Alibaba Cloud Cloud Enterprise Network

Quick Start

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Generic conventions

Table -1:	Style co	nventions
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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 informatio n, 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.	<pre>swich {stand slave}</pre>

Contents

Legal disclaimer	I
Generic conventions	I
1 Alibaba Cloud CEN tutorials	1
2 Use a CEN to interconnect network instances	
3 Create a CEN instance	6
4 Attach networks	
5 Set a cross-region connection bandwidth	12
6 Test network connectivity	15
7 Set alarms	16
8 Advanced configurations	19

1 Alibaba Cloud CEN tutorials

This topic provides an overview of Cloud Enterprise Network (CEN) tutorials. When you use a CEN, you can build a global network that consists of interconnected hybrid clouds and distributed service systems. You can attach network instances to a CEN instance so that the network instances can communicate with each other.



Typically, the configurations shown in the following figure are required when a CEN is used for network interconnection. However, these configurations may vary depending on the region and account to which network instances belong. Such network instances include VPCs, VBRs associated with on-premises data centers, CCNs associated with local branches or headquarters. Therefore, we recommend that you use these configurations selectively according to your specific business needs and network resources.

	1	2	3	4	5	6	7
	Plan the network	Create a CEN instance	Attach network instances	Set a cross-region connection bandwidth	Test network connectivity	(Optional) Configure monitoring	(Optional) Use advanced configurations
•	Confirm the network instances to be attached Confirm the account to which the network instances belong Confirm the region to which the network instances belong	 Instance name . 	Attach network instanc deployed under the sar account Attach network instanc deployed under differe accounts	es - Purchase a bandwidth package e - Set a cross-region nt « Required only for mu access Between netwoi Instances across region	Test the private connections dth tual rk	Configure network monitoring and alarming	 Configure high availability Configure Access to cloud services Configure a route map

This tutorial uses the following two ECS instances deployed in different zones under different accounts as an example to describe how to establish intranet communication through a CEN.

Configuration	ECS1	ECS2
Private IP address	192.168.1.41	192.168.136.60
Region	China (Shanghai)	China (Hangzhou)
Account	123157908xxxx123	1954105xxxx83124
VPC	vpc-uf6w8bk8dx xxxfj0b7k94	vpc-bp1dylcs2x xxxnkckxxxx

2 Use a CEN to interconnect network instances

This topic describes how to use a Cloud Enterprise Network (CEN) to interconnect network instances, such as VPCs, VBRs associated with on-premises data centers, and CCNs to which local branches or headquarters is added. The procedure varies depending on the specific regions and accounts.

Interconnect network instances under the same account in the same region

To interconnect network instances under the same account in the same region, you need to attach these network instances to a CEN instance.

Network instances



Procedure



Interconnect network instances under the same account in different regions

To interconnect network instances under the same account in different regions, you need to attach these network instances to a CEN instance and set a cross-region connection bandwidth.

Network instances



Procedure

	1	2	3	4	5	6	7
	Plan the network	Create a CEN instance	Attach network Se instances con	et a cross-region nection bandwidth	Test network connectivity	(Optional) Configure monitoring	(Optional) Use advanced configurations
•	Network instances are under the same account Network instances are deployed in different regions	Instance name	Attach network instances - deployed under the same account	Purchase a bandwidth package Set a cross-region connection bandwic	Test the private • connections	Configure network monitoring and alarming	 Configure high availability Configure Access to cloud services Configure a route map

Interconnect network instances under different accounts in the same region

To interconnect network instances under different accounts in the same region, you need to perform a cross-account authorization and then attach these network instances to a CEN instance.

