

# Alibaba Cloud Express Connect Physical Connection

Issue: 20190524

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## Generic conventions

Table -1: Style conventions

Style	Description	Example
	This warning information indicates a situation that will cause major system changes, faults, physical injuries, and other adverse results.	 <b>Danger:</b> Resetting will result in the loss of user configuration data.
	This warning information indicates a situation that may cause major system changes, faults, physical injuries, and other adverse results.	 <b>Warning:</b> Restarting will cause business interruption. About 10 minutes are required to restore business.
	This indicates warning information, supplementary instructions, and other content that the user must understand.	 <b>Notice:</b> Take the necessary precautions to save exported data containing sensitive information.
	This indicates supplemental instructions, best practices, tips, and other content that is good to know for the user.	 <b>Note:</b> You can use Ctrl + A to select all files.
>	Multi-level menu cascade.	Settings > Network > Set network type
<b>Bold</b>	It is used for buttons, menus, page names, and other UI elements.	Click OK.
Courier font	It is used for commands.	Run the <code>cd / d C :/ windows</code> command to enter the Windows system folder.
<i>Italics</i>	It is used for parameters and variables.	<code>bae log list --instanceid Instance_ID</code>
[ ] or [a b]	It indicates that it is a optional value, and only one item can be selected.	<code>ipconfig [-all -t]</code>

Style	Description	Example
<code>{}</code> or <code>{a b}</code>	It indicates that it is a required value, and only one item can be selected.	<code>switch {stand   slave}</code>



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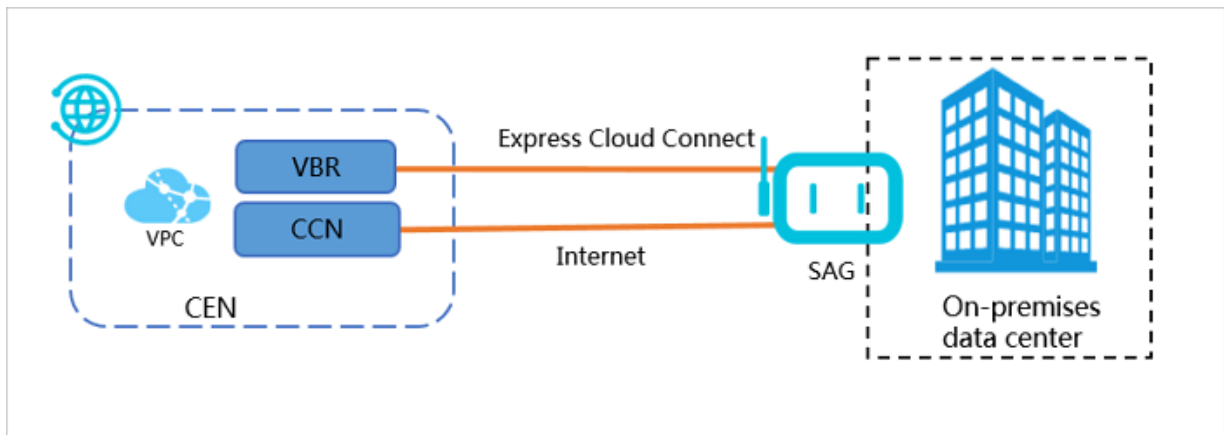


# 1 Establish a physical connection

This topic describes the methods you can use to access Alibaba Cloud through Express Connect. Specifically, you can apply for a dedicated physical line from your telecom carrier or carriers, or use Express Cloud Connect.

## Use Express Cloud Connect

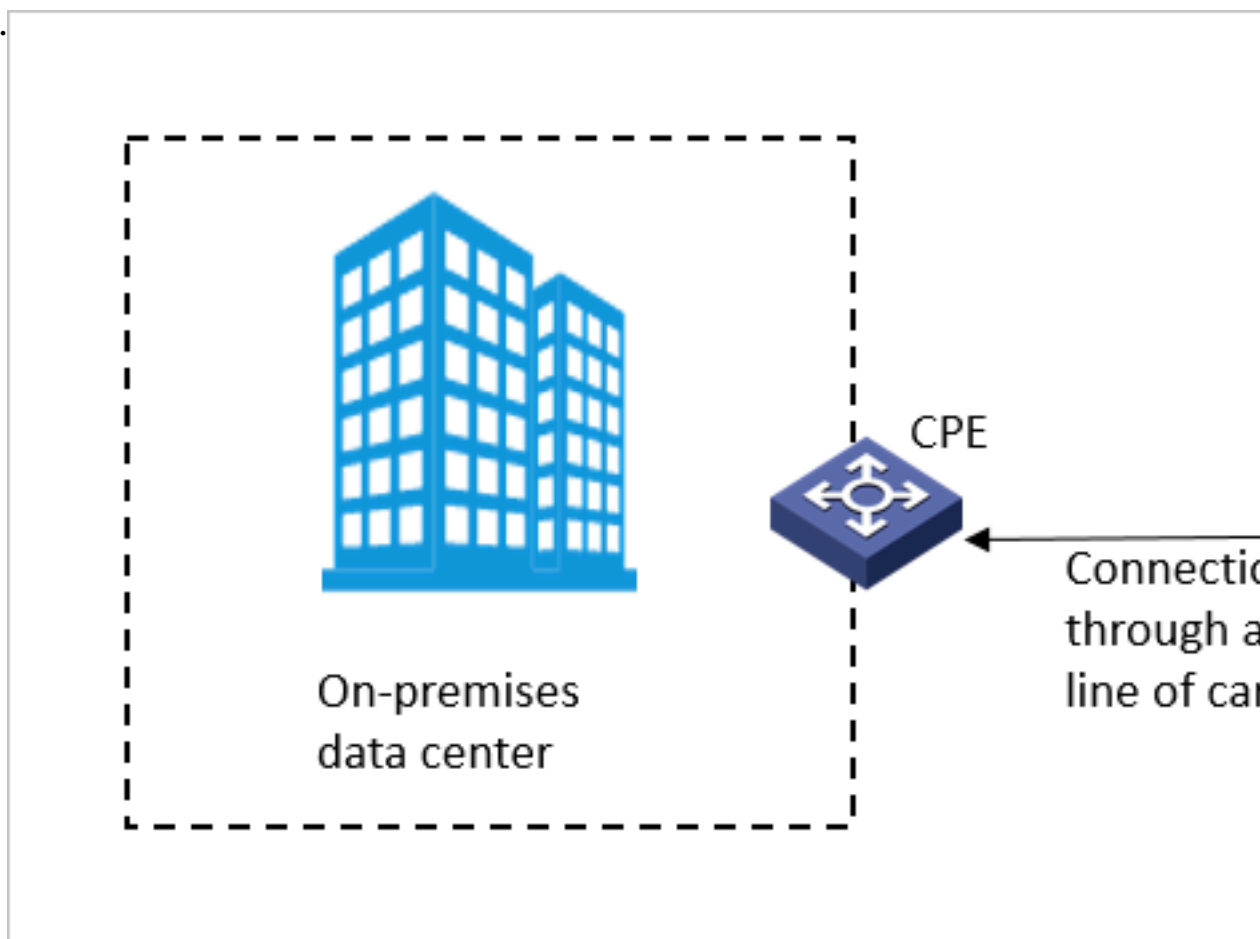
You can connect to Alibaba Cloud through Express Cloud Connect and an Internet connection, as shown in the following figure.



