



**Cloud Connect**

# **Service Overview**

**Issue**      01

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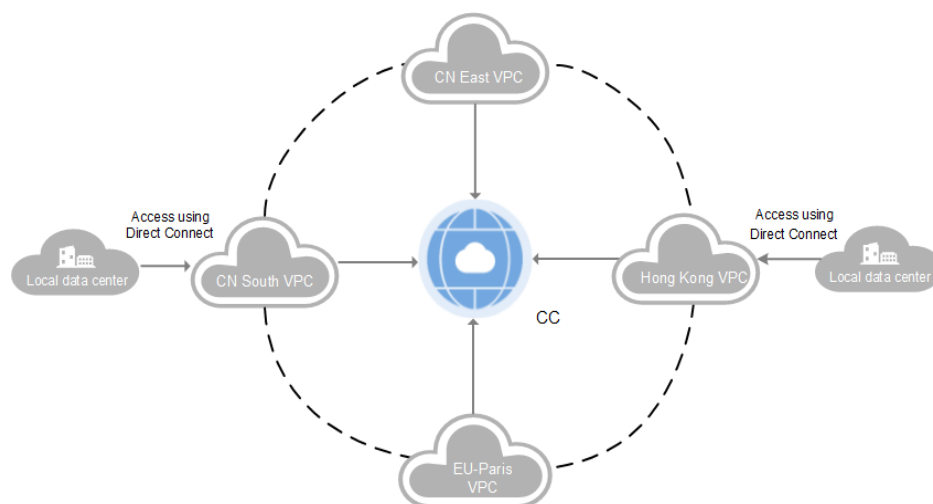
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# 1 Cloud Connect

Cloud Connect (CC) allows you to quickly build high-speed, high-quality, and stable networks between Virtual Private Clouds (VPCs) across regions and between VPCs and data centers off the cloud. With CC, you can build a globally connected cloud network with enterprise-class scalability and communication capability.

After creating a cloud connection, you can load network instances in different regions to it to enable communication among those network instances. A network instance can be a VPC you created, a VPC authorized by other users, or a virtual gateway you created for access from your data center. After loading the network instances, you need to configure bandwidth between regions where network instances reside to ensure communication among them.

**Figure 1-1** How CC works

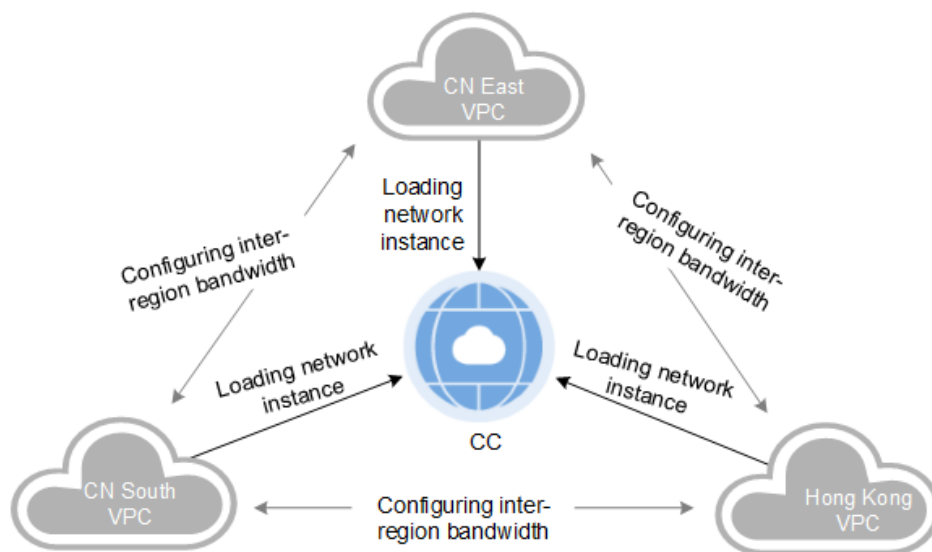


## Application Scenarios

### Communications among VPCs across regions

CC helps you realize secure and reliable private network communications among VPCs in different regions in addition to improving network topology flexibility. [Figure 1-2](#) shows the communications among VPCs in different regions. The VPCs can be those of yours or those authorized by other accounts.

