

Direct Connect

FAQ

Issue 01
Date 2022-01-30



Copyright © Huawei Technologies Co., Ltd. 2022. All rights reserved.

No part of this document may be reproduced or transmitted in any form or by any means without prior written consent of Huawei Technologies Co., Ltd.

Trademarks and Permissions



HUAWEI and other Huawei trademarks are trademarks of Huawei Technologies Co., Ltd.

All other trademarks and trade names mentioned in this document are the property of their respective holders.

Notice

The purchased products, services and features are stipulated by the contract made between Huawei and the customer. All or part of the products, services and features described in this document may not be within the purchase scope or the usage scope. Unless otherwise specified in the contract, all statements, information, and recommendations in this document are provided "AS IS" without warranties, guarantees or representations of any kind, either express or implied.

The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied.

Contents

1 Popular Questions.....	1
1.1 What Are the Network Requirements for Connections?.....	1
1.2 What Locations Does Direct Connect Provide?.....	1
1.3 How Do I Select a Carrier When Purchasing a Connection?.....	3
1.4 How Will I Be Billed for Direct Connect?.....	3
1.5 How Do I Submit a Service Ticket?.....	4
1.6 How Do I Test the Connectivity Between a VM and the Direct Connect Gateway After My Connection Is Created?.....	5
1.7 What Do I Do If I Select an Incorrect Carrier When Creating a Connection?.....	5
2 Product Consultation.....	6
2.1 What Are the Network Requirements for Connections?.....	6
2.2 What Are 1GE and 10GE?.....	6
2.3 What Locations Does Direct Connect Provide?.....	6
2.4 Is BGP Routing Supported in Direct Connect?.....	8
2.5 What Is Full-Service Installation Statement?.....	8
2.6 How Do I Submit a Service Ticket?.....	9
2.7 What Are the Network Latency and Packet Loss Rate of a Connection?.....	11
2.8 Are the Uplink and Downlink Bandwidths of a Direct Connect Connection the Same?.....	11
2.9 What Do I Do If I Select an Incorrect Carrier When Creating a Connection?.....	11
2.10 How Can I Change the VPC Associated with My Connection?.....	11
2.11 What Are IP Addresses for Interconnection in Direct Connect?.....	11
3 Leased Line Construction.....	13
3.1 How Long Is Required for Establishing Connectivity Between an On-premises Data Center and the Cloud?.....	13
3.2 How Do I Select a Carrier When Purchasing a Connection?.....	13
3.3 What Access Modes Does Direct Connect Support?.....	13
4 Interconnection with Cloud.....	14
4.1 Can I Access One VPC over Multiple Connections?.....	14
4.2 How Do I Plan the CIDR Block of a VPC Accessed over a Direct Connect Connection?.....	14
4.3 What Must Be Considered When Direct Connect Is Used to Access the Cloud?.....	14
4.4 Does Direct Connect Support NAT?.....	14
4.5 Can the VLAN of the On-premises Network Be Used in the VPC Through Direct Connect?.....	15
4.6 Can My Data Center Connect to Multiple VPCs Through One Connection?.....	15

4.7 Can Direct Connect Be Used with Similar Services of Other Cloud Service Providers?.....	15
5 Networking and Scenarios.....	16
5.1 Can Multiple Connections Access One VPC?.....	16
5.2 Can My Data Center Connect to Multiple VPCs Through One Connection?.....	16
5.3 Can Direct Connect Be Used with Similar Services of Other Cloud Service Providers?.....	16
5.4 Can I Perform Bandwidth Rate Limiting on Each Hosted Connection as a Partner?.....	16
5.5 How Can I Change the VPC Associated with My Connection?.....	17
6 Related Console Operations.....	18
6.1 How Do I Submit a Service Ticket?.....	18
6.2 How Can I Unsubscribe from Direct Connect?.....	19
6.3 What Parameters Can Be Modified After I Have Created a Virtual Interface?.....	19
6.4 Do I Need to Delete the Virtual Gateway and Virtual Interface Before Deleting a Hosted Connection?	20
6.5 How Do I Change the Routing Mode of a Connection?.....	20
6.6 How Do I Delete a Hosted Connection?.....	20
6.7 What Is the BGP ASN Used by HUAWEI CLOUD?.....	20
6.8 What Are IP Addresses for Interconnection in Direct Connect?.....	20
7 Troubleshooting.....	22
7.1 What Are Common Troubleshooting Methods for Direct Connect?.....	22
7.2 How Do I Test the Network Connectivity Between a Location and the Cloud?.....	23
8 Billing.....	24
8.1 How Will I Be Billed for Direct Connect?.....	24
8.2 Can I Renew My Connections?.....	24
8.3 How Can I Unsubscribe from Direct Connect?.....	25
8.4 Is a Connection Still Available After Being Frozen?.....	25
8.5 Can I Unsubscribe from a Connection in the Creating State?.....	25
8.6 Can I Change the Port Type After I Have Created a Connection?.....	25
9 Resource Monitoring.....	26
9.1 How Do I Monitor the Network Quality of a Direct Connect Connection?.....	26
9.2 What Are Direct Connect Metrics?.....	27
9.3 How Can I View Direct Connect Metrics?.....	29
10 Quota.....	30
10.1 What Is the Direct Connect Quota?.....	30
10.2 How Many Hosted Connections Can a Partner Create on an Operations Connection?.....	31

1 Popular Questions

1.1 What Are the Network Requirements for Connections?

- Your on-premises network must use a single-mode fiber with a 1GE, 10GE, 40GE, or 100GE optical module to connect to the access device in the cloud. In addition, key parameters such as the LC, wavelength, and distance must be aligned with the location, for example, 1GE, LC, single-mode, 1310nm, 10 KM.
- Auto-negotiation for the port must be disabled. Port speed and full-duplex mode must be manually configured.
- 802.1Q VLAN encapsulation must be supported on the entire connection, including intermediate devices.
- Your device must support BGP and BGP MD5 authentication or static routing.
- (Optional) You can configure BFD on your network.
- The maximum transmission unit (MTU) supported at the physical layer is up to 1522 bytes (14-byte Ethernet header + 4-byte VLAN tag + 1500-byte IP datagram + 4-byte frame check sequence). The recommended value is 1500.
- Private IP addresses are recommended both on and off the cloud, and IP address ranges for interworking cannot conflict with each other.