## Apply for a physical line

You can apply for a physical line from your telecom carrier or carriers, and connect your on-premises data center to an Alibaba Cloud access point through this physical line. This physical connection method needs to occupy a physical

port of Alibaba Cloud. The following figure shows the overall connection process.



#### Differences between the two physical connection methods

Item	Express Cloud Connect	Physical line connection
User experience	Express Cloud Connect provides you with an end-to-end cloud access service, which covers the whole connection process from access equipment debug , connection of user-side data centers with Alibaba Cloud-side data centers, and cloud-side access configurations. You do not need to apply for a dedicated line from carriers.	Multiple parties are involved.

Item	Express Cloud Connect	Physical line connection
Function	<ul style="list-style-type: none"><li>SD-WAN technology: high reliability through backup bandwidth and links; simplified operation and maintenance through centralized configuration and monitoring; high security through encrypted links.</li><li>Alibaba Cloud services: OSS, DTS, RDS, DNS, and NAT.</li></ul>	Connects on-premises data centers and VPCs.
Billing	Express Cloud Connect is based on Smart Access Gateway. No initial installation fee, resource occupation fee, or outbound traffic fee is charged. Only Express Cloud Connect service fee is charged. For more information, see <a href="#">Billing of Express Cloud Connect instances</a> .	An initial installation fee and an interface fee are charged by Alibaba Cloud.  An installation fee and a bandwidth fee are charged by carriers. For more information, see <a href="#">Billing of physical connections</a> .
Process	For detailed procedures, see <a href="#">Activate Express Cloud Connect</a> .	For detailed procedures, see <a href="#">Apply for leased line connection</a> .

## 2 Apply for a physical connection interface

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### 2.1 What is a physical connection?

You can use a leased line from your service provider to establish a physical connection from your on-premises data center to an Alibaba Cloud access point. After the physical connection is established, you can create a Virtual Border Router (VBR) to connect your on-premises data center with Alibaba Cloud to build hybrid cloud networks. As a private network connection, the physical connection does not pass through the Internet. Compared with traditional Internet connections, the physical connection is safer, faster, more reliable, and has optimal network latency.

#### Functions

The physical connection interface of Express Connect (through which an ISP leased line connects to an Alibaba Cloud access point) provides the following functions:

- Multiple connection modes

You can use a point-to-point Ethernet connection or MPLS VPN connection. The physical connection supports RJ45 and LC optical ports over a maximum distance of 10 kilometers with a transmission rate from 1 Mbit/s to 100 Gbit/s.

- Redundant connections

The physical connection uses Equal-Cost Multi-Path routing (ECMP) to implement redundancy with two leased lines.

- If both leased lines are in the same region but connected to different access points, the leased lines automatically provide network redundancy.
- If both leased lines are connected to the same access point in the same region, you can select the first leased line as the redundant connection when applying for the second leased line.

#### Limits

The physical connection interface of Express Connect has the following limits:

- Physical connections do not support SDH G.703 or V.35 interfaces.

- Different access points may have different service provider restrictions. Before applying for leased line access, you must open a ticket to obtain the target access point and corresponding restriction information of your service provider.

## 2.2 Physical connection process

By using a leased line from your service provider, you can connect your on-premises data center to an Alibaba Cloud access point to build hybrid clouds and expand your local network.

### Physical connection process

As shown in the following figure, after connecting your on-premises data center to the nearest Alibaba Cloud access point through a leased line from your service provider, you need to create a VBR for the leased line as a router between the local Customer-Premises Equipment (CPE) and the VPC. Then, you need to add the VBR to the Cloud Enterprise Network, or establish a peering connection between the VBR and the VPC so that the on-premises data center can communicate with other VPCs.

To establish a physical connection, you must first connect the leased line to an access point.

### Leased line connection process

The process of connecting the leased line to an access point is shown in the following figure.

