

Alibaba Cloud

Elastic IP Address Best practices

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Document conventions

Style	Description	Example
 Danger	A danger notice 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.
 Warning	A warning notice 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 restart an instance.
 Notice	A caution notice indicates warning information, supplementary instructions, and other content that the user must understand.	 Notice: If the weight is set to 0, the server no longer receives new requests.
 Note	A note indicates supplemental instructions, best practices, tips, and other content.	 Note: You can use Ctrl + A to select all files.
>	Closing angle brackets are used to indicate a multi-level menu cascade.	Click Settings> Network> Set network type .
Bold	Bold formatting is used for buttons, menus, page names, and other UI elements.	Click OK .
Courier font	Courier font is used for commands	Run the <code>cd /d C:/window</code> command to enter the Windows system folder.
<i>Italic</i>	Italic formatting is used for parameters and variables.	<code>bae log list --instanceid</code> <i>Instance_ID</i>
[] or [a b]	This format is used for an optional value, where only one item can be selected.	<code>ipconfig [-all -t]</code>
{ } or {a b}	This format is used for a required value, where only one item can be selected.	<code>switch {active stand}</code>

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1. Bring your public IP address range to Alibaba Cloud

This topic describes how to bring your public IP address range from your on-premises network to Alibaba Cloud.

Context

Before you bring your public IP address range from your on-premises network to Alibaba Cloud, note the following limits:

- You can bring only IP addresses in regions of North America, Asia Pacific, Europe, and Australia to Alibaba Cloud. Regions in mainland China are not supported. The following table lists the regions where you can bring the public IP address range of your on-premises network to Alibaba Cloud.

Area	Region
North America	US (Silicon Valley) and US (Virginia)
Asia Pacific	China (Hong Kong), Singapore (Singapore), Malaysia (Kuala Lumpur), Japan (Tokyo), Indonesia (Jakarta), and India (Mumbai)
Europe	Germany (Frankfurt) and UK (London)
Australia	Australia (Sydney)

- You can bring only public IPv4 addresses to Alibaba Cloud.
- The public IP address range must be registered with a Regional Internet Registry (RIR).
- The minimum prefix length of the IP address range is /23.
- The waiting time of bringing a public IP address range to the cloud:
You can bring a public IP address range to Alibaba Cloud after you authorize Alibaba Cloud to advertise the IP address range on the Internet. It may take up to 30 days.
- The waiting time of withdrawing a public IP address range:
You can withdraw a public IP address range after you request Alibaba Cloud to stop advertising the IP address range on the Internet. It may take up to 30 days.
- If you want your public IP address range to use EIP bandwidth plans, note the following limits:
 - The minimum bandwidth of an EIP bandwidth plan is 1,000 Mbit/s. You can add a maximum of 100 elastic IP addresses (EIPs) to each EIP bandwidth plan. If your workload requires bandwidth lower than 1,000 Mbit/s, we recommend that you directly use your public IP address range. Do not add the public IP address range to an EIP bandwidth plan.