1.2 What Locations Does Direct Connect Provide?

Direct Connect provides a number of locations for you to choose from. For more information, contact the sales manager or [submit a service ticket](#).

Table 1-1 Direct Connect locations

Geographic Region	City	Region	Location	IDC
Chinese mainland	Beijing	CN North-Beijing4	Langfang-Guangyang-Huawei	Huawei

Geographic Region	City	Region	Location	IDC
			Beijing-Tongzhou-Huitian	Huitian
			Beijing-Yizhuang-Centrin	Centrin Data Systems
			Beijing-Yizhuang-Yatai	Yatai Zhongli
Chinese mainland	Beijing	CN North-Ulanqab1	Ulanqab-Jining-Huawei	Huawei
Chinese mainland	Shanghai	CN East-Shanghai2	Shanghai-Pudong-GDS	GDS
			Shanghai-Baoshan-Baoxin	Baoxin
			Shanghai-Jiading-Sinnet	Sinnet
	Suzhou	CN East-Shanghai1	Suzhou-Kunshan-GDS	GDS
			Suzhou-Wuzhong-Guoke	China Unicom
	Guangzhou	CN South-Guangzhou	Guangzhou-Huangpu-Huaxinyuan	Bigone
			Guangzhou-Fanyu-University town	Bigone
	Guiyang	CN Southwest-Guiyang1	Guiyang-Gui'an-Mobile	China Mobile
			Guiyang-Gui'an-Unicom	China Unicom
	Asia Pacific	Hong Kong	CN-Hong Kong	Hong Kong-Sha Tin-Telecom
Hong Kong-Sai Kung-Mobile				China Mobile
Bangkok		AP-Bangkok	Bangkok-NTT	NTT
			Bangkok-TRUE	TRUE
Singapore		AP-Singapore	Singapore-DataPro	Equinix

Geographic Region	City	Region	Location	IDC
			Singapore-Global Switch	Global Switch
South Africa	Johannesburg	AF-Johannesburg	Johannesburg-Vodacom	Vodacom
			Johannesburg-MTN	MTN
			Johannesburg-IS Parklands	Internet Solutions Parklands
			Johannesburg-Teraco	Teraco
Latin America	Mexico	LA-Mexico City1	Mexico-Ixtlahuaca	Ixtlahuaca
	Sao Paulo	LA-Sao Paulo1	Sao Paulo-Telefonica TB1	Telefonica TB1
			Sao Paulo-Equinix	Equinix
			Sao Paulo-ODATA	OData
	Santiago	LA-Santiago	Santiago-Paine	Paine
			Santiago-Claro	Claro

1.3 How Do I Select a Carrier When Purchasing a Connection?

1. Check the carriers that are available at the Direct Connect location you select.
2. Select a carrier that can best meet your requirements from the carriers available at the location you select based on their price, network performance, and other aspects.

1.4 How Will I Be Billed for Direct Connect?

Suppose that your data center is in Tianjin and you are using resources in the CN North region. You want a multi-service transmission platform (MSTP) connection to connect your data center to HUAWEI CLOUD for a year. The bandwidth is estimated to be 4 Mbit/s per year.

The following prices are estimated based on the current market. You need to contact your carrier for the prices of the leased line and in-building cabling.

- Port: ¥7200 for a 1GE port per year

- Leased line: ¥101,400 for 4 Mbit/s MSTP line per year
- Intra-building fiber deployment: ¥12,000 for a connection per year

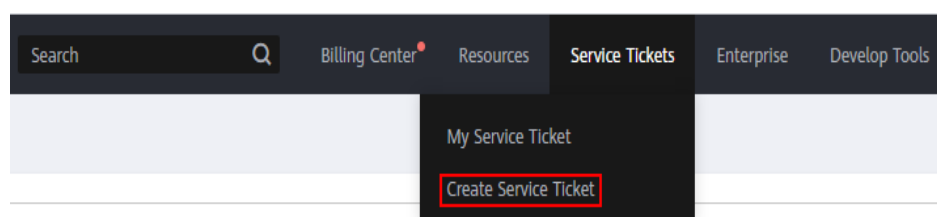
The total cost is: ¥7200 + ¥101,400 + ¥12,000 = ¥120,600.

For details, see [Billing](#).

1.5 How Do I Submit a Service Ticket?

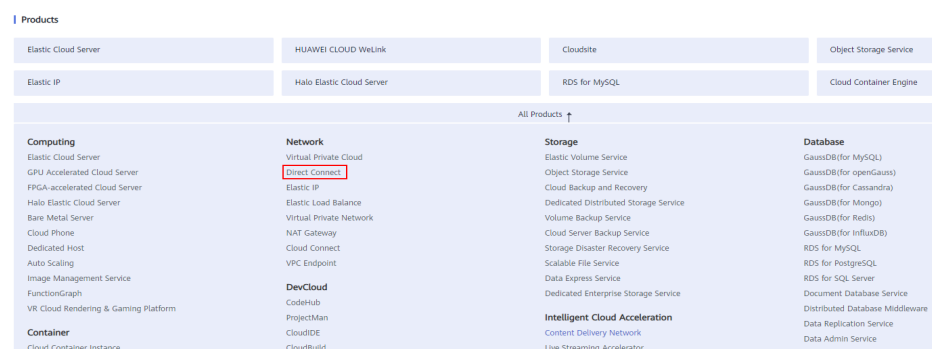
1. Log in to the management console.
2. In the upper right corner, choose **Service Tickets** > **Create Service Ticket**.

Figure 1-1 Service Tickets



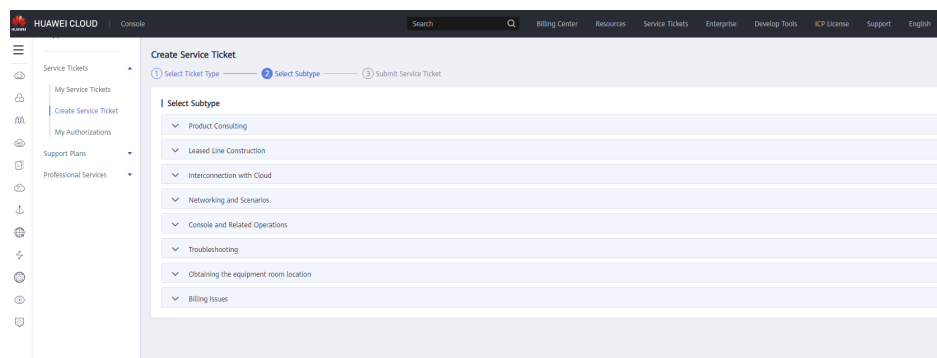
3. Choose **More Products**, and click **Direct Connect** under **Network**.

