Express Connect

Best Practices

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Best Practices

Establish an intranet connection between VPCs under the same account

Express Connect delivers private communication between VPCs in any region. This helps avoid unstable public network usage and reduces the risk of data theft during transmission.



Application scenario

If a single account contains two VPCs, you can use Express Connect to establish an intranet connection between the VPCs, with an estimated bandwidth of 50Mbit.

VPC-A

- Region: China North 2 (Beijing)
- Name: VPC-Beijing
- CIDRBlock : 192.168.0.0/16
- VSWitch cird : 192.168.100.0/24
- VpcId : vpc-12345678

VPC-B

- Region: China East 1 (Hangzhou)
- Name: VPC-Hangzhou
- CIDRBlock: 172.16.0.0/12
- Vswitch cidr:172.16.100.0/24
- VpcId:vpc-87654321

Procedure

- 1. Log on to the Express Connect Console.
- 2. In the left navigation bar. choose Router Interface.
- 3. Choose Create VRouter Interface in the top right corner, then a purchase page will appear.
- 4. Complete the following information:
 - Connection Scenario: Same Account VPC Networking
 - Local Configuration: China North 2 (Beijing) and VPC-A
 - Peer Configuration: China East 1 (Hangzhou) and VPC-B
 - Role: Connection Initiator
 - Specification: Small, grade-5.
 - Subscription Type: 1 month
- 5. Click **Buy Now** to activate the router interface.
- 6. On the Router Interface List page, choose region China North 2 (Beijing).
- 7. Choose the local router interface, click More > Route Configuration.
- 8. Click Add Route Entry, and complete the required information:
 - Target CIDR: 172.16.100.0/24
 - Next Hop Type : Router Interface
 - Router Interface : ECMP Route Entry
- 9. Click OK.
- 10. . On the Router Interface List page, choose region China East 1 (Hangzhou).
- 11. Choose the peer router interface, click **More** > **Route Configuration**.
- 12. Click Add Route Entry, and complete the required information:
 - Target CIDR: 192.168.100.0/24
 - Next Hop Type : Router Interface
 - Router Interface : ECMP Route Entry
- 13. Click **OK**.

Establish an intranet connection between VPCs under different accounts

Application scenario

If two companies want to connect their VPCs with each other or one company wants to connect VPCs

of two sub-companies, they can use different accounts to connect their VPCs using Express Connect.

Assume the ID of account A is 12345678 and the ID of account B is 87654321. VPC-A is under account A and VPC-B is under account B. Use Express Connect to establish an intranet connection between the two VPCs.

VPC-A

- Region: China North 2 (Beijing)
- Name: VPC-Beijing
- CIDRBlock : 192.168.0.0/16
- VpcId : vpc-12345678

VPC-B

- Region: China East 1 (Hangzhou)
- Name: VPC-Hangzhou
- CIDRBlock : 172.16.0.0/12
- VpcId : vpc-87654321



Restrictions

- The VSwitch addresses of the two VPCs cannot conflict.
- The two users must acquire each other' s Alibaba Cloud account ID offline.
- The two router interfaces must be designated as an initiator and a receiver separately. The initiator pays all fees.

Procedure

Step 1: Create router interface for Account A

- 1. Log on to Express Connect Console.
- 2. In the left navigation bar, choose Router Interface.
- 3. Click Create Router Interface.
- 4. Complete the required information, for example:
 - Connection Scenario: Custom

- Local Configuration: China North 2 (Beijing), VPCID of VPC1
- Peer Configuration: China East 1 (Hangzhou)
- Role Specification: Initiator
- Specification: Medium grade of 500M
- 5. Click **Buy Now**. The process may take up to one minute to complete.

Note: If the creation fails, take a screenshot of the error message and submit a ticket to Alibaba Cloud.

6. Click **Router Interface** and choose the corresponding region to view the router interface ID/name and the router ID/name. In this example, account A' s router interface ID is ri-AAA, and the router ID is vrt-AAA.