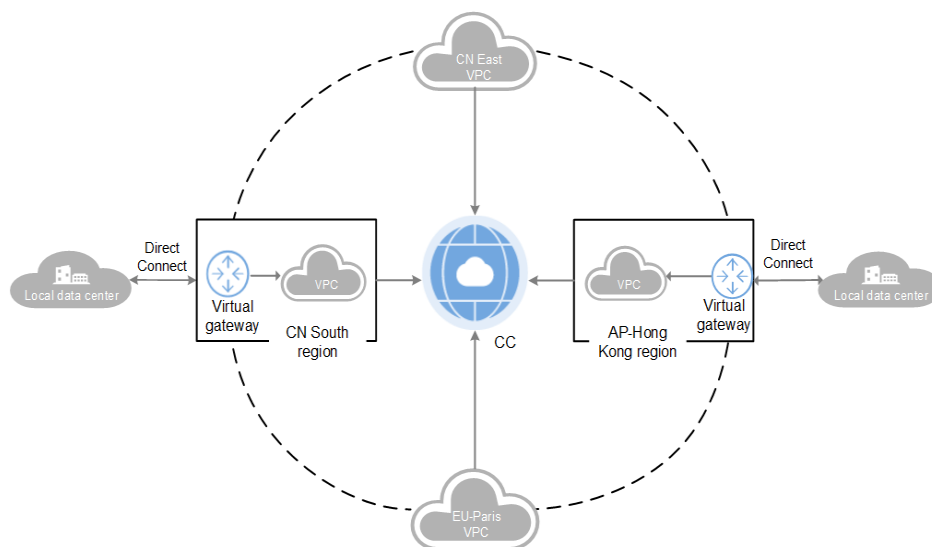
**Figure 1-2** Communications among VPCs across regions



**Communications between data centers and VPCs in multiple regions**

If multiple local data centers need to communicate with VPCs in multiple regions, you can use Direct Connect to connect a data center to a VPC and then load these VPCs, virtual gateways connected to data centers, and other VPCs to a cloud connection to build a wholly connected network. Same to communications among VPCs across regions, VPCs can be those of yours or those authorized by other accounts.

**Figure 1-3** Communications between data centers and VPCs in multiple regions



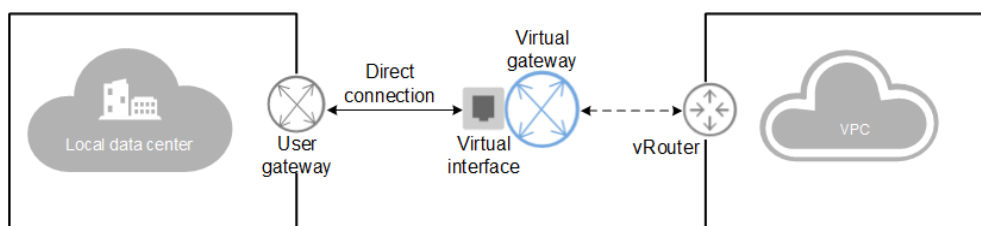
**Basic Concepts**

**Virtual gateway**

A virtual gateway is a resource in Direct Connect, and it functions as a router for a connection to access the cloud. A connection is a dedicated network connection between a local data center and a VPC. To access the cloud, a virtual interface is also required, which is the entry

for the data center to access the cloud. A virtual gateway connects a virtual interface to a VPC so that the data center can access the VPC.

**Figure 1-4** How Direct Connect works



### Bandwidth package

A bandwidth package provides bandwidth for communications among network instances in different regions. You need to buy a bandwidth package in the following scenarios:

- Communications among network instances within a geographic region
- Communications among network instances between geographic regions

Bandwidth packages are not required for interworking between network instances in the same region.

### Inter-region bandwidth

An inter-region bandwidth is used for network instances in two regions to communicate with each other. If you divide a bandwidth package into several inter-region bandwidths, the sum of these inter-region bandwidths cannot exceed the size of the bandwidth package.