Figure 1-2 Direct Connect



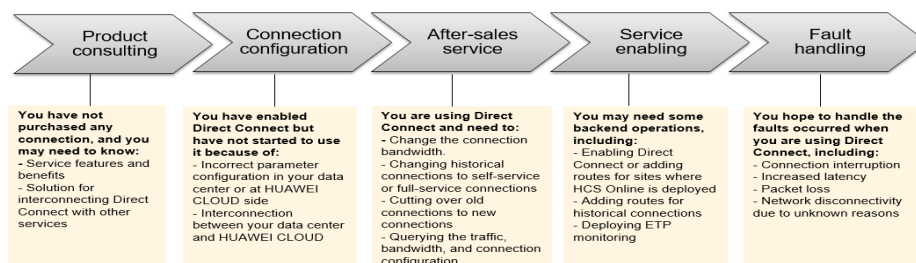
4. Select the service ticket type.

Figure 1-3 Select Subtype



NOTE

When you **submit a service ticket**, selecting a ticket type can accelerate problem handling.

Figure 1-4 Ticket types

1.6 How Do I Test the Connectivity Between a VM and the Direct Connect Gateway After My Connection Is Created?

By default, the VM cannot ping the IP address range for network communication between the Direct Connect gateway and on-premises data center. The IP address range is the subnet where the remote gateway and local gateway reside.

To test the connectivity, you need to add the IP address range to the remote subnet of the virtual interface.

1.7 What Do I Do If I Select an Incorrect Carrier When Creating a Connection?

Your selection for the carrier does not affect the establishment of network connectivity.

If you want to change the carrier, you can unsubscribe from the created connection, create another one, and select the desired carrier.

2 Product Consultation

2.1 What Are the Network Requirements for Connections?

- Your on-premises network must use a single-mode fiber with a 1GE, 10GE, 40GE, or 100GE optical module to connect to the access device in the cloud. In addition, key parameters such as the LC, wavelength, and distance must be aligned with the location. Examples of optical module parameters: 1 GE, LC single-mode, 1310 nm, and 10 km
- Auto-negotiation for the port must be disabled. Port speed and full-duplex mode must be manually configured.
- 802.1Q VLAN encapsulation must be supported on the entire connection, including intermediate devices.
- Your device must support BGP and BGP MD5 authentication or static routing.
- (Optional) You can configure BFD on your network.
- The maximum transmission unit (MTU) supported at the physical layer is up to 1522 bytes (14-byte Ethernet header + 4-byte VLAN tag + 1500-byte IP datagram + 4-byte frame check sequence). The recommended value is 1500.
- Private IP addresses are recommended both on and off the cloud, and IP address ranges for interworking cannot conflict with each other.

2.2 What Are 1GE and 10GE?

GE is short for Gigabit Ethernet.

1GE and 10GE indicate the maximum bandwidth supported by the ports. 1GE indicates 1 Gbit/s bandwidth, and 10GE indicates 10 Gbit/s bandwidth.

2.3 What Locations Does Direct Connect Provide?

Direct Connect provides a number of locations for you to choose from. For more information, contact the sales manager or [submit a service ticket](#).

Table 2-1 Direct Connect locations

Geographic Region	City	Region	Location	IDC
Chinese mainland	Beijing	CN North-Beijing4	Langfang-Guangyang-Huawei	Huawei
			Beijing-Tongzhou-Huitian	Huitian
			Beijing-Yizhuang-Centrin	Centrin Data Systems
			Beijing-Yizhuang-Yatai	Yatai Zhongli
Chinese mainland	Beijing	CN North-Ulanqab1	Ulanqab-Jining-Huawei	Huawei
Chinese mainland	Shanghai	CN East-Shanghai2	Shanghai-Pudong-GDS	GDS
			Shanghai-Baoshan-Baoxin	Baoxin
			Shanghai-Jiading-Sinnet	Sinnet
	Suzhou	CN East-Shanghai1	Suzhou-Kunshan-GDS	GDS
			Suzhou-Wuzhong-Guoke	China Unicom
	Guangzhou	CN South-Guangzhou	Guangzhou-Huangpu-Huaxinyuan	Bigone
			Guangzhou-Fanyu-University town	Bigone
	Guiyang	CN Southwest-Guiyang1	Guiyang-Gui'an-Mobile	China Mobile
			Guiyang-Gui'an-Unicom	China Unicom
	Asia Pacific	Hong Kong	CN-Hong Kong	Hong Kong-Sha Tin-Telecom
Hong Kong-Sai Kung-Mobile				China Mobile
Bangkok		AP-Bangkok	Bangkok-NTT	NTT

Geographic Region	City	Region	Location	IDC
			Bangkok-TRUE	TRUE
	Singapore	AP-Singapore	Singapore-DataPro	Equinix
			Singapore-Global Switch	Global Switch
South Africa	Johannesburg	AF-Johannesburg	Johannesburg-Vodacom	Vodacom
			Johannesburg-MTN	MTN
			Johannesburg-IS Parklands	Internet Solutions Parklands
			Johannesburg-Teraco	Teraco
Latin America	Mexico	LA-Mexico City1	Mexico-Ixtlahuaca	Ixtlahuaca
	Sao Paulo	LA-Sao Paulo1	Sao Paulo-Telefonica TB1	Telefonica TB1
			Sao Paulo-Equinix	Equinix
			Sao Paulo-ODATA	OData
	Santiago	LA-Santiago	Santiago-Paine	Paine
			Santiago-Claro	Claro

2.4 Is BGP Routing Supported in Direct Connect?

Yes. Direct Connect allows you to use BGP for routing.