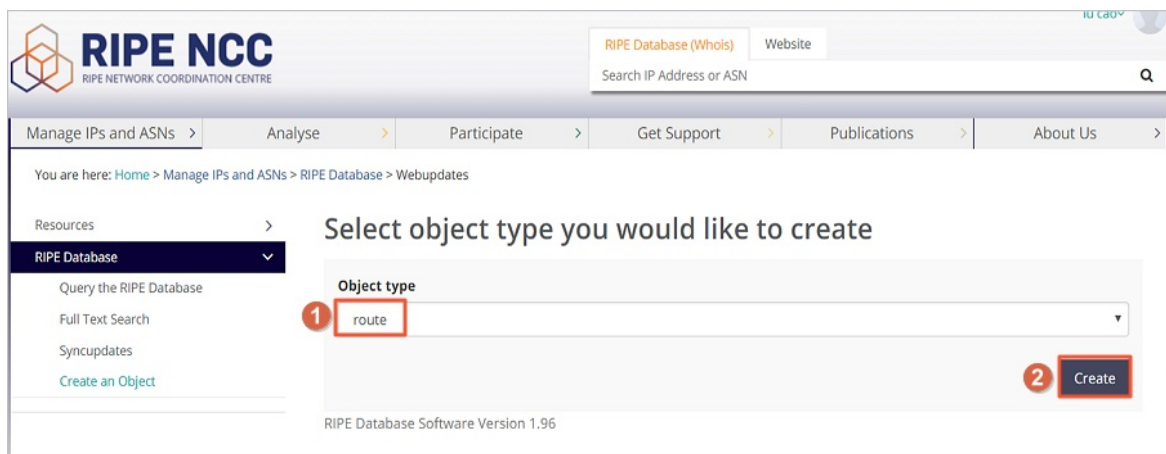
- Before you can add your public IP address range to an EIP bandwidth plan, the system checks where the maximum bandwidth of the plan meets the following requirements. Otherwise, you cannot add your public IP address range to the EIP bandwidth plan.
 - If a total of 1,000 public IP addresses are advertised to the Internet by Alibaba Cloud, the maximum bandwidth of the pay-by-bandwidth plan must be at least 1,000 Mbit/s. For every 1,000 additional public IP addresses, you must increase the maximum bandwidth by 1,000 Mbit/s.
 - If a total of 1,000 public IP addresses are advertised to the Internet by Alibaba Cloud, the maximum bandwidth of the pay-by-95th-percentile plan must be at least 1,000 Mbit/s. For every 1,000 additional public IP addresses, you must increase the maximum bandwidth by 1,000 Mbit/s.

Step 1: Update the routing information

You must go to the corresponding Regional Internet Registry (RIR) platform to update the routing information of the public IP address range by changing the autonomous system number (ASN) of the IP address to AS45102.

The following example shows how to modify the ASN of an IP address range registered with Network Coordination Center (RIPE NCC).

1. Log on to [RIPE NCC Webupdates](#).
2. Select route from the Object type drop-down list and click Create.



3. On the Create "route" object page, select a role and maintainer pair from the drop-down list.
4. In the Password authentication field, enter the password and click Submit.
5. Configure the route reflector (RR) based on the following information, and then click Submit.

Parameter	Description
route	Enter the public IP address range.
origin	Enter the ASN. AS45102 is used in this example.

After you configure the route reflector, you can go to [RADB](#) to check whether the configuration takes effect.

```
route: 103.206.40.0/22
origin: AS45102
descr:
00 One Raffles Place
mnt-by:
last-modified: 2018-02-05T09:02:44Z
source:
remarks:
remarks: *****
remarks: * THIS OBJECT IS MODIFIED
remarks: * Please note that all data that is generally regarded as personal
remarks: * data has been removed from this object.
remarks: * To view the original object, please query the APNIC Database at:
remarks: * http://www.apnic.net/
remarks: *****
```

Step 2: Apply for bringing the public IP address range to Alibaba Cloud

After you update the routing information, you must [submit a ticket](#) to apply for bringing the public IP address range to Alibaba Cloud. Make sure that the following information is included in the ticket:

- The public IP address range.
- The region where the public IP address range is to be used.
- The updated routing information of the IP address range.

Step 3: Apply for an elastic IP address (EIP)

After you complete the preceding task, Alibaba Cloud will advertise the public IP address range from the specified region, and assign you a dedicated Service Provider Identification Number (SPIN). You will receive the SPIN within 20 business days. After you obtain the SPIN, you can go to the [buy page](#) to apply for an EIP. For more information, see [Purchase a new Elastic IP address](#).

Step 4: Associate the EIP with a cloud resource

After you apply for an EIP, you can associate the EIP with an Alibaba Cloud resource, such as an Elastic Compute Service (ECS) instance, NAT gateway, internal Server Load Balancer (SLB) instance, or elastic network interface (ENI). For more information, see the following topics:

- [Associate an EIP with an ECS instance](#)
- [Associate an EIP with a NAT gateway](#)
- [Associate an EIP with an SLB instance](#)
- [Associate an EIP with an ENI](#)

2. Associate multiple EIPs with a secondary ENI in NAT mode

This topic describes how to associate multiple elastic IP addresses (EIPs) with a secondary Elastic Network Interface (ENI) in NAT mode to make full use of Elastic Compute Services (ECS) instances.