## Resource Quotas

Resource	Quota	Remarks
Maximum number of cloud connections that can be created for each account	6	To increase the quota, submit a service ticket.
Maximum number of regions where network instances can be loaded to a cloud connection	6	To increase the quota, submit a service ticket.
Maximum number of network instances that can be loaded to a cloud connection in each region	6	To increase the quota, submit a service ticket.

# 2 CC and Other Services

Function	Service	Reference
Only after you have a VPC can your data center access the cloud through Direct Connect.	Virtual Private Cloud (VPC)	<a href="#">Creating a VPC</a>
Direct Connect enables a local data center to access multiple VPCs across regions.	Direct Connect	<a href="#">Interworking Between Multiple Data Centers and VPCs in Multiple Regions</a>
VPN enables a local data center to access multiple VPCs across regions.	Virtual Private Network (VPN)	N/A

CC can provide stable cross-border network connections for other services. For example, CC can work with the VPN service to build stable cross-border networks.

# 3 Geographic Regions and Cloud Regions

**Table 3-1** Geographic regions and cloud regions

Geographic Region	Region
Chinese mainland	CN North-Beijing1
	CN North-Beijing4
	CN East-Shanghai1
	CN East-Shanghai2
	CN South-Guangzhou
	CN South-Shenzhen
	CN Southwest-Guiyang1
Asia Pacific	AP-Hong Kong
	AP-Singapore
	AP-Bangkok
South Africa	AF-Johannesburg
Europe	EU-Paris



# 4 Available Regions

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CC is now available for business in the following regions:

- Chinese mainland: CN North-Beijing1, CN North-Beijing4, CN South-Shenzhen, CN Southwest-Guiyang1, CN East-Shanghai1, CN East-Shanghai2, and CN South-Guangzhou
- Asia Pacific: AP-Hong Kong, AP-Singapore, and AP-Bangkok
- South Africa: AF-Johannesburg
- Europe: EU-Paris

# 5 Constraints

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Observe the following constraints when using CC:

- For a cloud connection, CIDR blocks of all network instances must not overlap, and subnet CIDR blocks must be unique. Otherwise, the communication may fail.
- When you load a VPC to a cloud connection of the same account and enter a subnet CIDR block in the advanced settings, loopback addresses, multicast addresses, or broadcast addresses are not allowed.
- In all VPCs that are loaded to a cloud connection, if a NAT gateway is created in a VPC, you can set default route 0.0.0.0/0 only by entering a custom network segment in the advanced settings.

# 6 Pricing Details

## Overview

CC establishes high-speed, stable, and highly available network connectivity among VPCs across regions. It also enables your data center to access VPCs in any region after your data center is connected to the cloud.

To ensure communications among network instances in multiple regions, you need to purchase bandwidth packages. Network instances within a region can communicate with each other by default, and therefore no bandwidth package is required.

## Billing Mode

- Billing item: bandwidth package
- Currently, you can buy bandwidth packages only by year or month.
- The yearly/monthly billing is prepaid.
- For details, see [Product Pricing Details](#).

## Billing Example

**Table 6-1** Billing example (monthly pricing)

<b>Geographic Region/ Bandwidth Range (Tiered Pricing)</b>	2 Mbit/s to 100 Mbit/s	101 Mbit/s to 1000 Mbit/s	1000 Mbit/s or higher
<b>Within Chinese mainland</b>	¥220.00 per Mbit/s	¥80.00 per Mbit/s	¥50.00 per Mbit/s
<b>Between the Chinese mainland and Asia Pacific</b>	¥860.00 per Mbit/s	¥540.00 per Mbit/s	¥480.00 per Mbit/s
<b>Between Chinese mainland and Europe</b>	¥1000.00 per Mbit/s	¥610.00 per Mbit/s	¥530.00 per Mbit/s

<b>Between the Chinese mainland and South Africa</b>	¥2200.00 per Mbit/s	¥1320.00 per Mbit/s	¥1150.00 per Mbit/s
<b>Within Asia Pacific</b>	¥180.00 per Mbit/s	¥120.00 per Mbit/s	¥100.00 per Mbit/s
<b>Between Asia Pacific and Europe</b>	¥470.00 per Mbit/s	¥280.00 per Mbit/s	¥240.00 per Mbit/s
<b>Between Asia Pacific and South Africa</b>	¥1600.00 per Mbit/s	¥960.00 per Mbit/s	¥840.00 per Mbit/s

Pricing is tiered based on bandwidth. The following example calculates the monthly price of a 1088 Mbit/s bandwidth package within the Chinese mainland.