You can refer to the following best practices to see where BGP routing is required:

- [Accessing a VPC over a Connection That Uses BGP Routing](#)
- [Accessing a VPC over Two Connections That Use BGP Routing](#)

2.5 What Is Full-Service Installation Statement?

Before creating a full-service connection, you need to read, have fully understood, and agreed to the content in the *HUAWEI CLOUD Direct Connect Full-Service Installation Statement*.

The details are as follows:

1. Definition

Full-service installation refers to the process where HUAWEI CLOUD completes all work required to create a connection that links your premises to the cloud after you submit a request or pay for the order.

2. Delivery and Acceptance

- a. You are responsible for preparing the environment and completing in-building cabling (if any) in your environment to ensure that HUAWEI CLOUD can enter the site and complete all required work. You shall bear the cost of the in-building cabling. The delay of service provisioning caused due to your reason will not be counted in the delivery time, and HUAWEI CLOUD will not be responsible for the delivery.
- b. After the service is enabled, HUAWEI CLOUD will notify you of commissioning and acceptance. After receiving the notification, you shall complete the acceptance within three (3) working days. If the criteria are met, you shall verify the functions on the console and confirm the billing information. If the commissioning does not meet acceptable standards, continue commissioning until the service meets acceptance criteria. If you fail to confirm or raise any objection in writing within three working days after receiving the notification from HUAWEI CLOUD, you are deemed to have agreed that the service has been enabled as required and that HUAWEI CLOUD can start charging you for using the service.
- c. Acceptance criteria:
 - i. No packets are lost when your CE device is pinged from the Direct Connect gateway in the data center at the location you selected and 5000 packets are sent with each containing 1400 bytes.
 - ii. The port BER is less than ten to the negative seventh power (10^{-7}).

3. Service Period and Termination

The service period of a full-service connection is one (1) year, starting from the date when billing starts. If you need to terminate the service in advance, HUAWEI CLOUD will still charge you for the remaining service period.

4. Availability

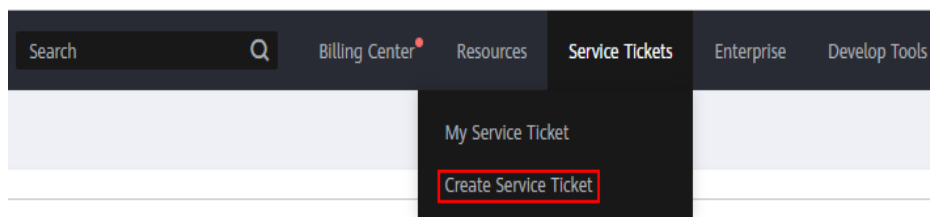
HUAWEI CLOUD shall make reasonable commercial and technical efforts to ensure that the SLA of connections terminated at different locations reaches 99.95%. To ensure stable service running and high availability, you are advised to purchase multiple connections that are terminated at different locations. If you purchase a single Direct Connect connection or multiple Direct Connect connections terminated at one location, services may be affected due to a faulty connection, carrier cutover, or maintenance at the location. You must understand and accept the risk.

For details, see the [HUAWEI CLOUD Service Level Agreement](#) on the official website.

2.6 How Do I Submit a Service Ticket?

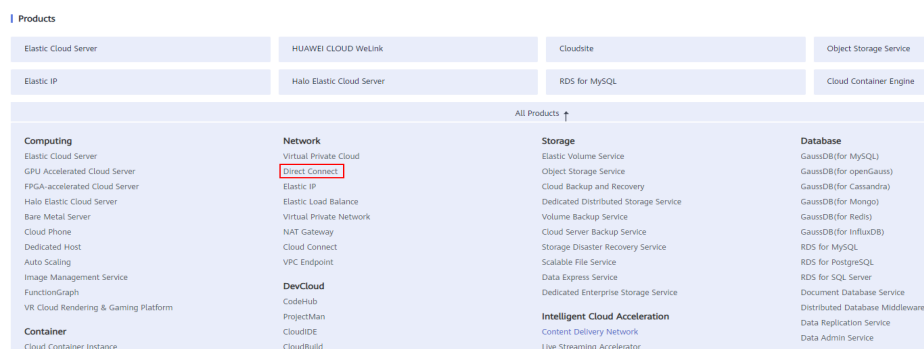
1. Log in to the management console.
2. In the upper right corner, choose **Service Tickets > Create Service Ticket**.

Figure 2-1 Service Tickets



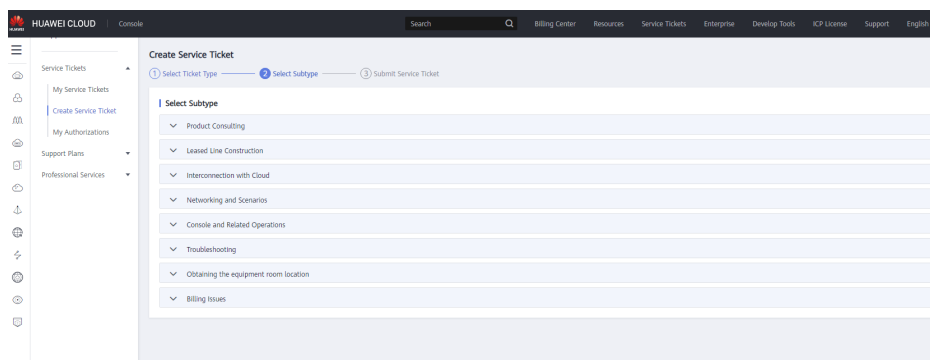
3. Choose **More Products**, and click **Direct Connect** under **Network**.

Figure 2-2 Direct Connect



4. Select the service ticket type.

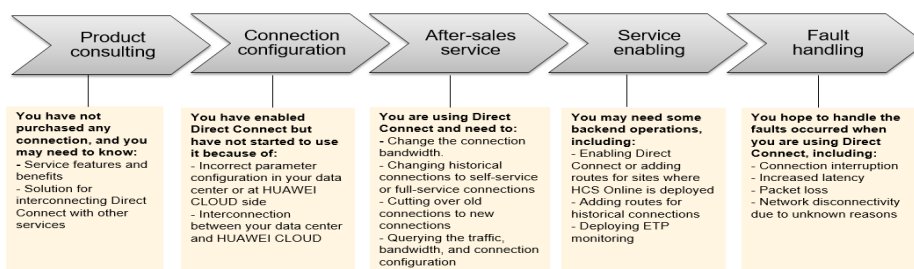
Figure 2-3 Select Subtype



NOTE

When you **submit a service ticket**, selecting a ticket type can accelerate problem handling.