## 2.3 Apply for leased line connection

You need to connect the leased line from your service provider to an Alibaba Cloud access point before you can establish a physical connection.

### Prerequisites

Before you apply for a leased line connection, note the following:



- Physical connections do not support interfaces of SDH 155M CPOS, V.35, or G.703.

- Alibaba Cloud provides multiple access points in all regions, except for the China (Qingdao) and US (Silicon Valley) regions. Additionally, different access points may have different service provider restrictions. For more information, see [#unique\\_12](#).

## Procedure

1. Log on to the [Express Connect](#) console.
2. In the left-side navigation pane, choose Physical Connections > Physical Connection Interfaces.
3. Click Apply for New Interface.
4. Configure the physical connection interface, and complete the payment for an initial installation fee.

Configuration	Description
Region	Select the region where the leased line is deployed.  We recommend that you install the leased line in the region that is the same as your VPC. If you choose a different region , you need to pay an extra fee incurred by cross-region Cloud Enterprise Network (CEN) or a peering connection.
SP	Select the service provider (telecom carrier) of the leased line.  Different access points are provided for different service providers.
Access Point	Select the nearest access point to your on-premises data center.  Access points are the on-premises data centers of Alibaba Cloud that are located in multiple regions. Each region has one or more access points. Different access points correspond to different access locations and have different access capabilities. You can open a ticket to obtain detailed information about the location of access points.



Configuration	Description
Port Specification	<p>Port specifications include 1G and below, 10G, 40G, and 100G. If you select 40G or 100G, you need to enable a whitelist.</p> <div>  <b>Note:</b>            Different specifications incur different resource fees.         </div>
Port Type	<p>Select the access port type.</p> <div>  <b>Note:</b>            Available port types vary according to the selected access point and service provider. The console will display the available port types accordingly. We recommend that you consult the service provider before applying for a port.         </div>
Redundancy	<p>Select a required physical connection to provide an Equal-Cost Multi-Path routing (ECMP) redundant link for this leased line. Two physical connections accessing the same region can be used as redundant physical connections.</p> <ul style="list-style-type: none"> <li>· When accessing different access points, both physical connections naturally provide redundancy to each other.</li> <li>· When both physical connections access the same access point, you need to specify one as the redundancy of the other. Redundant physical connections are allocated to different physical access devices.</li> </ul>

- Go back to the Physical Connection Interfaces page and check the physical connection interface for which you have applied.

The physical connection interface is in the To Apply for LOA state.

- Click Apply for LOA in the Actions column.
- On the Apply for LOA page, enter the leased line connection information, and click Add Field Engineer to add the information of a data center cable installation technician or representative. Multiple technicians can be added.

Configuration	Description
Company Name	Enter the company name that you set when you registered your account or the name of the account owner.

Configuration	Description
Construction Company	Enter the name of your designated data center cable installation company, which is usually your service provider of the leased line or the on-premises data center.
Construction Type	<p>Select the required leased line type:</p> <ul style="list-style-type: none"> <li>· MSTP</li> <li>· MPLSVPN</li> <li>· FIBRE</li> <li>· Others</li> </ul> <div>  <b>Note:</b>  SDH is not supported. </div>
Scheduled Construction Time	Set the date and time when the data center cable installation technician or representative from the installation company will go to complete the leased line connection at the site of the Alibaba Cloud data center.
Location	Optional. Enter the location of your on-premises data center.
Bandwidth	<p>Optional. Enter the bandwidth of the leased line.</p> <div>  <b>Note:</b>  The bandwidth value you enter does not affect the fees charged to your account or your usage of the leased line. </div>

8. Click OK. Your application is then sent to Alibaba Cloud personnel for review, and the physical connection interface enters the In Application state.



9. After the application is approved, download the LOA in the console.

The physical connection interface enters the Approved LOA state. Click View LOA in the Actions column to view the installation information, such as the on-premises data center location of Alibaba Cloud, cabinet location, and port information.



## Letter of Authorization

hereby authorizes or its agent to arrange 1-pair of cross-connection in tbc, details as below.

Room: 4

Rack: F08

Patch Panel:

Fiber Connector Type:

Port: 10GE1/0/38

Remark:

\* Final terminating equipment and port number: ad-cn-hangzho-100Base-T

\* Circuit ID: pc-bp-

shall bear no cost related to this order. CU may deal directly with or its agent for all matters relating to this order. This authorization will remain in effect for 30 days only.

Yours sincerely,

Name:

Email: 1

Date: 2019-02-27T16:05:46.000Z

10. At this stage, we recommend that you instruct your installation company to start installation. After installation is complete, click **Delivery Report** on the **Physical Connection Interfaces** page, enter the leased line code and the label numbers of the cables at the site of the Alibaba Cloud data center, and click **OK**.

**The physical connection interface enters the Waiting state.**

- 11. Alibaba Cloud will connect the cables to the corresponding CSW ports according to the information you provided. Alibaba Cloud should complete this step within two working days of you clicking OK in the preceding step.**

The physical connection interface enters the Waiting state.

- 12. After you confirm that the physical connection interface has been deployed, pay the resource fee and enable the port.**

13. After payment, the physical connection interface changes to the Enabled state, indicating that the leased line connection is completed.

**Note:**

The estimated time frame of completing the LOA application, construction, and on-site assistance from Alibaba Cloud is subject to local laws and authorities.

## 2.4 Renew a physical connection interface

We recommend that you renew your physical connection interfaces before they expire to avoid service disruptions.

### Context

If you no longer use an interface, open a ticket to delete it.