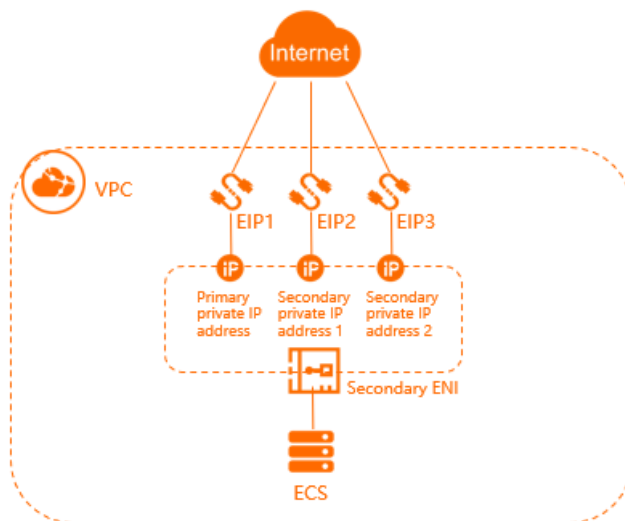
Context

ECS instances can communicate with the Internet only after they are associated with static public IP addresses or EIPs. Each ECS instance can be associated with only one static public IP address or EIP.

Scenario

This topic takes the following scenario as an example. A company creates an ECS instance on Alibaba Cloud and associates the ECS instance with an EIP. To meet business requirements, the company needs to associate the ECS instance with three EIPs to make full use of the ECS instance.

If you want to associate multiple EIPs with an ECS instance in NAT mode, you must assign the same number of secondary private IP addresses to the secondary ENI of the ECS instance. Then, map the EIPs to the secondary private IP addresses, respectively. This way, you can make full use of the ECS instance.



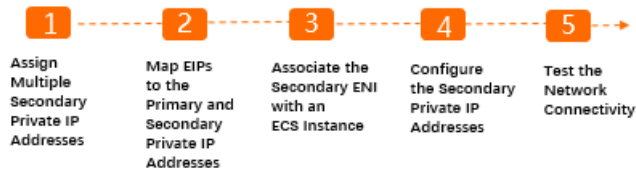
Prerequisites

- An ECS instance is created. For more information, see [Create an instance by using the provided wizard](#).
- A secondary ENI is created and meets the following requirements:
 - The secondary ENI and the ECS instance to be associated with the secondary ENI are deployed in the same Virtual Private Cloud (VPC) network.
 - The VSwitch of the secondary ENI and the VSwitch of the ECS instance to be associated with the secondary ENI are deployed in the same region.

For more information, see [Create an ENI](#).

- Three EIPs are created in the same region as the ENI. For more information, see [Purchase a new Elastic IP address](#).

Procedure




Step 1: Assign multiple secondary private IP addresses

You can assign multiple secondary private IP addresses to each secondary ENI. This helps make full use of the ECS instance and mask the failure of the ECS instance by rapidly remapping the EIP.

Take the following steps to assign multiple secondary private IP addresses to a secondary ENI.

1. Log on to the [ECS console](#).
2. In the left-side navigation pane, choose **Network & Security > ENIs**.
3. In the upper-left corner, select the region where the secondary ENI is deployed.
4. On the **Network Interfaces** page, find the target ENI, and click **Manage Secondary Private IP Address** in the **Actions** column.
5. In the **Manage Secondary Private IP Address** dialog box, click **Assign New IP** one or more times. Then, one or more secondary private IP addresses are automatically assigned to the secondary ENI. Click **Assign New IP** two times in this example. Then, two secondary private IP addresses are automatically assigned to the secondary ENI.

 **Note** You can manually enter a secondary private IP address. The private IP addresses must be within the range of IPv4 private CIDR blocks. If you do not manually enter a secondary private IP address, the system assigns an idle IP address from the IPv4 private CIDR blocks.

Manage Secondary Private IP Address ✕

You can modify or unassign the existing IP addresses of this ENI. You can also click Assign New IP to assign new IP addresses to the ENI. If you leave IP address fields empty, the system automatically assigns IP addresses.