Figure 2-4 Ticket types



2.7 What Are the Network Latency and Packet Loss Rate of a Connection?

The network latency and packet loss rate on the cloud are different from those off the cloud.

- Network latency and packet loss rate on the cloud (from HUAWEI CLOUD VMs to the Direct Connect gateway): Navigate to the Cloud Eye console to view the monitoring data.
- Network latency and packet loss rate off the cloud (from the Direct Connect gateway to your equipment room over the leased line): Contact your leased line carrier for specific information.

2.8 Are the Uplink and Downlink Bandwidths of a Direct Connect Connection the Same?

Yes.

If you set the bandwidth to 100 Mbit/s, the uplink and downlink bandwidths are both 100 Mbit/s.

2.9 What Do I Do If I Select an Incorrect Carrier When Creating a Connection?

Your selection for the carrier does not affect the establishment of network connectivity.

If you want to change the carrier, you can unsubscribe from the created connection, create another one, and select the desired carrier.

2.10 How Can I Change the VPC Associated with My Connection?

Delete the virtual gateway and virtual interface associated with the old VPC, create a new virtual gateway and a new virtual interface, and associate them with the new VPC.

2.11 What Are IP Addresses for Interconnection in Direct Connect?

IP addresses for interconnection refer to the local gateway and the remote gateway. The local gateway is used for connecting to the cloud, and the remote gateway is used for connecting to your on-premises network.

 **CAUTION**

The local gateway and remote gateway must be in the same IP address range. Generally, a subnet with a 30-bit mask is recommended. You need to plan an IP address range that will be used at both ends of the connection for network communications between your on-premises data center and the cloud.

3 Leased Line Construction

3.1 How Long Is Required for Establishing Connectivity Between an On-premises Data Center and the Cloud?

Generally, this is determined by the period that the carrier requires to deploy the leased line, which varies depending on geographic positions of your data center and the location you selected.

- If your data center and location are in different cities, it will take three to four months.
- If your data center and location are in the same city, it will take two to three months.

3.2 How Do I Select a Carrier When Purchasing a Connection?

1. Confirm the carriers that are available at the Direct Connect location you select. The carriers vary depending on the location.
2. Select a carrier that can best meet your requirements from the carriers available at the location you select based on their price, network performance, and other aspects.

3.3 What Access Modes Does Direct Connect Support?

Currently, HUAWEI CLOUD supports only 1GE and 10GE single-mode optical ports and does not support access using a single fiber.

4 Interconnection with Cloud

4.1 Can I Access One VPC over Multiple Connections?

Yes.

To do so, you need to create multiple virtual interfaces, and select the same virtual gateway but different connections for each virtual interface.

4.2 How Do I Plan the CIDR Block of a VPC Accessed over a Direct Connect Connection?

- The CIDR block of the VPC, the CIDR block of the local and remote gateways, and the CIDR block used by the on-premises network cannot overlap or conflict with each other.
- To avoid conflicts with cloud service addresses, do not use 127.0.0.0/8, 169.254.0.0/16, 224.0.0.0/3 or 100.64.0.0/10 for your on-premises network.

4.3 What Must Be Considered When Direct Connect Is Used to Access the Cloud?

- Connection reliability: At least two connections are terminated at different locations to work as backup for each other.
- Bandwidth and port specifications: Select a 1GE port if the bandwidth of the leased line is 1 Gbit/s or lower. Select a 10GE port if the bandwidth ranges from 1 Gbit/s to 10 Gbit/s.
- Port type: Decide that an optical port or electrical port is to be used. If you want to use an optical port, consider compatibility with optical modules at both ends, including the transmission distance and device brand.

4.4 Does Direct Connect Support NAT?

No.

During hybrid cloud networking, plan different private networks for the cloud and your premises. If network address conflicts occur, change NAT rules for the on-premises network.

4.5 Can the VLAN of the On-premises Network Be Used in the VPC Through Direct Connect?

No.

Currently, on-premises networks can only be interconnected with the cloud at Layer 3.

4.6 Can My Data Center Connect to Multiple VPCs Through One Connection?

Yes. You can use either of the following methods to access multiple VPCs, depending on the type of your connection:

- If you use a standard connection, you can create multiple virtual gateways and virtual interfaces to access different VPCs.
- If you have a hosted connection, you can create only one virtual interface and virtual gateway. If your data center needs to access other VPCs, you can set up VPC Peering connections to connect the VPC associated with your virtual gateway to the VPCs you want to access.

4.7 Can Direct Connect Be Used with Similar Services of Other Cloud Service Providers?

Yes.

Direct Connect can be used together with similar access services provided by other cloud service providers.

5 Networking and Scenarios

5.1 Can Multiple Connections Access One VPC?

Yes.

To do so, you need to create multiple virtual interfaces, and select the same virtual gateway but different connections for each virtual interface.

5.2 Can My Data Center Connect to Multiple VPCs Through One Connection?

Yes. You can use either of the following methods to access multiple VPCs, depending on the type of your connection:

- If your connection is a standard one, you can create multiple virtual gateways and virtual interfaces to associate with different VPCs.
- For a hosted connection, you can create only one virtual interface and virtual gateway. If your data center needs to access other VPCs, you can set up VPC Peering connections to connect the VPC associated with your virtual gateway to the VPCs you want to access.

5.3 Can Direct Connect Be Used with Similar Services of Other Cloud Service Providers?

Yes.

Direct Connect can be used together with similar access services provided by other cloud service providers.

5.4 Can I Perform Bandwidth Rate Limiting on Each Hosted Connection as a Partner?

Yes.

Hosted connections share the bandwidth of an operations connection. You need to perform rate limiting on your device or on the user's device.