If you do not renew your physical connection interface within 15 days after the bill becomes overdue, the interface is stopped. We recommend that you enable the auto-renewal function to ensure your interface is renewed on time.


**Note:**

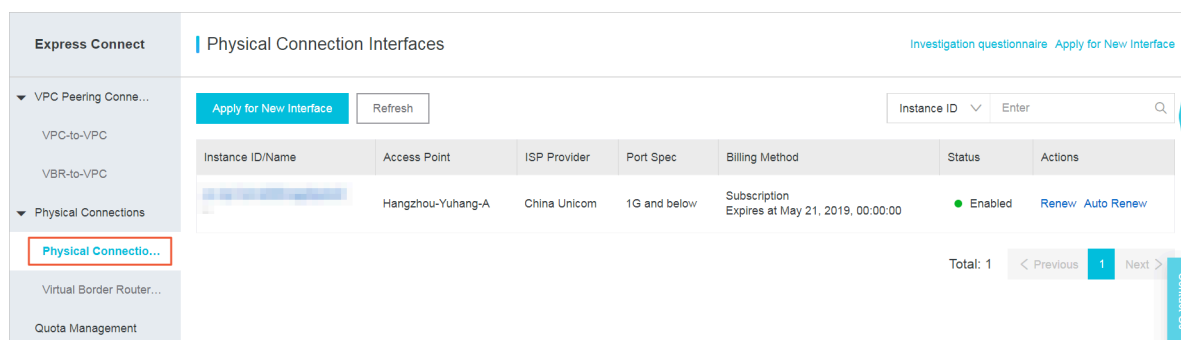
No resource occupation fee is charged if you use a shared port of NSP partners, which means that only a VBR is created under your account and no physical connection interface is applied.

### Procedure

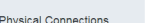
1. Log on to the [Express Connect](#) console.
2. In the left-side navigation pane, choose Physical Connections > Physical Connection Interfaces.

**Note:**

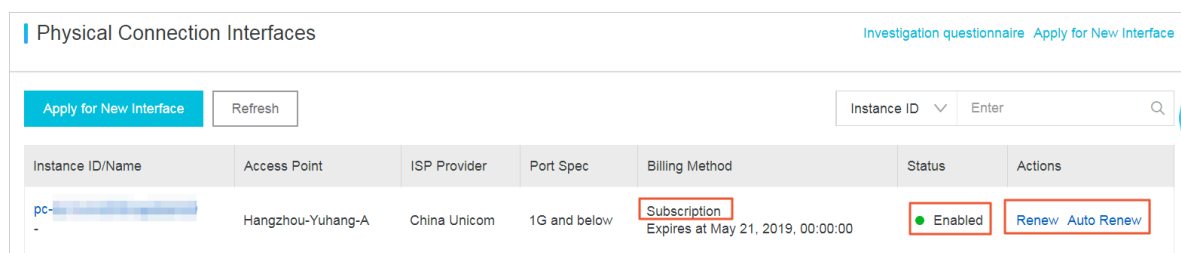
If your console is different from the following figure, click  in the lower-right corner to switch to the new version console.




The screenshot shows the Express Connect console interface. On the left sidebar, the 'Physical Connections' menu item is highlighted with a red box. The main content area displays the 'Physical Connection Interfaces' page, which includes a table of interfaces and a sidebar with navigation options.

Instance ID/Name	Access Point	ISP Provider	Port Spec	Billing Method	Status	Actions
pc- 	Hangzhou-Yuhang-A	China Unicom	1G and below	Subscription Expires at May 21, 2019, 00:00:00	Enabled	Renew Auto Renew

3. Find the target physical connection interface and check its status. Only interfaces in the Enabled state can be renewed.



The screenshot shows the Express Connect console interface. The 'Physical Connection Interfaces' page is displayed, showing a table of interfaces. The 'Subscription' billing method, 'Enabled' status, and 'Renew' button are highlighted with red boxes.

Instance ID/Name	Access Point	ISP Provider	Port Spec	Billing Method	Status	Actions
pc- 	Hangzhou-Yuhang-A	China Unicom	1G and below	Subscription Expires at May 21, 2019, 00:00:00	Enabled	Renew Auto Renew

4. Click Renew or Auto Renew (recommended) in the Actions column to renew the expiration date of the resource occupation fee associated to the interface.

The following steps take the recommended action as an example.

- a) Click Auto Renew.
- b) On the Manually Renew tab page of the Express Connect-Charge for rental (International) page, find the target interface and click Enable Auto-Renew in the Actions column.
- c) In the displayed Enable auto-renewal dialog box, select a renewal period and then click Enable Auto-Renew.

Enable Auto-Renew

1. With auto-renewal, you will be charged from 3 days before the service expires. Make sure that you have sufficient balance in your credit card or other methods of payment.

2. If you manually renew your instance before the charge date, the auto-renewal occurs based on the new expiration date.

3. If you set up auto-renewal today, it would be effective from tomorrow, and using credit is supported.

Renews these products on expiration, Auto-Renew Cycle 

1 Month

Instance ID	Expiration Date	Remaining Days
pc- r	May 2, 2019, 00:00	3 Days

Not Now

Enable Auto-Renew

- d) After you renew the interface, you can go to the Manually Renew tab page of the Express Connect-Charge for rental (International) page to verify the expiration date is updated.

## 2.5 Delete a physical connection

When you no longer need a physical connection, you can delete it by following the steps provided in this topic.



**Note:**

To delete a physical connection, you must use the following sequence.

1. Delete the route entries configured in the VBR and the VPC router.
2. Delete related BGP peers and BGP groups if BGP routing is configured.
3. Delete the peering connection between the VPC and the VBR.
4. Delete all associated VBRs.
5. Delete the physical connection.