Step 2: Create router interface for Account B

- 1. Log on to Express Connect Console.
- 2. In the left navigation bar, choose Router Interface.
- 3. Click Create Router Interface.
- 4. Complete the required information, for example:
 - Connection Scenario: Custom
 - Local Configuration: China East 1 (Hangzhou) and the VPCID of VPC2
 - Peer Configuration: China North 2 (Beijing)
 - Role Specification: Acceptor
 - Specification: Default
- 5. Click **Buy Now**. The process may take up to one minute to complete.
- 6. Click **Router Interface** and choose the corresponding region to view the router interface ID/name and the router ID/name. In this example, account B' s router interface ID is ri-BBB, and the router ID is vrt-BBB.

Step 3: Account A and B exchange their respective Router interface IDs

Account B

- 1. Use account B to log on to Express Connect Console.
- 2. Choose Router Interface.
- 3. Choose region China East 1 (Hangzhou).
- 4. Select the router interface ri-BBB, then click **More > Edit Peer Router Interface Information**.
- 5. In the popup box, enter the following information:
 - Account ID (Account A) : 12345678
 - Router ID : vrt-AAA
 - Router Interface ID : ri-AAA
- 6. Click **Ok**.

Account A

- 1. Use account A to log on to Express Connect Console.
- 2. Choose Router Interface.
- 3. Choose region China North 2 (Beijing).
- 4. Select the router interface ri-AAA, and click **More > Edit Peer Router Interface Information**.
- 5. In the popup box, enter the following information:
 - Account ID (Account B) : 87654321
 - Router ID : vrt-BBB
 - Router Interface ID : ri-BBB
- 6. Click Ok.
- 7. Click Initiate Connection.
- 8. The status of the router interfaces ri-AAA and ri-BBB will change to Activated.

Step 4: Configure route on each side

Account A

- 1. Log on to Express Connect Console.
- 2. In the left navigation bar, choose Router Interface.
- 3. On the Router Interface List page, choose region China North 2 (Beijing).
- 4. Choose the local router interface, click **More** > **Route Configuration**.
- 5. Click Add Route Entry, and complete the required information:
 - Target CIDR : 172.16.0.0/12
 - Next Hop Type : Router Interface
 - Router Interface : ECMP Route Entry

Account B

- 1. Log on to Express Connect Console.
- 2. In the left navigation bar, choose Router Interface.
- 3. On the Router Interface List page, choose region China East 1 (Hangzhou).
- 4. Choose the local router interface, click **More** > **Route Configuration**.
- 5. Click Add Route Entry, and complete the required information:
 - Target CIDR: 192.168.0.0/16
 - Next Hop Type : Router Interface
 - Router Interface : ECMP Route Entry

Access a VPC over a physical connection

Application scenario

You can connect your own data center to your VPC through a physical connection. This allows

intranet communication between your network and your VPC. With two lines working in equivalent routing mode, the two networks can be configured to work in active/active mode.

Assume that you have a physical data center (IDC, private CIDR block: 172.16.0.0/12) in China North 2 (Beijing) region and a VPC (name: Cloud_Data_Center, CIDR block: 192.168.0.0/16) in the China East 1 (Hangzhou) region. Using a 100 Mbps physical connection provided by an ISP, you can establish an intranet connection between your physical data center and an Alibaba Cloud physical data center.

If you want your VPC to communicate with your physical machine room over a private network, you can use Express Connect access. This helps to avoid unstable public networks and reduces the risk of data theft during transmission.



Note: Before applying a physical connection, it is recommended that you familiarize yourself with the location of the access point. You can obtain this information by submitting a ticket to Alibaba Cloud.

Procedure

Step 1 : Apply for and install a physical connection

You can submit a ticket to learn the approximate location of the access point. Then, consult with your ISP regarding the price according to the address.