5.5 How Can I Change the VPC Associated with My Connection?

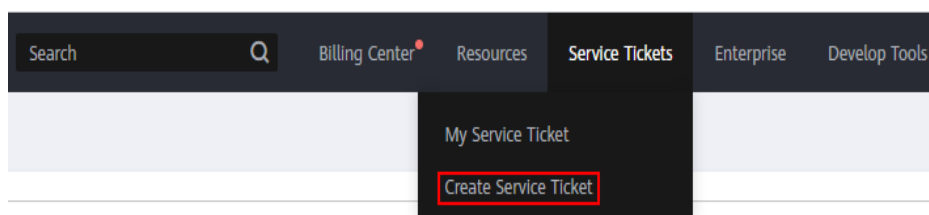
Delete the virtual gateway and virtual interface associated with the old VPC, create a new virtual gateway and a new virtual interface, and associate them with the new VPC.

6 Related Console Operations

6.1 How Do I Submit a Service Ticket?

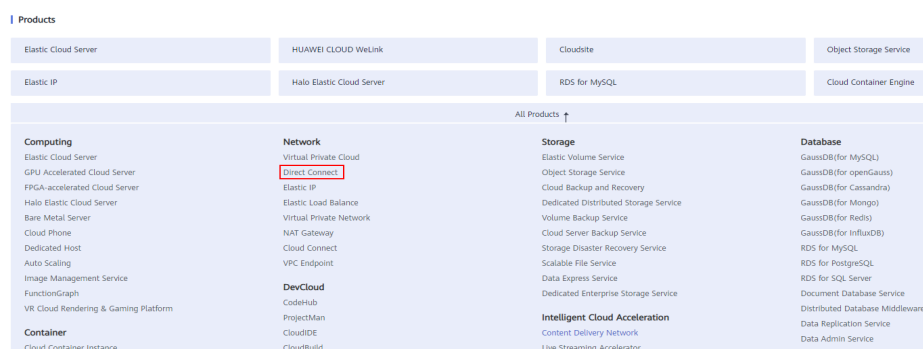
1. Log in to the management console.
2. In the upper right corner, choose **Service Tickets** > **Create Service Ticket**.

Figure 6-1 Service Tickets



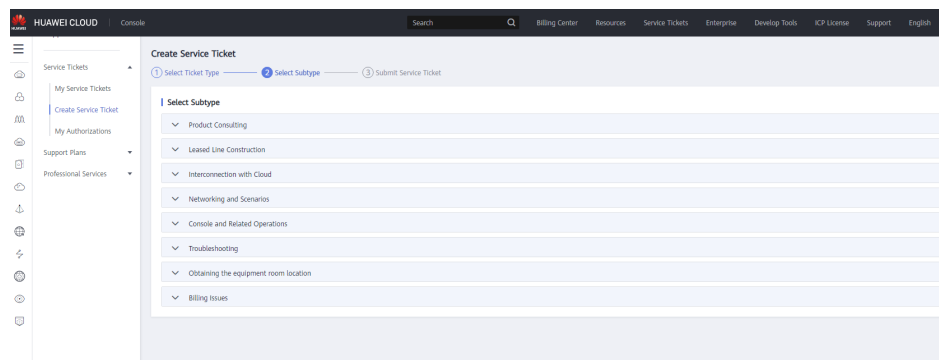
3. Choose **More Products**, and click **Direct Connect** under **Network**.

Figure 6-2 Direct Connect



4. Select the service ticket type.

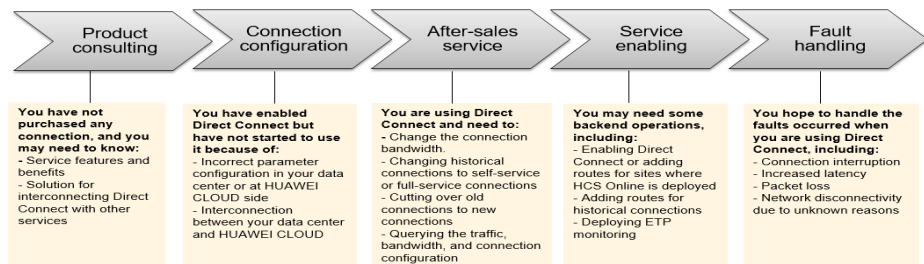
Figure 6-3 Select Subtype




NOTE

When you **submit a service ticket**, selecting a ticket type can accelerate problem handling.

Figure 6-4 Ticket types



6.2 How Can I Unsubscribe from Direct Connect?

1. Log in to the management console.
2. Hover on  to display **Service List** and choose **Networking > Direct Connect**.
3. In the navigation pane on the left, choose **Direct Connect > Connections**.
4. Locate the connection that you want to unsubscribe from and click **More > Unsubscribe** in the **Operation** column.
5. On the displayed page, locate the target connection and click **Unsubscribe from Resource** in the **Operation** column.
6. On the **Unsubscribe** page, select the reason for unsubscription, confirm the refund amount, and select **I understand a Handling fees will be charged for this unsubscription**.
7. Click **Confirm**.

6.3 What Parameters Can Be Modified After I Have Created a Virtual Interface?

You can modify only its name, bandwidth, remote subnet, and description.

To modify the VLAN, local gateway, and remote gateway, you need to delete the virtual interface and create a new one.

6.4 Do I Need to Delete the Virtual Gateway and Virtual Interface Before Deleting a Hosted Connection?

Yes. You need to delete the virtual interface bound to the hosted connection before deleting the hosted connection.

6.5 How Do I Change the Routing Mode of a Connection?

Delete the virtual interface associated with the connection and create another virtual interface. Select the routing mode you want when you create the virtual interface.

 **CAUTION**

Deleting the original virtual interface will interrupt network connectivity of the connection, which will be resumed after you associate the new virtual interface with the connection.

6.6 How Do I Delete a Hosted Connection?

To delete a hosted connection, contact the partner who created the hosted connection for you.

6.7 What Is the BGP ASN Used by HUAWEI CLOUD?

Generally, HUAWEI CLOUD's BGP ASN is 64512.

 **CAUTION**

There are exceptions. In CN North-Beijing1, HUAWEI CLOUD uses 65533. In AP-Bangkok, HUAWEI CLOUD uses 65535.

6.8 What Are IP Addresses for Interconnection in Direct Connect?

IP addresses for interconnection refer to the local gateway and the remote gateway. The local gateway is used for connecting to the cloud, and the remote gateway is used for connecting to your on-premises network.