Follow these steps to delete a physical connection:

### Step 1: Delete route entries

Follow these steps to delete the custom route entries in the VPC and VBR:

1. Log on to the [Express Connect](#) console.
2. In the left-side navigation pane, click VPC Peering Connections > VBR-to-VPC.
3. Select the region where your VBR-to-VPC connection is located and find the connection.
4. Click the ID of the acceptor VPC. On the VPC Details page, click the VPC ID again.
5. In the Network Resources area, click the route table link. Then click the route table ID.
6. Locate the custom route entry destined for the on-premises IDC and then click Delete.
7. In the displayed dialog box, click OK.
8. In the left-side navigation pane, click Physical Connections > Virtual Border Routers (VBRs ).
9. Select the region of the VBR and then click the ID of the target VBR instance.
10. Click the Route Entries tab.
11. Delete the route entries added in the VBR.

## Step 2: Delete BGP peers and BGP groups

If you have configured BGP, follow these steps to delete the BGP configurations associated with the VBR:

1. Log on to the [Express Connect](#) console.
2. In the left-side navigation pane, click Physical Connections > Virtual Border Routers (VBRs).
3. Select the region of the VBR and then click the ID of the target VBR instance.
4. Click the BGP Peers tab and then delete the created BGP peers.
5. Click the BGP Groups tab and then delete the created BGP groups.
6. Click the BGP CIDR Blocks tab and then delete the added BGP CIDR blocks.

## Step 3: Delete peering connections

Follow these steps to delete the peering connection between the VBR and the VPC:

1. Log on to the [Express Connect](#) console.
2. In the left-side navigation pane, click VPC Peering Connections > VBR-to-VPC.
3. Select the region where your VBR-to-VPC connection is located and find the connection.
4. Click > Suspend Initiator. In the displayed dialog box, click Confirm.
5. Click > Suspend Acceptor. In the displayed dialog box, click Confirm.
6. Click > Delete. In the displayed dialog box, click Confirm.

## Step 4: Delete the VBRs

Follow these steps to delete the VBRs:

1. Log on to the [Express Connect](#) console.
2. In the left-side navigation pane, click Physical Connections > Virtual Border Routers (VBRs).
3. Select the region where the VBR is located.
4. Find the target VBR and click Delete.
5. In the displayed dialog box, click Confirm.

## Step 5: Delete the physical connection

You need to submit a ticket to apply for the deletion of a physical connection. After the physical connection is deleted, you will receive a refund of the resource fee.

## 2.6 Create redundant physical connections

You can use two physical connections to connect an on-premises IDC to Alibaba Cloud. In this way, a high-quality and highly reliable intranet communication can be established between the on-premises IDC and Alibaba Cloud.

### Example

This topic takes the following scenario as an example to describe how to connect an on-premises IDC to Alibaba Cloud through redundant physical connections.

A company has an on-premises IDC (CIDR block: 172.16.0.0/12) in Beijing, and has a VPC (CIDR block: 192.168.0.0/16) in the China (Beijing) region. To solve the issue of Single Points of Failure (SPOFs), the company plans to apply for two physical connections that are provided by two different service providers to connect the on-premises IDC to Alibaba Cloud.

### Step 1: Apply for a physical connection interface

Set the name of this first physical connection interface to leasedline1. This topic provides only general configuration information. For detailed configuration information, see [Apply for leased line connection](#).

#### 1. Apply for a physical connection interface and pay the initial installation fee.

- **Region:** Select the region where the leased line is deployed.
- **SP:** Select the service provider of your leased line. In this example, select China Unicom.
- **Access Point:** Select an access point that is closest in geographical proximity to your on-premises IDC. In this example, select Qingdao-Laoshan-A-CU.
- **Port Specification:** Select the required port specification. In this example, select 10G. Note that different specifications incur different resource fees.
- **Port Type:** Select the port type of the physical connection. In this example, select 1000Base-LX.
- **Redundant Connection ID:** Select None.

#### 2. Click Apply for LOA in the Actions column.

#### 3. Enter your company name, the name of the data center cable installation company, the scheduled installation date and time, and the contact information of data center cable installation technician or representative, and select a construction type.

4. After your application is approved, download the LOA to view installation information in the console, such as the location of the installation site (the Alibaba Cloud IDC site), cabinet location, and port information. At this stage, we recommend that you instruct your installation company to start installation.
5. After the installation is complete, click Delivery Report on the Physical Connection Interfaces page, enter the leased line code and the label numbers of cables at the installation site, and click OK. The physical connection interface enters the Waiting state.
6. Alibaba Cloud will connect the cables to the corresponding CSW ports according to the information you provided. After you confirm that the physical connection interface has been deployed, pay the resource fee. When the physical connection interface changes to the Enabled state, the leased line connection is completed.

#### Step 2: Apply for a second physical connection interface

Set the name of the second physical connection interface to leasedline2. This topic provides only general configuration information. For detailed configuration information, see [Apply for leased line connection](#).

1. Apply for a physical connection interface and pay the initial installation fee.
  - Region: Select the region where the leased line is deployed.
  - Access Point: Select an access point that is closest in geographical proximity to your on-premises IDC. In this example, select Qingdao-Laoshan-A-CU.
  - SP: Select the service provider of your leased line. In this example, select China Unicom.
  - Port Specification: Select the required port specification. In this example, select 10G. Note that different specifications incur different resource fees.
  - Port Type: Select the port type of the physical connection. In this example, select 1000Base-LX.
  - Redundant Connection ID: Select the first physical connection interface you have applied for. Make sure that you have paid the initial installation fee.



