Alibaba Cloud
Cloud Enterprise Network

Product Introduction

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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.	⛔ Danger: 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.	⚠️ Warning: 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.	ⓘ Notice: 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.	📋 Note: You can use Ctrl + A to select all files.
>	Multi-level menu cascade.	Settings > Network > Set network type
Bold	It is used for buttons, menus, page names, and other UI elements.	Click OK.
`Courier font`	It is used for commands.	Run the `cd / d  C :/ windows` command to enter the Windows system folder.
Italics	It is used for parameters and variables.	`bae  log  list -- instanceid` *`Instance_ID`*
[] or [a|b]	It indicates that it is a optional value, and only one item can be selected.	`ipconfig` *`[-all|-t]`*

Style	Description	Example
{} or {a|b}	**It indicates that it is a required value, and only one item can be selected.**	`swich` *{stand | slave}*

Contents

1 What is Cloud Enterprise Network?

By using Cloud Enterprise Network (CEN), you can build private network communication channels between VPCs or between VPCs and on-premises data centers. CEN uses automatic route distribution and learning, which can improve the network convergence and the quality and security of cross-network communication, and achieve the interconnection of all network resources.
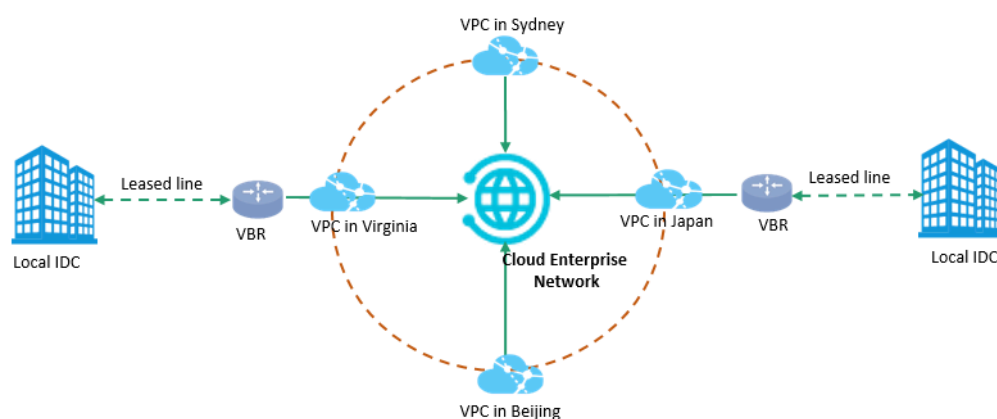
Components

CEN consists of the following components:

· CEN instances

A CEN instance is the basis of creating and managing your networks.

To connect your networks worldwide, you must first create a CEN instance, attach networks to it, and then purchase a bandwidth package and configure a bandwidth for cross-region communication.

· Networks

The networks attached to CEN are all connected. Networks include Virtual Private Clouds (VPCs), Virtual Border Routers (VBRs), and Cloud Connect Networks (CCNs).

· Bandwidth packages

A bandwidth package is required only for cross-region communication. When purchasing a bandwidth package, you must specify the interconnection areas for

the network resources to communicate. An area is a collection of Alibaba Cloud regions. You can see the areas that can be connected in the console.

Note:
No bandwidth package is required if you want to connect networks in the same region. However, if you want to connect networks in different regions, you must purchase a bandwidth package. By default, 1 Kbit/s bandwidth is provided for connected networks so that you can perform connectivity tests. To run normal services, you must buy a bandwidth package and set a proper connection bandwidth.

The relationship between areas and regions are shown in the following table.

Area	Included regions
Mainland China	China (Qingdao), China (Beijing), China (Zhangjiakou), China (Shenzhen), China (Hangzhou), China (Shanghai), China (Hohhot)
North America	US (Silicon Valley), US (Virginia)
Asia Pacific	China (Hong Kong), Singapore, Malaysia (Kuala Lumpur), Japan (Tokyo), India (Mumbai), Indonesia (Jakarta)
Europe	Germany (Frankfurt), UK (London)
Australia	Australia (Sydney)

For example, if you want to connect a network in China (Beijing) with a network in US (Silicon Valley), the areas to be connected are China Mainland and North America. For more information, see Scenarios.

2 Benefits

Worldwide connection

CEN is an enterprise-class network that can interconnect the Alibaba Cloud network resources around the world. CEN can also interconnect the local data centers that are already attached to the Alibaba Cloud network. CEN validates the IP address ranges of the connected networks and ensures that the IP address ranges are not in conflict. Additionally, CEN will automatically realize the multi-node adaptive routing forwarding and distribution through controllers. You do not need to manually configure the routing. The adaptive routing process improves the network performance.

Low latency and high speed

CEN provides low-latency and high-speed network transmission. The maximum local intercommunication rate can reach the port forwarding rate of a device. From the perspective of the global network communication, the overall latency of CEN has greatly improved compared with the latency of the public network.

Nearby access and shortest-path connection

CEN has deployed multiple access points in more than 60 regions around the world to facilitate global access to Alibaba Cloud. CEN uses the shortest-path algorithm to implement the quick connection of local data centers and the Alibaba Cloud network resources.

Redundancy and disaster recovery

CEN features high availability and network redundancy. There are at least four redundant links between any two access points. If a link is interrupted, CEN can ensure the service continuity without network jitter and interruption.

Systematic management

Network monitoring is systematic. CEN can automatically detect any route conflicts caused by system changes and ensure the stability of the network.

3 Scenarios

You can use the Cloud Enterprise Network (CEN) to achieve the global network interconnection.

Network interconnection in the same region

Only two steps are required to achieve the interconnection of all the attached Virtual Private Cloud (VPCs) and Virtual Border Routers (VBRs) in the same region of the same account. Firstly, create a CEN instance, and then attach the networks (VPCs and VBRs) to connect to the instance.

Network interconnection in different regions

You can use CEN to achieve the interconnection of networks in any regions. For example, you can create a CEN instance to connect VPCs in the Asia-Pacific and North America areas. Firstly, create a CEN instance and attach the networks (VPCs and VBRs) to connect to the instance, and then purchase a bandwidth package and set up cross-region bandwidth.

4 Limits

The following table describes the limits that apply to Cloud Enterprise Networks (CENs) and whether you can open a ticket to change these limits.

Item	Limit	Changes allowed?
The number of CEN instances that can be created for each account	5	Yes. Open a ticket.
The number of CEN instances that can be added to each region	10	Yes. Open a ticket to apply for a quota of up to 15 CEN instances.
The number of bandwidth packages that you can purchase in either of the interconnected regions in each CEN	1	No.
The number of regions in each CEN instance	5	Yes. Open a ticket.
Limits on VPCs whose ClassicLink feature is enabled	VPCs cannot use the 10.0.0.0/8 CIDR block.	No.
Network instance	No Express Connect can be created for network instances that are added to the CEN.	No.
The number of route entries that can be created in each CEN	100	Yes. Open a ticket.
Sharing of NAT Gateways through CEN	No	No.
Support for cross-region access to cloud services	No	No.
Support for cloud services to access network instances in CEN	No	No.

Item	Limit	Changes allowed?
Subnet routing	If a VPC has multiple route tables, CEN learns route entries of the primary route table rather than those of the secondary route table. Similarly, the route entries that a VPC learns from CEN can only be added to the primary route table of the VPC.	No.