- 1. Open the Express Connect Console.
- 2. Select Leased Line from the left navigation bar.

Click Apply for Leased Line Access, and 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: 100Mbps
- Peer Address: No. XX, XX Street, XX District, Beijing
- Redundant Leased Line: None
- 4. Click Confirm Application.
- 5. Select region **China North 2 (Beijing)**. On the leased line list, the status of the physical connection is **Application in Progress**.

- 6. Alibaba Cloud reviews and approves the application within two workdays. The leased line status then changes to **Approved**.
- 7. After the application is approved, click **Pay access fee** to pay the fee. The system automatically assigns you a port and a physical connection ID.
- 8. After you are allocated a port, the leased line status changes to **Access Construction in Progress**. Click **View** to check the leased line construction information, such as the machine room location, server rack location, and the port information.

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9. Instruct your ISP to connect the leased line to this port.

- 10. The ISP will provide a list of staff who will be sent to the designated Alibaba Cloud data center (including their names, ID numbers, and phone numbers).
 - i. Submit a ticket to Alibaba Cloud to inform the aftersales staff of when the ISP staff will visit the data center.
 - ii. Then, provide Alibaba Cloud with the staff list and the acquired connection ID.
 - iii. Within the following work day, Alibaba Cloud aftersales staff will schedule an appointment at the data center for the ISP staff. They will provide contact information of the staff who will receive the ISP employees on the day of the appointment.
- 11. After the ISP completes deployment in the Alibaba Cloud data center, Alibaba Cloud aftersales staff changes the leased line status to **Waiting for Confirmation**.
- 12. After the ISP notifies you that the connection is deployed, go to the **Physical Connection** page on the console and click **Confirm**. This will change the leased line status to **Normal**. The installation of the leased line is now completed.

Step 2 : Create a VBR on the physical connection and test the connectivity

- 1. Log on to the Express Connect Console.
- 2. Select VBRs from the left navigation bar, and click Create VBR.
- 3. Select the physical connection you just installed and fill in the relevant parameters, for example:
 - Name: Beijing_Border_Router
 - Description: Beijing leased line
 - Physical Connection: pc-xxxxxx (the ID for "Beijing_Local_Connection")
 - VLANID: 0 (When vlanid=0, this indicates a Router layer-3 route port)
 - Circuit Code: MSTPxxxx
 - Addresses: Alibaba Cloud side: 10.100.0.1; customer side: 10.100.0.10; subnet mask: 255.255.255.0
- 4. Click Confirm Creation and select China North 2 (Beijing). The created VBR status will

change to **Normal**. This indicates that the VBR has been created successfully. Now, the configuration of the interface' s IP address 10.100.0.1/24 is completed on the Alibaba Cloud Beijing access point' s VSwitch. The customer can configure 10.100.0.1/24 and connect to the leased line in Beijing machine room. Ping the connection to test if it works.

Step 3 : Connect the VBR to the VPC through a router interface

- 1. Log on to the Express Connect Console.
- 2. Select **Router Interface** from the left navigation bar, and click **Create Router Interface**. Complete the relevant information, for example:
 - Connection Scenario: Same Account Leased Line Access
 - Local Configuration
 - Router type: VBR
 - Region: China North 2 (Beijing)
 - Local access point: Beijing Beijing-Daxing-A
 - VBR: vbr-12345678/Beijing_Border_Router

Peer Configuration

- Peer router type: VPC Router
- Peer region: China East 1 (Hangzhou)
- Peer VPC: vpc-12345678/Cloud_Data_Center
- Role Specification
- Connection role: Initiator
- Specification: Medium, grade-1 (100Mb)
- 3. Click **Buy Now** to create the router interface.
- 4. Open the **Router Interface List** to see the two router interfaces created in the China North 2 (Beijing) and China East 1 (Hangzhou) regions. Their status should be **Connected**.