Network instances



Procedure

	1	2	3	4	5	6
P	lan the network	Create a CEN instance	Attach network instances	Test network connectivity	(Optional) Configure monitoring	(Optional) Use advanced configurations
•	Network instances belong to different accounts Network instances are deployed in the same region	Instance name	 Perform a cross-account authorization Attach network instances deployed under different accounts 	Test the private connections	Configure network monitoring and alarming	Configure high availability Configure Access to cloud services Configure a route map

Interconnect network instances under different accounts in different regions

To interconnect network instances under different accounts in different regions, you need to perform a cross-account authorization, attach these network instances to a CEN instance, and then set a cross-region connection bandwidth.

Network instances



Procedure

	1	2	3	4	5	6	7
	Plan the network	Create a CEN instance	Attach network S instances cor	Set a cross-region nnection bandwidth	Test network connectivity	(Optional) Configure monitoring	(Optional) Use advanced configurations
•	Network instances are under different accounts Network instances are deployed in different regions	Instance name	Perform a cross-account authorization Attach network instances deployed under different accounts	 Purchase a bandwidth package Set a cross-region connection bandwid 	Test the private • connections	Configure network monitoring and alarming	 Configure high availability Configure Access to cloud services Configure a route map

3 Create a CEN instance

Before you use Cloud Enterprise Network (CEN) for intranet communication, you must create a CEN instance. When you create a CEN instance, you can directly attach networks under the same account to the CEN instance.

Procedure

- 1. Log on to the CEN console.
- 2. On the Instances page, click Create CEN instance.
- 3. In the Create a CEN instance dialog box, configure the CEN instance according to the following information:
 - a) Enter a name for the CEN instance to be created.

The name must be 2 to 128 characters in length and can contain letters, numbers, underscores (_), and hyphens (-). It must start with an English letter.

b) Optional: Enter a description for the CEN instance.

The description must be 2 to 256 characters in length and cannot start with http :// or https ://.

c) Attach a network under the same account to the CEN instance.

When you create a CEN instance, you can directly attach a network under the same account to the CEN instance. The network can be a VPC, a Virtual Border Router (VBR), or a Cloud Connect Network (CCN). The networks attached to the CEN instance can communicate with each other through the intranet.

Note:

Make sure that the network to attach is not attached to other CEN instances.

d) Click OK.

Create CEN	N Instance	?	\times
CEN			
	• Name		
	test 4/128		
	Description 🕗		
	0/256		
Attach No	etwork		
Your Ac	count		
Tour / to			
(i) No	ote: You cannot attach networks that are already attached to the CEN instance.		
	• Network Type 🕐		Conta
	VPC 🗸		act Us
	- Region		
	onina (nangenoa)		
	• Networks 💿		
	test1/vpc-bp		
	ок	Cancel	

4 Attach networks

You can attach the networks (VPCs, VBRs, and CCNs) that need to communicate with each other to a Cloud Enterprise Network (CEN) instance. CEN automatically learns the routes of the attached networks to achieve intranet communication.

Prerequisites

Before you attach networks, make sure the following conditions are met:

- #unique_7.
- $\cdot~$ The networks to be attached are not attached to other CEN instances.

Attach a network in the same account

To attach a network in the same account, follow these steps:

- 1. Log on to the CEN console.
- 2. On the Instances page, find the target CEN instance and click the instance ID.
- 3. Click the Networks tab and then click Attach Network.
- 4. Click the Your account tab.
- 5. Network Type: Select the type of the network to be attached.

You can attach VPCs, Virtual Border Routers (VBRs), and Cloud Connect Networks (CCNs).

6. Region: Select the region of the network.

7. Networks: Select the instance to be attached.

Attach Network		?	\times
Your Account	Different Account		
i Note: You	cannot attach networks that are already attached to the CEN instance.		
• Ne	twork Type 💿		1
VP	c ~		
• Re	gion 🕐		
Ch	ina (Hangzhou) 🗸		
• Ne	tworks 🕐		
vpo	×		
			Contact
			ŝ
	ОК	Cancel	

8. Click OK.

Attach a network in a different account

!) Notice:

Before you attach a network of a different account, you must obtain permissions from this account. After obtaining permissions, you must obtain the ID of this account and the instance ID of the network.