Instance: i-bp1c[redacted]e1

ENI ID: eni-bp[redacted]3

Primary Private IP Address: 172[redacted]63

IPv4 Private CIDR Block: 172.16.0.0/21

IPv4 Addresses: **The current ENI supports up to 6 private IPv4 addresses, including 1 primary private IP address and 5 secondary private IP addresses.**

[Unassign](#)

[Unassign](#)

[Assign New IP](#)

6. Click **OK**.
7. On the **Network Interfaces** page, find the target secondary ENI, and click **Manage Secondary Private IP Address** in the **Actions** column to view the assigned secondary private IP addresses.

Manage Secondary Private IP Address
✕

You can modify or unassign the existing IP addresses of this ENI. You can also click Assign New IP to assign new IP addresses to the ENI. If you leave IP address fields empty, the system automatically assigns IP addresses.

Instance: i-bp1-██████████1

ENI ID: eni-b-██████████33

Primary Private IP Address: 172.██████63

IPv4 Private CIDR Block: 172.16.0.0/21

IPv4 Addresses: **The current ENI supports up to 6 private IPv4 addresses, including 1 primary private IP address and 5 secondary private IP addresses.**

Unassign

Unassign

Assign New IP

OK
Cancel

Step 2: Map EIPs to the secondary private IP addresses

Take the following steps to map an EIP to a secondary private IP address of the secondary ENI.

- 1.
2. In the upper-left corner, select the region where the EIP is deployed.
3. On the **Elastic IP Addresses** page, find the target EIP and click **Bind Resource** in the **Actions** column.
4. In the **Bind Elastic IP Address to Resources** dialog box, set the following parameters and click **OK**.
 - **Instance Type:** Select **Secondary ENI**.
 - **Mode:** Select **NAT Mode**.

In NAT mode:

 - The number of EIPs that can be associated with a secondary ENI depends on the number of private IP addresses assigned to this secondary ENI.
 - The secondary private addresses and public IP addresses of the secondary ENI are available at the same time.

- In the operating system of the ECS instance, the EIP is not displayed. You must call the DescribeInstances operation to display the EIP that is associated with the ECS instance. For more information, see [DescribeEipAddresses](#).
 - EIPs do not support NAT application layer gateway (ALG), protocols such as H.323, Session Initiation Protocol (SIP), Domain Name System (DNS), Real Time Streaming Protocol (RTSP), and Trivial File Transfer Protocol (TFTP).
- **Secondary ENI:** Select the target secondary private IP address that you want to map to the EIP. You can also map the EIP to the primary private IP address of the secondary ENI.

In this example, the primary private IP address of the secondary ENI is selected.

5. Repeat the preceding steps to map the remaining EIPs to the secondary private IP addresses of the secondary ENI. Make sure that each EIP is mapped to a separate secondary private IP address.

Step 3: Associate the secondary ENI with an ECS instance

Take the following steps to associate the secondary ENI with an ECS instance

1. Log on to the [ECS console](#).
2. In the left-side navigation pane, choose **Instances & Images > Instances**.
3. In the top navigation bar, select the region where the target ECS instance is deployed.
4. On the **Instances** page, find the target ECS instance, and choose **More > Network and Security Group > Bind Secondary ENI** in the **Actions** column.
5. In the **Bind Secondary ENI** dialog box, select the secondary ENI to be associated and click **OK**.

Step 4: Configure the secondary private IP addresses

After you associate the secondary ENI with the ECS instance, you must configure the secondary private IP addresses for the ECS instance.

An ECS instance that runs CentOS 7 is used in the following example to describe how to configure the secondary private IP addresses for the ECS instance. For more information about how to configure ECS instances that run other operating systems, see [分配辅助私网IP地址](#) and [分配辅助私网IP地址](#).