Step 4 : Configure routes to manage traffic forwarding between the VBR and the VPC

A. Forward traffic directed to the IDC address "172.16.0.0/12" on the VBR to the physical connection

- 1. Log on to the Express Connect Console.
- 2. Select the VBR, and click Manage to go to VBR Details page.

Click Add Route and complete the following information, for example:

- Destination CIDR block: 172.16.0.0/12
- Next Hop Direction: Physical connection

Click **OK** to complete the configuration.

To test the configuration, use a server in the IDC to ping the Alibaba Cloud address 10.100.0.1.

B. Forward traffic directed to the VPC address "192.168.0.0/16" on the VBR to the VPC

- 1. Log on to the Express Connect Console.
- 2. Select the VBR, and click Manage to go to the VBR Details page.

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

- Destination CIDR Block: 192.168.0.0/16
- Next Hop Direction: VPC
- Next Hop: Beijing_Router_Interface
- 4. Click **OK** to complete the configuration.

C. Forward traffic directed to "172.16.0.0/12" from the VPC (name: Cloud_Data_Center) to the VBR.

- 1. Log on to the VPC console.
- 2. Select the VBR, and click Manage.

Select Routers, click Add Route, and complete the following information, for example:

- Destination CIDR Block: 172.16.0.0/12
- Next Hop Type: Router interface
- Router Interface: Beijing_Router_Interface

Click **OK** to complete the configuration.

Now, route configuration is complete for Alibaba Cloud. However, in order to direct traffic to the leased line' s Alibaba Cloud-side IP, you must configure a route to add your physical connection equipment to the VPC CIDR block. For example:

ip route 192.168.0.0/16 10.100.0.1

Note: 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 other methods as desired.

Redundant physical connection

Application scenario

You can connect your own data center to your VPC through a physical connection. This delivers intranet communication between your network and your VPC. With two lines working in equivalent routing mode, the two networks can be configured to work in active/active mode.

In the following example, assume that you have:

- A physical data center (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 100M MSTP leased lines from two ISPs separately to connect your Beijing IDC with the Alibaba Cloud access point in Beijing.



Procedure

Step 1 : Apply for physical connection

You can submit a ticket to Alibaba Cloud to get the approximate geographical location of the access point, and then inquiry ISPs about price according to the location.

Apply for the first physical connection:

- 1. Log on to the Express Connect Console.
- 2. In the left navigation bar, select Leased line and 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: 100Mbps

- Peer Address: No. XX, XX Street, XX District, Beijing
- Redundant Leased Line: None

Click Confirm Application.

- 5. On leased line list page, Choose **China North 2 (Beijing)** on the top of the page. Find the leased line you just applied for, the status of the physical connection will be **Application in Progress**.
- 6. The application is approved in the following workday in most cases. Then, the physical connection status changes to Approved.

Click **Pay Access Fee** and pay the leased line access fee. The system automatically assigns you a port and physical connection ID. In this example, the physical leased line ID is pc-123xyz.

After the system assigns a port, the leased line status changes to **Access Construction in Progress**.

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

Apply for the second physical connection:

- 1. Open the Express Connect Console.
- 2. In the left navigation bar, select Leased line and 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: 100Mbps
- Peer Address: No. XX, XX Street, XX District, Beijing
- Redundant Leased Line: pc-123xyz

Note: For the second redundant 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.

Complete the application and wait for approval.

5. After approval, pay the fee to receive the port location.

Step 2 : Complete connection deployment

- 1. Provide the port information to your ISP and instruct them to connect the leased line to this port.
- 2. Provide the port information to your ISP and instruct them to connect the leased line to this port.
- 3. After the ISP investigates the resources, they will provide a staff list detailing who will be sent to the designated Alibaba Cloud data center (including their names, ID numbers, and phone numbers).
- 4. Submit a ticket to Alibaba Cloud to inform the after-sales staff of when the ISP staff will visit the data center.
- 5. Provide them with your received staff list and the acquired connection ID. The next working day, Alibaba Cloud after-sales staff will schedule an appointment at the data center for the ISP staff. They will provide you with contact information for the staff member(s) receiving the ISP employees on the day of the appointment.
- 6. After the ISP completes deployment in the Alibaba Cloud data center, Alibaba Cloud aftersales staff will change the connection status to **Waiting For Confirmation**.
- 7. After the ISP notifies you that the connection is deployed, you need to 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 two VRouter interfaces separately to connect the VPC with the two VBRs