 **CAUTION**

The local gateway and remote gateway must be in the same IP address range. Generally, a subnet with a 30-bit mask is recommended. You need to plan an IP address range that will be used at both ends of the connection for network communications between your on-premises data center and the cloud.

7 Troubleshooting

7.1 What Are Common Troubleshooting Methods for Direct Connect?

Connectivity

If the network connectivity is abnormal after you have connected the leased line to the endpoint device, perform the following steps to locate the fault:

1. Verify that the network device is correctly connected, auto-negotiation is disabled for the optical port, and the port speed and full-duplex mode are manually configured.
2. Verify that optical signals can be normally received and transmitted.

Network

If the connection fails to work properly after you have created a virtual interface and used it to connect your environment to HUAWEI CLOUD, perform the following steps to locate the fault:

1. Verify that the local gateway can be pinged from the remote gateway and that the VLAN of the intermediate device on the physical network is correctly configured.
2. Verify that IP addresses of the local and remote gateways are in the same CIDR block and configured on the VLAN sub-interfaces.
3. If static routing is used, verify that the next hop or outbound interface of the static route is correctly configured.
4. If BGP routing is used, verify that the BGP ASN, BGP MD5 authentication key, and BGP peer IP address are correctly configured. BGP ASNs on both gateways must be different.
5. If BGP routing is used, verify that the number of BGP routes advertised through the virtual interface does not exceed 100. If the number exceeds 100, excess BGP routes will not be received.
6. If BGP routing is used, verify that the rule for prohibiting TCP port 179 or large digital temporary TCP port connection is not configured.

Routing

If a static route has been delivered to a virtual interface or a BGP peer relationship has been established, perform the following steps to locate the fault:

1. Verify that the route from your gateway to your network is reachable.
2. Verify that the route of your network is correctly advertised and configured in the remote subnet of the virtual interface, and that BGP is used for routing in your network.
3. Verify that the VPC network segment is correctly configured on the virtual gateway.
4. Verify that your VPC security group and network ACL rules allow inbound and outbound traffic.

7.2 How Do I Test the Network Connectivity Between a Location and the Cloud?

To test network connectivity between the location you select and the cloud, add the CIDR block where the local and remote gateways reside to the remote subnet you configure when creating the virtual interface, and then ping the IP address of the local gateway from a VM on the cloud.

If the test fails, check whether:

- The VM is in the VPC associated with the virtual gateway.
- The VM IP address is within the local subnet configured when you create the virtual gateway.
- The security group rules and network ACL rules of the VM allow traffic from the VM to the local gateway configured for the virtual interface.

8 Billing

8.1 How Will I Be Billed for Direct Connect?

Suppose that your data center is in Tianjin and you are using resources in the CN North region. You want a multi-service transmission platform (MSTP) connection to connect your data center to HUAWEI CLOUD for a year. The bandwidth is estimated to be 4 Mbit/s per year.

The following prices are estimated based on the current market. You need to contact your carrier for the prices of the leased line and in-building cabling.


1. Port: ¥7200 for a 1GE port per year
2. Leased line: ¥101,400 for a 4-Mbit/s MSTP line per year
3. Intra-building fiber deployment: ¥12,000 for a connection per year

The total cost is: ¥7200 + ¥101,400 + ¥12,000 = ¥120,600.


For details, see [Billing](#).

8.2 Can I Renew My Connections?

Yes. You can perform the following operations to renew a connection:

1. Log in to the management console.
2. Hover on  to display **Service List** and choose **Networking > Direct Connect**.
3. In the navigation pane on the left, choose **Connections**.
4. Locate the connection that you want to renew and click **More > Renew** in the **Operation** column.
5. Set the duration that you want to renew the connection and click **Pay**. Then pay the order as prompted.

8.3 How Can I Unsubscribe from Direct Connect?

1. Log in to the management console.
2. Hover on  to display **Service List** and choose **Networking > Direct Connect**.
3. In the navigation pane on the left, choose **Direct Connect > Connections**.
4. Locate the connection that you want to unsubscribe from and click **More > Unsubscribe** in the **Operation** column.
5. Locate the target connection and click **Unsubscribe from Resource** in the **Operation** column.
6. On the **Unsubscribe** page, select the reason for unsubscription, confirm the refund amount, and select **I understand a Handling fees will be charged for this unsubscription**.
7. Click **Confirm**.

8.4 Is a Connection Still Available After Being Frozen?

After a connection expires, it is frozen and cannot be used. If you renew the connection within the frozen period, it will become available again.

If you do not renew the connection, it will be deleted, and you cannot renew it anymore.

8.5 Can I Unsubscribe from a Connection in the Creating State?

No.

No. Currently, you can only unsubscribe from connections that are in the **Normal** state. If a connection is being created, you can unsubscribe from it after the creation is complete.

8.6 Can I Change the Port Type After I Have Created a Connection?

No. If you want to change the port type of a connection, you need to unsubscribe from the connection and create another connection.

9 Resource Monitoring

9.1 How Do I Monitor the Network Quality of a Direct Connect Connection?

Direct Connect plug-ins detect end-to-end network quality of connections and monitor two metrics of remote subnets: network latency and packet loss rate.

There are two types of plug-ins:

- dc-nqa-collector: monitors the connections created on the Direct Connect console.
- history-dc-nqa-collector: monitors historical connections.

For details, see [Installing Direct Connect Metric Collection Plug-ins](#).

Table 9-1 Network quality metrics

Metric	Metric Name	Meaning	Value Range	Monitored Object	Monitoring Interval
latency	Latency	Network latency of data transmission over a connection Unit: ms	≥ 0 ms	Connections and historical connections	1 minute

Metric	Metric Name	Meaning	Value Range	Monitored Object	Monitoring Interval
packet_loss_rate	Packet Loss Rate	Rate of packets lost during data transmission over a connection Unit: Percent	0–100%	Connections and historical connections	1 minute

9.2 What Are Direct Connect Metrics?

Function

Use the management console or call APIs provided by Cloud Eye to query the metrics of the monitored objects and alarms generated for Direct Connect.