1. Log on to the ECS instance.
2. Run the following command to query the MAC address of the secondary ENI: `ip address`

```
[root@izbp1dqdtca3zvn24n1e1Z ~]# ip address
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP group default qlen 1000
    link/ether 00:16:8c:00:00:00:b:0f brd ff:ff:ff:ff:ff:ff
    inet 172.17.0.166/21 brd 172.17.0.255 scope global dynamic eth0
        valid_lft 315359849sec preferred_lft 315359849sec
    inet6 fe80::216:0:ff:fe::2b0f/64 scope link
        valid_lft forever preferred_lft forever
3: eth1: <BROADCAST,MULTICAST> mtu 1500 qdisc noop state DOWN group default qlen 1000
    link/ether 00:16:8c:00:00:00:cc:8d brd ff:ff:ff:ff:ff:ff
[root@izbp1dqdtca3zvn24n1e1Z ~]#
```

3. Configure the secondary private IP addresses for the secondary ENI.

- i. Run the following command to open the configuration file of the secondary ENI: `vi /etc/sysconfig/network-scripts/ifcfg-eth1`
- ii. Run the following command to enter the Edit mode: `i`
- iii. Run the following command to copy configurations to the configuration file of the secondary ENI:

```

DEVICE=eth1 # This indicates the newly configured ENI.
BOOTPROTO=no
ONBOOT=yes
TYPE=Ethernet
USERCTL=yes
PEERDNS=no
IPV6INIT=no
PERSISTENT_DHCLIENT=yes
HWADDR=00:16:***:cc:8d # Configure the MAC address of the secondary ENI.
IPADDR0=172.xx.xx.163 # Configure the primary private IP address of the secondary ENI.
IPADDR1=172.xx.xx.164 # Configure the secondary private IP address 1 of the secondary ENI.
IPADDR2=172.xx.xx.165 # Configure the secondary private IP address 2 of the secondary ENI.
DEFROUTE=no # This indicates that the ENI is not the default route. To avoid changing the active default route of the ECS instance while bring up the secondary ENI of the ECS instance, do not specify the eth1 as the default route.

```

4. Run the following command to restart the network connection service: `service network restart`

After you configure the secondary private IP addresses, you can run the `ip address` command to view the configured secondary private IP addresses.

```

[root@i-*****vn24n1e1Z ~]# ip address
1: lo: <LOOPBACK,UP,LOWER_UP> mtu 65536 qdisc noqueue state UNKNOWN group default qlen 1000
    link/loopback 00:00:00:00:00:00 brd 00:00:00:00:00:00
    inet 127.0.0.1/8 scope host lo
        valid_lft forever preferred_lft forever
    inet6 ::1/128 scope host
        valid_lft forever preferred_lft forever
2: eth0: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP group default qlen 1000
    link/ether 00:16:*****:0f brd ff:ff:ff:ff:ff:ff
    inet 172.*****.166/21 brd 172.*****.255 scope global dynamic eth0
        valid_lft 315358807sec preferred_lft 315358807sec
    inet6 fe80:*****:b0f/64 scope link
        valid_lft forever preferred_lft forever
3: eth1: <BROADCAST,MULTICAST,UP,LOWER_UP> mtu 1500 qdisc mq state UP group default qlen 1000
    link/ether 00:16:*****:8d brd ff:ff:ff:ff:ff:ff
    inet 172.*****.163/21 brd 172.*****.255 scope global eth1
        valid_lft forever preferred_lft forever
    inet 172.*****.164/21 brd 172.*****.255 scope global eth1
        valid_lft forever preferred_lft forever
    inet 172.*****.165/21 brd 172.*****.255 scope global secondary eth1
        valid_lft forever preferred_lft forever
    inet6 fe80::*****:12:cc8d/64 scope link
        valid_lft forever preferred_lft forever
[root@iZbp1dqdtca3zvn24n1e1Z ~]#

```

Step 5: Test the network connectivity

An ECS instance that runs Linux is used in the following example to describe how to test the network connectivity.

1. Log on to the ECS instance.
2. Run the following command to configure a static route in which the source IP address is set to one of the secondary private IP addresses: `ip route add <destination network>/<prefix length of the subnet> via <NAT gateway of the secondary private IP addresses> src <secondary private IP address>`
3. Run the following command to verify the connectivity between the secondary private IP addresses and the destination network: `ping <destination network> -I <secondary private IP addresses>`