- 1. Log on to the Express Connect Console.
- 2. Select Virture Border Router from the left side navigation bar.
- 3. Click Create VBR.
- 4. Select the leased line ID for the physical connection recently deployed.
- 5. Complete the relevant parameters.

Note:

• VLANID: 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.

In this example, the two VBRs use the following configurations:

VBR1:

- Name: Beijing_Border_Router1
- Description: Beijing leased line

- Physical Connection: pc-123xxx (the ID for "Beijing_Local_Connection1")
- VLANID: 0 (When vlanid=0, this indicates a VRouter is used. If you do not have special requirements, just 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

VBR2:

- Name: Beijing_Border_Router2
- Description: Beijing leased line
- Physical Connection: pc-456xxx (the ID for "Beijing_Local_Connection2")
- VLANID: 0 (When vlanid=0, this indicates a VRouter is used. If you do not have special requirements, just 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 two VRouter interfaces separately to connect the VPC with the two VBRs

Connect VBR1 to the VPC through a VRouter interface

- 1. Log on to the Express Connect Console.
- 2. Click Create VRouter Interface.
- 3. Select Same Account Leased Line Access.
- 4. Configure the following:
 - Set the local configuration to "VBR" and select the ID of VBR1.
 - Set the local access point to "Beijing Beijing-Daxing-A" .
 - Set the peer configuration to VPC VRouter.
 - Select the VPC.
 - Select the 100M specification.
- 5. Click Buy Now.
- 6. Observe the VRouter interface status. When this status changes to Active, two VRouter interface instances are created:
 - The VRouter interface instance connecting VBR1 to the VPC VRouter: ri-VBR1-to-VPC.
 - The VRouter interface instance connecting the VPC VRouter to VBR1: ri-VPC-to-VBR1.

Connect VBR2 to the VPC through a VRouter interface

- 1. Log on to the Express Connect Console.
- 2. Click Create VRouter Interface.

- 3. Select Same Account Leased Line Access.
- 4. Configure the following:
 - Set the local configuration to "VBR" and select the ID of VBR2.
 - Set the local access point to "Beijing Beijing-Daxing-A" .
 - Set the peer configuration to VPC VRouter.
 - Select the VPC.
 - Select the 100M specification.
- 5. Click Buy Now.
- 6. Observe the VRouter interface status. When this status changes to Active, two VRouter interface instances are created:
 - The VRouter interface instance connecting VBR2 to the VPC VRouter: ri-VBR2-to-VPC.
 - The VRouter interface instance connecting the VPC VRouter to VBR2: ri-VPC-to-VBR2.

Step 5 : Configure routes on the two VBRs to manage traffic forwarding between the VBRs and VPC

Forward traffic directed to the IDC address 172.16.0.0/12 on VBR1 to the physical connection.

- i. Log on to the Express Connect Console.
- ii. Select the VBR, and click Manage to go to the VBR Details page.
- iii. Click Add Route and complete the following information:
 - i. Destination CIDR block: 172.16.0.0/12
 - ii. Next hop direction: Physical connection
- iv. Click **OK** to complete the configuration.
- v. Use a server in the IDC to ping the Alibaba Cloud address 10.100.0.1.

Forward traffic that is directed to the IDC address 172.16.0.0/12 on VBR2 to the physical connection.