Namespace

SYS.DCAAS

Metrics

Table 9-2 Direct Connect metrics



Metric	Metric Name	Meaning	Value Range	Monitored Object	Monitoring Interval
network_incoming_bits_rate	Network Incoming Bandwidth	Bit rate for inbound data to the Direct Connect side of a connection Unit: bit/s	≥0 bits/s	Connections and historical connections	1 minute
network_outgoing_bits_rate	Network Outgoing Bandwidth	Bit rate for outbound data from the Direct Connect side of a connection Unit: bit/s	≥0 bits/s	Connections and historical connections	1 minute

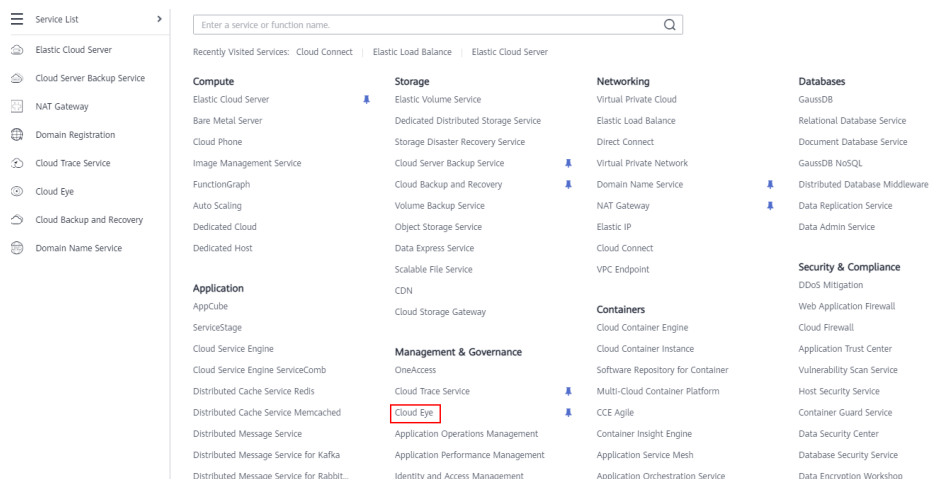
Metric	Metric Name	Meaning	Value Range	Monitored Object	Monitoring Interval
network_incoming_bytes	Network Incoming Traffic	Number of bytes for inbound data to the Direct Connect side of a connection Unit: byte	≥0 bytes	Connections and historical connections	1 minute
network_outgoing_bytes	Network Outgoing Traffic	Number of bytes for outbound data from the Direct Connect side of a connection Unit: byte	≥0 bytes	Connections and historical connections	1 minute
network_incoming_packets_rate	Network Incoming Packet Rate	Packet rate for inbound data to the Direct Connect side of a connection Unit: Packet/s	≥ 0 packets/s	Connections and historical connections	1 minute
network_outgoing_packets_rate	Network Outgoing Packet Rate	Packet rate for outbound data from the Direct Connect side of a connection Unit: Packet/s	≥ 0 packets/s	Connections and historical connections	1 minute
network_incoming_packets	Network Incoming Packets	Number of packets for inbound data to the Direct Connect side of a connection Unit: Packet	≥ 0 packets	Connections and historical connections	1 minute
network_outgoing_packets	Network Outgoing Packets	Number of packets for outbound data from the Direct Connect side of a connection Unit: Packet	≥ 0 packets	Connections and historical connections	1 minute

Dimensions

Key	Value
direct_connect_id	Connection
history_direct_connect_id	Historical connection

9.3 How Can I View Direct Connect Metrics?

1. Log in to the management console.
2. Click  in the upper left corner of the console and select a region and project.
3. Hover on  to display **Service List** and choose **Management & Governance > Cloud Eye**.



4. In the navigation pane on the left, choose **Cloud Service Monitoring > Direct Connect**.
5. Click **View Metric** in the **Operation** column.
You can view the data of the last 1, 3, or 12 hours.

10 Quota

10.1 What Is the Direct Connect Quota?

What Is Quota?

Quotas can limit the number or amount of resources available to users, such as the maximum number of ECSs or EVS disks that can be created.

If the existing resource quota cannot meet your service requirements, you can apply for a higher quota.

How Do I View My Quotas?


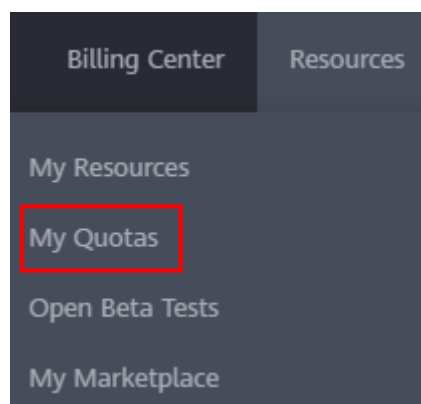
1. Log in to the management console.
2. Click  in the upper left corner and select the desired region and project.
3. In the upper right corner of the page, choose **Resources > My Quotas**.
The **Service Quota** page is displayed.

Figure 10-1 My Quotas

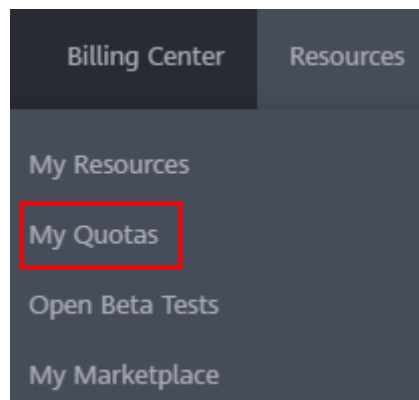


4. View the used and total quota of each type of resources on the displayed page.
If a quota cannot meet service requirements, apply for a higher quota.

How Do I Apply for a Higher Quota?

1. Log in to the management console.
2. In the upper right corner of the page, choose **Resources > My Quotas**.
The **Service Quota** page is displayed.

Figure 10-2 My Quotas



3. Click **Increase Quota**.
4. On the **Create Service Ticket** page, configure parameters as required.
In **Problem Description** area, fill in the content and reason for adjustment.
5. After all necessary parameters are configured, select **I have read and agree to the Tenant Authorization Letter and Privacy Statement** and click **Submit**.

10.2 How Many Hosted Connections Can a Partner Create on an Operations Connection?

A partner can create a maximum of 1000 hosted connections on a single operations connection. The total bandwidth of all hosted connections cannot exceed the bandwidth of the operations connection.