Total price = 220 x 100 (2 Mbit/s to 100 Mbit/s) + 80 x 900 (101 Mbit/s to 1000 Mbit/s) + 50 x 88 (> 1000 Mbit/s) = ¥98,400

# 7 Region and AZ

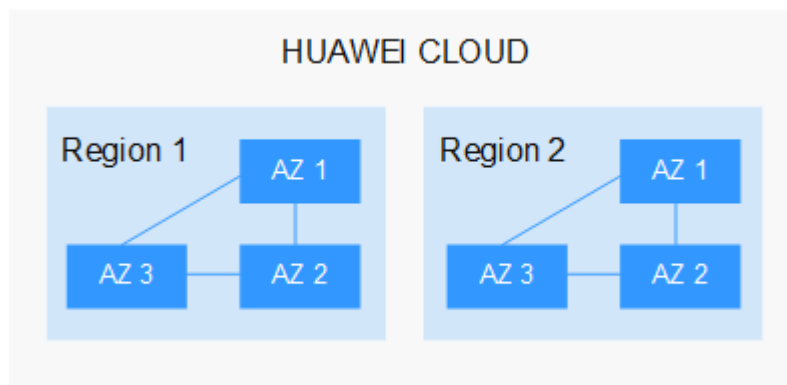
## Concept

A region and availability zone (AZ) identify the location of a data center. You can create resources in a specific region and AZ.

- Regions are divided from the dimensions of geographical location and network latency. Public services, such as Elastic Cloud Server (ECS), Elastic Volume Service (EVS), Object Storage Service (OBS), Virtual Private Cloud (VPC), Elastic IP, and Image Management Service (IMS), are shared within the same region. Regions are classified as universal regions and dedicated regions. A universal region provides universal cloud services for common tenants. A dedicated region provides services of the same type only or for specific tenants.
- An AZ contains one or multiple physical data centers. Each AZ has independent cooling, fire extinguishing, moisture-proof, and electricity facilities. Within an AZ, computing, network, storage, and other resources are logically divided into multiple clusters. AZs within a region are interconnected using high-speed optical fibers to allow you to build cross-AZ high-availability systems.

**Figure 7-1** shows the relationship between regions and AZs.

**Figure 7-1** Regions and AZs



HUAWEI CLOUD provides services in many regions around the world. You can select a region and AZ as needed. For more information, see [HUAWEI CLOUD Global Regions](#).

## How to Select a Region?

When selecting a region, consider the following factors:

- Location

You are advised to select a region close to you or your target users. This reduces network latency and improves access rate. However, Chinese mainland regions provide basically the same infrastructure, BGP network quality, as well as operations and configurations on resources. Therefore, if you or your target users are in the Chinese mainland, you do not need to consider the network latency differences when selecting a region.

The countries and regions outside the Chinese mainland, such as Bangkok and Hong Kong, provide services for users outside the Chinese mainland. If you or your target users are in the Chinese mainland, these regions are not recommended due to high access latency.

- If you or your target users are in Asia Pacific excepting the Chinese mainland, select the **AP-Hong Kong**, **AP-Bangkok**, or **AP-Singapore** region.
- If you or your target users are in South Africa, select the **AF-Johannesburg** region.
- If you or your target users are in Europe, select the **EU-Paris** region.

- Resource price

Resource prices may vary in different regions. For details, see [Product Pricing Details](#).

## How to Select an AZ?

When determining whether to deploy resources in the same AZ, consider your applications' requirements on disaster recovery (DR) and network latency.

- For high DR capability, deploy resources in different AZs in the same region.
- For low network latency, deploy resources in the same AZ.

## Regions and Endpoints

Before using an API to call resources, specify its region and endpoint. For more details, see [Regions and Endpoints](#).