- i. Log on to the Express Connect Console.
- ii. Select the VBR, and click **Manage** to go to the **VBR Details** page.
- iii. Click Add Route and complete the following information:
 - i. Destination CIDR block: 172.16.0.0/12
 - ii. Next hop direction: Physical connection
- iv. Click OK to complete the configuration.
- v. Use a server in the IDC to ping the Alibaba Cloud address 10.100.1.1.

Forward traffic that is directed to the VPC address "192.168.0.0/16" on VBR1 to the VPC.

- i. Log on to the Express Connect Console.
- ii. Select the VBR, and click Manage.

Click Add Route and complete the following information.

i. Destination CIDR block: 192.168.0.0/16

- ii. Next hop direction: VPC
- iii. Next hop: Beijing_Router_Interface (ri-VBR1-to-VPC)
- iv. Click **OK** to complete the configuration.

Forward traffic directed to the VPC address "192.168.0.0/16" on VBR2 to the VPC.

i. Log on to the Express Connect Console.

ii. Select the VBR, and click Manage.

iii. Click **Add Route** and complete the following information.

i. Destination CIDR block: 192.168.0.0/16

- ii. Next hop direction: VPC
- iii. Next hop: Beijing_Router_Interface (ri-VBR2-to-VPC)

iv. Click **OK** to complete the configuration.

Step 6 : Submit a ticket to apply for ECMP health check IP addresses

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 3 seconds. If they send 5 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 directed to "172.16.0.0/12" from the VPC (name: Cloud_Data_Center) to the VBR

- 1. Log on to the Express Connect Console.
- 2. Select the VBR, and click Manage.

3. Click Add Route and complete the following information.

- Destination CIDR Block: 172.16.0.0/12
- Next Hop Type: Router interface
- Route Type: Equivalent route
- VRouter Interface: Beijing_Router_Interface1 (ri-VPC-to-VBR1) and
- Beijing_Router_Interface2 (ri-VPC-to-VBR2)
- 4. Click **OK** to complete the configuration.

You have now finished routing configurations on Alibaba Cloud. However, on the customer-leased line access device, you need to add route entries to the VPC intranet on the user side of both leased lines, and direct them to the IP addresses on the Alibaba Cloud side.

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 (100Mbit*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, you must delete the Router interfaces used to connect the two VPCs.

Procedure

Delete route entries

- 1. Go to VPC-A, click Manage Routers.
- 2. In the route entry list, delete the route entries that meet the following conditions:
 - Next hop type is router interface.
 - Next hop is in the VPC-A, and it is the route entry of the router interface used to connect to the VPC-B.
- 3. Go to VPC-B, click Manage>Routers.
- 4. In the Routing entry list, delete the route entries that meet the following conditions:
 - Next hop type is router interface.
 - The next hop is in the VPC-B, and is the routing entry of the router interface used to connect to the VPC-A.

Freeze VRouter interfaces

- 1. Log on to the Express Connect Console.
- 2. Click Router Interfaces.
- 3. Select the VPC-A Router interface used to connect to VPC-B and click **More>Freeze**. This freezes the Router interface connecting VPC-A to VPC-B.
- 4. Select the VPC-B Router interface used to connect to VPC-A and click **More>Freeze**. This freezes the Router interface connecting VPC-B to VPC-A.

Delete VRouter interfaces

Procedure

- 1. Log on to the Express Connect Console.
- 2. Click VRouter Interfaces.
- 3. Click More >Delete. This will delete the two frozen interfaces.

Note:

- You do not have to delete route entries before freezing Router interfaces. After freezing an interface, all associated routes will be deactivated.
- You will continue to be billed for frozen Router interfaces. To stop being billed, you must delete the interfaces.
- If you have not cleared all route entries that direct to a Router interface, you cannot delete the interfaces.

Remove a physical connection

Overview

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

- In router tables of VPC router and VBR, all the route entries pointing to router interfaces which are used to realize the physical connection.
- Router interfaces on the VPC router and VBR for intercommunicating with the physical connection.
- All VBRs associated with the leased line.
- The leased line.