The test result shows that packets sent from the secondary private IP addresses can reach the destination network. This means that the association between the secondary private IP addresses and EIP takes effect.

```
[root@iZbp11]# ping 114.114.114.114 -I 172.17.0.165
PING 114.114.114.114 (114.114.114.114) from 172.17.0.169 : 56(84) bytes of data.
64 bytes from 114.114.114.114: icmp_seq=1 ttl=73 time=11.0 ms
64 bytes from 114.114.114.114: icmp_seq=2 ttl=75 time=11.0 ms
64 bytes from 114.114.114.114: icmp_seq=3 ttl=89 time=11.0 ms
64 bytes from 114.114.114.114: icmp_seq=4 ttl=66 time=11.0 ms
64 bytes from 114.114.114.114: icmp_seq=5 ttl=64 time=11.0 ms
^C
--- 114.114.114.114 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4004ms
rtt min/avg/max/mdev = 11.066/11.084/11.099/0.095 ms
```

3. Use an elastic IP address of BGP (Multi-ISP) Pro to access a website application with lower latency

This topic describes how to use an elastic IP address of BGP (Multi-ISP) Pro to provide services for users in mainland China through a direct connection. This reduces the network latency because no international Internet Service Provider (ISP) service is used. You can associate an elastic IP address of BGP (Multi-ISP) Pro with an Elastic Compute Service (ECS) instance. Then, users in mainland China can access your website application deployed in the China (Hong Kong) region.

Prerequisites

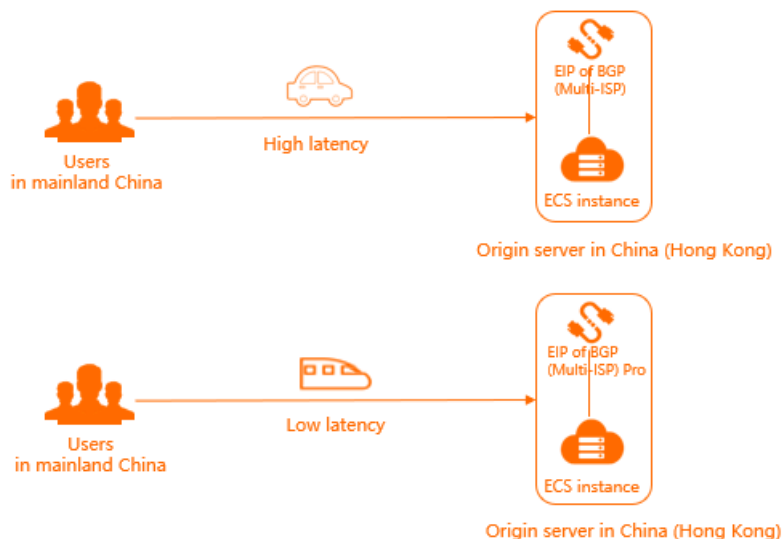
Before you start, make sure that the following requirements are met:

- An Alibaba Cloud account is created. If you do not have an Alibaba Cloud account, click [Create an Alibaba Cloud account](#) to create an Alibaba Cloud account.
- A website application is deployed on an ECS instance that is created in the China (Hong Kong) region. For more information, see [Create an instance by using the provided wizard](#).

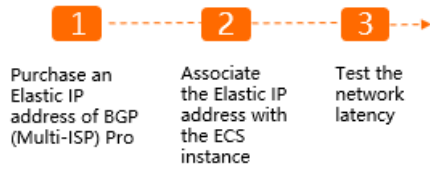
Context

The following figure shows how an elastic IP address of BGP (Multi-ISP) Pro helps reduce the network latency. A website application is deployed on an ECS instance that is created in the China (Hong Kong) region. The ECS instance is associated with an elastic IP address of BGP (Multi-ISP). High network latency may exist when users in mainland China access the website application deployed in the China (Hong Kong) region. This downgrades the user experience.

You can associate an elastic IP address of BGP (Multi-ISP) Pro with the ECS instance. Then, users in mainland China can access the website application deployed in the China (Hong Kong) region with lower network latency because no international ISP service is used.



Procedure



Step 1: Purchase an elastic IP address of BGP (Multi-ISP) Pro

You can use elastic IP addresses of BGP (Multi-ISP) Pro to deliver services to users in mainland China through a direct connection. In this case, no international Internet Service Provider (ISP) service is used. This reduces the network latency.

The following example shows how to purchase an elastic IP address of BGP (Multi-ISP) