express Connect console.

In the left-side navigation pane, click **BGP Peer Group**.

Find the target BGP peer group and then click **Edit**.

Edit the BGP peer group.

Create a BGP peer

Log on to Express Connect console.

In the left-side navigation pane, click **BGP Peer** and then click **Create BGP Peer**.

Configure the GBP peer and then click **Submit**.

Configuration	Description
BGP peer group	Select the BGP peer group that the BGP peer adds to.
BGP peer IP	Enter the IP of the BGP peer.

Delete a BGP peer

Log on to Express Connect console.

In the left-side navigation pane, click **BGP Peer**.

Find the target BGP peer and then click **Delete**.

Click **Confirm** in the pop-up dialog.

When establishing a dedicated network connection from your on-premises IDC to Alibaba Cloud, you can use BGP to establish a network connection between the Virtual Border Router (VBR) and the IDC.

Each BGP group associates with a VBR. To establish the connection between the VBR and your on-premises IDC, you just need to add BGP peers to the corresponding BGP group and then add a BGP route entry.

Prerequisite

Create BGP peer groups

Create BGP peers

Procedure

Log on to Express Connect console.

In the left-side navigation pane, click **Physical Connection** > **Virtual Border Router**.

Click the ID of the target VBR.

Click **Add BGP Route Entry**.

Enter the IP address range in the form of CIDR block of the VPC or the VSwitch needs to communicate with the IDC.

Click **Confirm**.