Procedure

To remove the physical connection:

- 1. Delete route entries.
- 2. Freeze router interfaces.
- 3. Delete router interfaces.
- 4. Delete VBRs.
- 5. Terminate access over leased lines.
- 6. Delete leased lines.

Delete route entries

Application scenario

Delete the entry that configures the VPC point to the VBR that binds the physical connection, and then delete the entry that configures the VBR point to VPC.

Note:

The addition and deletion of VBR route entries are linear. You can add or delete a route entry only after adding or deleting the previous route entry.

Procedure

To delete route entries, you need to delete route entries in the router table of VPC router and the related route entries in VBR router table.

On the VPC Console

- 1. Log on to the VPC Console.
- 2. Select VPC on the left side navigation bar to go to the VPC list.
- 3. Select the VPC to be configured, and click the corresponding VPC-ID/Name or Manage to enter the VPC Basic Info page.
- 4. Click VRouter in the left navigation bar to show the Route Entry List.
- 5. Select route entries that point to the router interface you want to delete and click **Delete**. Then the **Delete Route Entry** dialog box appears.
- 6. Click **OK** to delete the route entry.
- 7. Repeat Steps 5 and Step 6 to delete other route entries that point to the router interface.

On the Express Connect Console

- 1. Log on to the Express Connect Console.
- 2. Click Virtual Border Router on the left side navigation bar. The VBR list page appears.
- 3. Select the VBR to be configured. Click **Manage** on the right of the VBR to go to the **VBR Details** page.
- 4. On the route entry list, select the route entry that points to the router interface you want to

delete and click **Delete**. The **Delete Route Entry** dialog box appears.

- 5. Click **OK** to delete the route entry.
- 6. Repeat Steps 4 and Step 5 to delete other route entries that point to the router interface.

Freeze VRouter interfaces

- 1. Log on to the Express Connect Console.
- 2. Select **Router Interface** on the left side navigation bar. The router interface list page appears.
- 3. Select the router interfaces to be deleted.
- 4. Click **Freeze** on the right of the router interface. The **Freeze Router Interface** dialog box appears.
- 5. Click **OK** to set status of the Router interface to **Frozen**.
- 6. Repeat Step3 and Step4 to freeze other router interfaces.

Delete VRouter interfaces

- 1. Log on to the Express Connect Console.
- 2. Select **Router Interface** on the left side navigation bar. The router interface list page appears.
- 3. Select the router interfaces in Frozen status that you want to delete.
- 4. Click **More** on the right side of the router interface and click **Delete** in the drop-down box. The **Delete router interface** dialog box appears.
- 5. Click **OK** to delete the router interface.
- 6. Repeat Step 4 and Step 5 to delete other router interfaces.

Delete VBRs

- 1. Log on to the Express Connect Console.
- 2. Select Virtual Border Router on the left side navigation bar. The VBR list page appears.
- 3. Select the VBR to be deleted.
- 4. Click **Delete** on the right side of the VBR. The **Delete VBR** dialog box appears.
- 5. Click OK.
- 6. Repeat Step 3 and Step 4 to delete other VBRs.

Terminate access over the leased line

- 1. Log on to the Express Connect Console.
- 2. Select Leased Line on the left side navigation bar.
- 3. Select the leased line to be terminated.
- 4. Click Terminate access on the right of the leased line. The Terminate Access dialog box

appears.

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

Delete the leased line

- 1. Log on to the Express Connect Console.
- 2. Select Leased Line in the left side navigation bar.
- 3. Select the leased line to be deleted.
- 4. Click **Delete** on the right of the leased line. The **Confirm Deletion** dialog box appears.
- 5. Click **OK** to delete the physical connection.

This guide is for Alibaba Cloud partners to access a VPC through a physical connection. The guide provides the solution design and the sample connection procedures.

For guide details, refer to Guide in PDF.