For more information, see:

• #unique_8/unique_8_Connect_42_section_mkn_v7p_lgn

- #unique_8/unique_8_Connect_42_section_2kc_03o_0us
- #unique_8/unique_8_Connect_42_section_gs1_agk_309

To attach a network in a different account, follow these steps:

- 1. Log on to the CEN console.
- 2. On the Instances page, find the target CEN instance and click the instance ID.
- 3. Click the Networks tab and then click Attach Network.
- 4. Click the Different Account tab.
- 5. Owner Account: Enter the ID of the account to which the network to be attached belongs.
- 6. Network Type: Select the type of the network to be attached.

You can attach VPCs, Virtual Border Routers (VBRs), and Cloud Connect Networks (CCNs).

7. Region: Select the region of the network.

8. Networks: Enter the instance ID of the network to be attached.

Atta	ach Network			?	\times
	Your Account	Different Account			
	(i) Note: Go t router, aut attached te	o the VPC console, in the properties page of the VPC horize the related CEN instance to attach that network o the CEN instance cannot be attached again.	or virtual border c. Networks alread	iy	
	• Ow	ner Account 📀			
	19	5	14/128		
	• Net	work Type 💿			
	VPC		\sim		
	• Re	gion 🥝			
	Chi	na (Hangzhou)	\sim		
	• Net	works 💿			Contact
	vp	C-	22/128		ŝ
			ОК	Cancel	

9. Click OK.

5 Set a cross-region connection bandwidth

This topic describes how to set a cross-region connection bandwidth. By setting a cross-region connection bandwidth, you can connect network instances across different regions through the intranet.

Prerequisites

Attach networks

Context

You do not need to configure a bandwidth package or pay for network instance connections in the same region. Additionally, you must purchase a bandwidth package if you want to connect network instances across different regions. When you purchase a bandwidth package, you need to specify the areas then set the bandwidth for the regions that you want to interconnect through the intranet.

Purchase a bandwidth package

To purchase a bandwidth package, follow these steps:

- 1. Log on to the CEN console.
- 2. On the Instances page, find the target CEN instance and click the instance ID.
- 3. On the CEN page, click Bandwidth Packages.

CEN					Get Started	⑦ Documentation
From November 15, 2018, customers who to you have not submitted yet, please click here	have submitted enterprise material information in the submitted enterprise Network cross-bo	formation can contin	ue to use and purchase C it. Customers who have a	loud Enterprise Network cro	oss-border bandwidth bore this notification.	package . If
Basic Settings						
ID cen-Tq#	hudw0ll6jmo4gsu		St	atus Ready		
Name doctest	Edit	Overlapping Routing Enable				
Description - Edit			Fund	ction		ontact Us
Networks Bandwidth Packages R	egion Connections Routes	PrivateZone	Route Maps			
Buy Bandwidth Package(Subscription) Bu	uy Bandwidth Package(Pay-As-You-G	o) Refresh				
Bandwidth Package ID Monitor	Connected Areas	Bandwidth	Billing Method	Status	Action	s

- 4. Click Buy Bandwidth Package (Subscription).
- 5. CEN ID: Select the CEN instance for which you want to purchase a bandwidth packet.

6. Select the areas to be interconnected.

An area consists of one or more Alibaba Cloud regions. After you purchase a bandwidth package and set a cross-region interconnection bandwidth for two areas, network instances in the regions of these two areas can communicate with each other.

!) Notice:

After you purchase the bandwidth package, the interconnection areas cannot be modified.

Area	Included regions
Mainland China	China (Qingdao), China (Beijing), China (Zhangjiako u), 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)

- 7. Set the bandwidth of the bandwidth package.
- 8. Enter a name for the bandwidth package.
- 9. Select a duration, and then select Auto Renew or not.
- 10.Click Buy Now and complete the payment.