#### Note:

- If the access point of the second physical connection interface is the same as that of the first physical connection interface, select the ID of the first



physical connection. Make sure that you have paid the initial installation fee for the first physical connection.

- If the access point of the second physical connection interface is different from that of the first physical connection interface, the two connections create a redundant connection by default, so you do not need to select a physical connection ID.

2. Click Apply for LOA in the Actions column.
3. Enter your company name, the name of the data center cable installation company, the scheduled installation date and time, and the contact information of data center cable installation technician and representative, and select a construction type.
4. After your application is approved, download the LOA to view installation information in the console, such as the location of the installation site (the Alibaba Cloud IDC site), cabinet location, and port information. At this stage, we recommend that you instruct your installation company to start installation.
5. After the installation is complete, click Delivery Report on the Physical Connection Interfaces page, enter the leased line code and the label numbers of cables at the installation site, and click OK. The physical connection interface enters the Waiting state.
6. Alibaba Cloud will connect the cables to the corresponding CSW ports according to the information you provided. After you confirm that the physical connection interface has been deployed, pay the resource fee. When the physical connection interface changes to the Enabled state, the leased line connection is completed.

### Step 3: Create a VBR

To create a VBR, follow these steps:

1. On the Virtual Border Routers page, click Create VBR.

**2. Configure the VBR. The VBR configurations in this example are as follows:**

- **Account:** Select Current Account.
- **Name:** Enter vbr1.
- **Physical Connection Interface:** Select the first physical connection interface.
- **VLANID:** Enter 2333.
- **Gateway IP Address on Alibaba Cloud Side:** Enter 10.0.0.1.
- **Gateway IP Address on Customer Side:** Enter 10.0.0.2.
- **Subnet Mask:** Enter 255.255.255.252.

**3. Repeat the preceding steps to create a VBR named vbr2 for the second physical connection interface.****Step 4: Establish a peering connection**

To establish a peering connection between your VBR and your VPC, follow these steps:

**1. On the VPC Peering Connections page, click Create Peering Connection.****2. Configure the peering connection. The configurations in this example are as follows:**

- **Connection Type:** Select VBR-to-VPC.
- **Routers to Create:** Select Initiator and Acceptor.
- **Local Region:** Select the region of the VBR. In this example, select China (Beijing).
- **Local VBR ID:** Select the created VBR.
- **Peer Region:** Select the region to which the VPC belongs. In this example, select China (Beijing).
- **Peer VPC ID:** Select the VPC to be connected.
- **Bandwidth:** In this example, select 100 Mb.

**3. Go back to the VPC Peering Connections page to view the status of the peering connection. The connection is successfully established if the status of both the acceptor and the initiator is activated.****4. Repeat the preceding steps to establish a peering connection between the other VBR and the VPC.**

**Step 5: Configure routes**

After establishing the peering connections, you must configure a route in the VPC that points to the on-premises IDC in the VPC, and configure two routes pointing to the VPC and the on-premises IDC respectively. Lastly, you must add a route pointing to the VPC in the access device of the on-premises IDC.

To configure the routes, follow these steps:

**1. To configure routes for a VBR:**

a. On the VBR details page, click the Routes tab page, and then click Add Route.

b. Add a route directing to the VPC:

- Destination Subnet: Enter the CIDR block of the VPC. In this example, enter 192.168.0.0/16.
- Next Hop Type: Select VPC.
- Next Hop: Select the VPC.

c. Add a route pointing to the physical connection:

- Destination Subnet: Enter the CIDR block of the on-premises IDC. In this example, enter 172.16.0.0/12.
- Next Hop Type: Select Physical Connection Interface.
- Next Hop: Select the physical connection interface.

d. Repeat the preceding steps to configure routes for the other VBR.

## 2. To configure a route for the VPC:

- a. On the VPC Peering Connections page, find the created peering connection, and click the VPC ID of the acceptor to open the VPC Details page. Here, you can view the ID of the route table.
- b. On the [Route Tables](#) page, click the target route table ID, and then click Add Route Entry.
- c. Configure a route:
  - Destination CIDR Block: Enter the CIDR block of the on-premises IDC. In this example, enter 172.16.0.0/12.
  - Next Hop Type: Select Router Interface (To VBR).
  - Next Hop: Select Load Balancing Routing, and then select the created VBR.
- d. Configure a route for the on-premises IDC.

You can configure a static route or BGP dynamic routing to forward data between the on-premises IDC to VBR:

- Static route

Example:

```
ip route 192 . 168 . 0 . 0 / 16 10 . 100 . 0 . 1
```

- Dynamic routes

You can also use BGP to forward data between the on-premises IDC and the VBR. For more information, see [#unique\\_16](#).



### Note:

The advertised CIDR block must be the CIDR block of the VPC that will be used to communicate with the on-premises IDC. In this example, enter 192.168.0.0/16.

## Step 6: Configure health checks

You must configure the health check settings for redundant physical connections. Alibaba Cloud sends a ping packet once every two seconds from each health check IP address to the customer-side IP address of the on-premises IDC. If eight ping packets

on one physical connection are sent in succession, and all packets fail to respond, the traffic is switched to the other physical connection.

To configure the health check, follow these steps:

1. On the VBR-to-VPC page, locate the created peering connection, and then click > Health Check.
2. Click Configure, complete the following configurations and then click OK.
  - Source IP: Enter an idle IP of the VSwitch in the connected VPC.
  - Destination IP: Enter the interface IP address of the network device of the on-premises IDC.
3. Repeat the preceding steps to configure a health check for the other peering connection.