Set a cross-region connection bandwidth

To set a cross-region connection bandwidth, complete these steps:

- 1. Log on to the CEN console.
- 2. On the Instances page, find the target CEN instance and click the instance ID.
- 3. On the CEN page, click Region Connections, and then click Set Region Connection.

Networks Bandwidth Packages		Region Co	nnections	Routes	Priva	teZone	Route Maps				
Set Region C	onnection	Refresh									
Connected Are	eas	Monit	or	Connected	Regions		Bandwid	th	Sta	itus	Actions

4. Bandwidth Packages: Select the bandwidth package that you purchased.

- 5. Connected Regions: select two regions to be interconnected.
- 6. Bandwidth: Set a bandwidth for the selected regions.

Note:

The default bandwidth is 1 Kbit/s, which is only used to test the connectivity between the selected regions. We recommend that you set the bandwidth according to your specific needs. The sum of all the connection bandwidth values cannot exceed the bandwidth value of the bandwidth package.

7. Click OK.

6 Test network connectivity

This topic describes how to test the network connectivity between two network instances attached to a CEN instance.

Prerequisites

A cross-region connection bandwidth is configured for the network instances if the two network instances belong to different regions. For more information, see #unique_12.

Context

The following table describes two ECS instances (ECS 1 and ECS 2) that are used as examples in this procedure.

Configuration	ECS 1	ECS 2
Private IP address	192.168.1.41	192.168.136.60
Region	China (Shanghai)	China (Hangzhou)

Procedure

- 1. Log on to ECS 2.
- 2. Ping the private IP address of ECS 1 to check whether the connection between ECS 1 and ECS 2 is successful.

C:\Users\Administrator>ping 192.168.1.41	
Pinging 192.168.1.41 with 32 bytes of data: Reply from 192.168.1.41: bytes=32 time<1ms TTL=128 Reply from 192.168.1.41: bytes=32 time<1ms TTL=128 Reply from 192.168.1.41: bytes=32 time<1ms TTL=128 Reply from 192.168.1.41: bytes=32 time<1ms TTL=128	
Ping statistics for192.168.1.41: Packets: Sent = 4, Received = 4, Lost = 0 (0% lo Approximate round trip times in milli-seconds: Minimum = 0ms, Maximum = 0ms, Average = 0ms	oss),

7 Set alarms

You can set alarm rules for physical connections, bandwidth packages and region connection traffic to monitor the usage of these resources and avoid the influence on services when any resource limit is reached.

Set alarm rules for a physical connection

To set alarm rules for a physical connection configured with health checks, follow these steps:

- 1. Log on to the CEN console.
- 2. In the left-side navigation pane, click Health Check.
- 3. Select the region of the target CEN instance and click Set Alarm.

CEN	I CEN Get Sta						
Instances	China North 2 (Beijing) 🗸	Get healthcheck Refresh					
Health Check	CEN ID/Name	VBR ID	Monitor	Source IP	Target IP	Actions	
	cen-nh98vzx8gfhlwngl76	vbr-2zentl26m5o5wdhtb9d0g	💷 Set Alarm	172.16.0.2	10.0.0.0	Edit Delete	

4. Configure one or more alarm rules.

You can set alarm rules for latency, packet loss, inbound bandwidth, or outbound bandwidth and customize the thresholds that trigger the alarms.

Create Alarr	n Rule 🛧 Bac	c to						
1 R	elated Resourc	e						
	Products :	CEN-Router -]					
	Resource Range :	Instances -	0					
	Instances :	云企业网 Totally1unit 🔹	VBRInstances :	vbr-2zentl26	im5o5wdhtb9d	l0g Totally1unit	•	
2 S	et Alarm Rules							
	Alarm Rule :]					
	Rule Describe :	Healthy Check Latency 👻	1mins 🔻 Value	•	>= *	Threshold	ms	
	+Add Alarm Ru	ıle						

Set alarm rules for a bandwidth package

To set alarm rules for a bandwidth package of a CEN instance, follow these steps:

1. Log on to the CEN console.

- 2. Click the ID of the target CEN instance and then click the Bandwidth Packages tab.
- 3. Find the target bandwidth package and then click Set Alarm.

CEN				G	et Started	⑦ Documentation
Basic Settings						
ID cen-nh98vzx Name 云企业炉 Ec Description - Edit Networks Bandwidth Packages Region Co	x8g dit onnections Routes		Status Overlapping Routing Function	Ready Disable Enable		
Buy Bandwidth Package(Subscription) Buy B	Bandwidth Package(Pay-A	s-You-Go) Refresh				
Bandwidth Package ID Monitor C	Connected Areas	Bandwidth	Billing Method	Status	Actions	
cenbwp-gzxqxyc7g74railb3 d -	lainland China⇔Mainlan China	2Mbps Downgrade Upgrade	Subscription 08/31/2018, 00:00:00 Expi ration	Bound	Unbind R	enew

4. Configure one or more alarm rules.

You can set alarm rules for area-to-area connection bandwidth or area-to-area connection bandwidth ratio, and customize the thresholds that trigger the alarms.

Create Alarm Rule	€ Back to	
1 Related	Resource	
Products	: CEN-Area	*
Resource Range :	Instances	• Ø
Instance	s: 云企业网 Totally1unit	▼ PackageId : cenbwp-be7ojvicb7zwdcxnji(north-america_china) Totally1unit ▼
2 Set Alarr	n Rules	
Alarm Ru	le :	
Rule Describe	Area Internet Out Rate Percent	▼ Imins ▼ >= ▼ Threshold %
+Ado	Alarm Rule	

Set alarm rules for a region connection

To set alarm rules for a region connection, follow these steps:

- 1. Log on to the CEN console.
- 2. Click the ID of the target CEN instance and then click the Region Connections tab.

3. Find the target region connection and then click Set Alarm.

CEN							Get Started	⑦ Documentation
Basic Settings								
IE Name Description Networks Bandwidth Package Set Region Connection Refre	D cen-nh98 e 云企业网 n - Edit s Region	Edit	Routes	Ove	Status rtapping Routing Function	Ready Disable Enable		
Connected Areas Mor	nitor	Connected F	Regions	Bandwidth	Status		Actions	
Mainland China⇔Mainland Line China	Set Alarm	China North ast 1 (Hangz	2 (Beijing)⇒China E hou)	1Mbps Modify	Ready		Delete	

4. Configure one or more alarm rules.

You can set alarm rules for outbound bandwidth or outbound bandwidth ratio of connected regions, and customize the thresholds that trigger the alarms.

Create Ala	arm Rule 🔒	ck to		
1	Related Resour	се ———		
	Products :	CEN-Region	•	
	Resource Range :	Instances	• Ø	
	Instances :	Totally1unit	✓ Flow direction : cn-beijing->cn-hangzhou Totally1unit	
2	Set Alarm Rules	5		
	Alarm Rule :			
	Rule Describe :	Region Internet Out Rate	▼ 1mins ▼ Value ▼ Threshold Mbits/s	
	+Add Alarm F	Rule		

8 Advanced configurations

This topic describes the advanced configurations of a Cloud Enterprise Network (CEN). You can use the advanced configurations to manage your private networks.

A CEN provides the following advanced configurations:

· Access to cloud services

Network instances attached to a CEN instance can access the PrivateZone service through the CEN instance. For more information, see #unique_15.

· Route map

By using the route map function, you can filter route information and modify route attributes to manage the communication between network instances attached to a CEN instance. For more information, see #unique_16.

• High availability

You can establish high-availability hybrid cloud networks by using health check, physical connections, VPN Gateways, and other Alibaba Cloud products.