## 2.7 Access points

You can use the leased line provided by your local service provider to access the cloud resources deployed on Alibaba Cloud through access points. Open a ticket or contact your customer manager if you need more information.

### Access points in Mainland China

Area	Country (Region)	Access point	Service provider
Mainland China	China (Qingdao)	Qingdao-Laoshan-A	China Unicom
	China (Beijing)	Beijing-Daxing-A	GDS Services
		Beijing-Daxing-B	China Unicom
		Beijing-Changping-A	China Telecom
		Beijing-Yizhuang-A	21vianet
		Beijing-Yizhuang-B	China Unicom
		Beijing-Yizhuang-C	China Mobile
		Beijing-Fengtai-A	CNIX
		Beijing-Shunyi-A	China Telecom
	China (Zhangjiakou)	Zhangjiakou-Xiaoertai-A	Alibaba Cloud

Area	Country (Region)	Access point	Service provider
		Zhangjiakou-Miaotan-A	Alibaba Cloud
	China (Hohhot)	Hohhot-Shengle-A	China Telecom
		Hohhot-Xincheng-A	China Unicom
	China (Hangzhou)	Hangzhou-Yuhang-A	Alibaba Cloud
		Hangzhou-Linan-A	Watone Cloud
		Hangzhou-Xiaoshan-A	China Unicom
		Hangzhou-Xiaoshan-B	China Telecom
		Hangzhou-Xiaoshan-D	China Mobile
		Hangzhou-Jiangan-B	21vianet
		Hangzhou-Deqing-A	China Unicom
	China (Shanghai)	Shanghai-Baoshan-A	China Telecom
		Shanghai-Baoshan-B	China Unicom
		Shanghai-Baoshan-C	21vianet
		Shanghai-Pudong-A	China Mobile
		Shanghai-Pudong-B	China Telecom
		Shanghai-Pudong-D	China Unicom
		Shanghai-Jiading-A	China Telecom
	China (Shenzhen)	Shenzhen-Futian-A	GDS Services
		Shenzhen-Longhua-A	China Telecom
		Shenzhen-Yantian-A	China Unicom
		Shenzhen-Nanshan-A	21vianet

Area	Country (Region)	Access point	Service provider
		Shenzhen-Longgang-A	China Mobile

## Access points outside Mainland China

Area	Country (Region)	Access point	Service provider
Asia Pacific	China (Hong Kong)	HK-KwaiChung-A	Equinix
		HK-ChaiWan-B	MEGA
		HK-Fanling-C	PCCW
	Singapore	Singapore-A	Equinix
		Singapore-B	GlobalSwitch
		Singapore-C	DRT
	Australia (Sydney)	Australia-Sydney-A	GlobalSwitch
		Australia-Sydney-B	Equinix
	Malaysia (Kuala Lumpur)	Malaysia-KualaLumpur-A	NTT
		Malaysia-KualaLumpur-B	AIMS
	Indonesia (Jakarta)	Indonesia-Jakarta-A	DCI
		Indonesia-Jakarta-B	NTT
	Japan (Tokyo)	Japan-Tokyo-A	Equinix
		Japan-Tokyo-B	Equinix
		Japan-Tokyo-C	NEC
Europe and America	US (Silicon Valley)	US-San Jose-A	Equinix
	US (Virginia)	US-Ashburn-A	Equinix
		US-Virginia-D	Coresite
	Germany (Frankfurt)	Germany-Frankfurt-A	E-shelter
		Germany-Frankfurt-B	Equinix
	UK (London)	UK-London-A	DRT
		UK-London-B	ARK
		UK-London-C	Telehouse

Area	Country (Region)	Access point	Service provider
		UK-London-D	Equinix
Middle East and India	UAE (Dubai)	UAE-Dubai-A	Equinix
		UAE-Dubai-B	Khazna
	India (Mumbai)	India-Mumbai-A	CtrlS
		India-Mumbai-B	GPX
		India-Mumbai-C	NM

## 2.8 NSP partners

If your local infrastructure is not within the reach of Alibaba Cloud Express Connect, or if your data does not require a large bandwidth connection, you can use Alibaba Cloud's growing NSP partners to help you build a physical connection to connect your on-premises data center to Alibaba Cloud.

The following table lists the NSP partners of Alibaba Cloud. They can help you establish a network connection between Alibaba Cloud access points and your on-premises data center to build a hybrid cloud.



### Note:

You must sign contracts with and obtain services from third-party network service providers when using NSP partners to access Alibaba Cloud. Furthermore, the NSP partners that you sign agreements with are deemed responsible for service guarantees as defined in the SLA, in addition to being responsible for providing one or more solutions to any service issues that result from use of NSP partner networks. Alibaba Cloud holds no responsibility for actions resulting from use of NSP partner networks.

Partner	Mainland China	Hong Kong	Tokyo	Singapore	Sydney	Frankfurt	San Jose	Ashburn	Dubai
China Unicom	#	—	—	—	—	—	—	—	—
China Telecom Global	—	#	—	—	—	#	—	—	—



Partner	Mainland China	Hong Kong	Tokyo	Singapore	Sydney	Frankfurt	San Jose	Ashburn	Dubai
China Unicom Global	—	#	—	—	—	—	—	—	—
Epsilon	—	—	—	#	—	—	—	#	#
GTT	—	—	—	#	—	—	—	—	—
TATA	—	#	—	#	—	—	—	—	—
MegaPort	—	#	—	#	#	—	#	#	—
PCCW	—	#	—	#	—	—	—	—	—
Reliance	—	—	—	#	—	—	—	—	—
SingTel	—	—	—	#	—	—	—	—	—
Vodafone	—	—	—	—	—	#	—	—	—
SoftBank	—	—	#	—	—	—	—	—	—
Intercloud	—	—	—	—	—	#	—	—	—
Equinix	—	#	—	#	#	#	#	#	—
HGC	—	#	—	—	—	—	—	—	—
NextDC	—	—	—	—	#	—	—	—	—

## 3 Express Cloud Connect (Beta)

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### 3.1 What is Express Cloud Connect?

Express Cloud Connect is a cloud access service that is based on the hardware capacities and built-in routing encapsulation technology of Smart Access Gateway (SAG), and can be easily integrated with the dedicated lines of telecom carriers. By using Express Cloud Connect, you can not only guarantee compliance but also experience the benefits of a highly reliable, high-performance, and low-latency cloud network environment.



**Note:**

Currently, the Express Cloud Connect service is available only in regions with the Mainland China area.

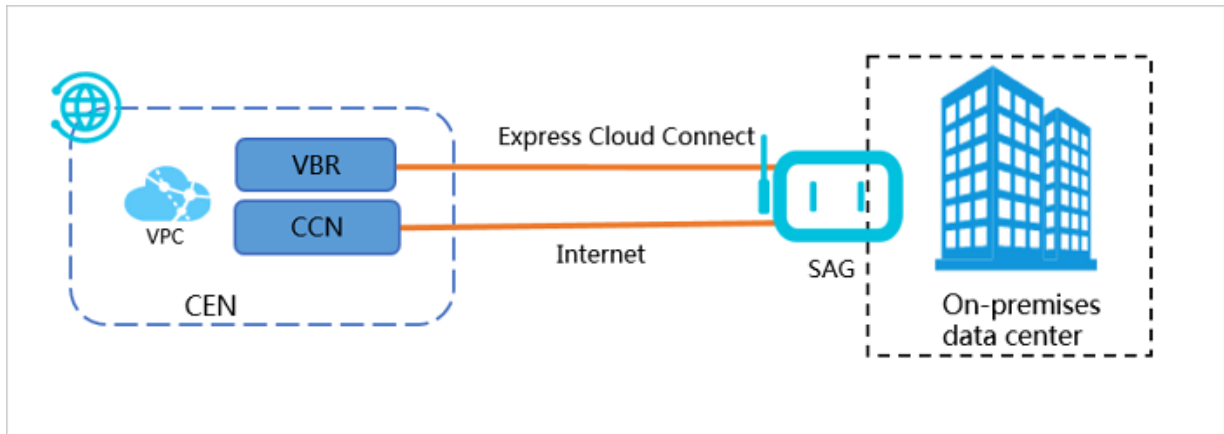
#### Advantages

Express Cloud Connect provides the following advantages:

- **Low cost:** Only a bandwidth fee is charged. No initial installation fee or resource occupation fee is charged.
- **Compliance:** Alibaba Cloud cooperates with telecom carriers to mitigate line disconnection risks caused by non-compliance.
- **Reliable quality:** Service quality is ensured through backup equipment, links, and access points. The SLA of a dual-link service is defined as up to 99.95%.
- **Multiple carrier lines:** Multiple carrier lines are available to meet different business needs.
- **Value-added network functions:** Value-added services are provided, such as Internet acceleration, encryption, and access to Private Zone.

#### Deployment

Express Cloud Connect adopts the deployment model of SAG + Internet + dedicated line, as shown in the following figure.



## 3.2 Activation process

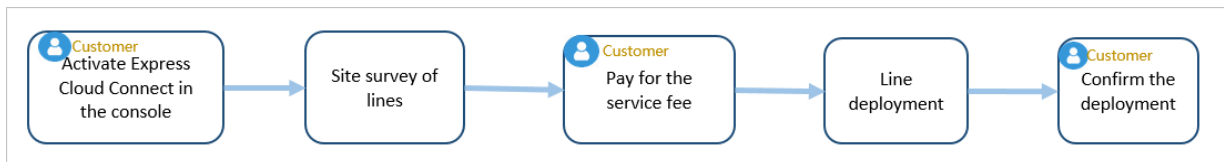
This topic describes how to activate the Express Cloud Connect service and the subsequent line deployment actions required.



**Note:**

Currently, the Express Cloud Connect service is available only in regions within the Mainland China area.

The following figure shows the procedure.



1. The customer logs on to the Express Connect console and activates the Express Cloud Connect service.



**Note:**

Currently, the Express Cloud Connect service is available as a beta release. To activate the service, open a ticket.

2. A site survey is performed on the lines to be deployed.
3. The customer pays for the Express Cloud Connect service fee through the Express Connect console.
4. Lines are deployed.
5. The customer confirms the deployment.

After lines are deployed, fees for the lines start to be charged immediately after the deployment is confirmed.

### 3.3 Activate Express Cloud Connect

Express Cloud Connect allows you to focus more on developing your business on the cloud without the hassle of infrastructure concerns.

#### Procedure

1. Log on to the [Express Connect](#) console.
2. In the left-side navigation pane, choose Physical Connections > Express Cloud Connect.
3. Click Apply for Express Cloud Connect Service, enter the information needed for the application, and click OK.

**Note:**

Currently, the Express Cloud Connect service is available as a beta release. To activate the service, open a ticket.

4. After a site survey is finished, the application enters the To be paid state.  
On the payment page, you can choose whether to use the equipment debug service provided by Alibaba Cloud and whether to purchase backup equipment, and select a purchase period.
5. After you pay the Express Cloud Connect service fee, Alibaba Clouds begins the cable installation.

After the installation is completed, the system automatically creates a VBR and you need to confirm the installation.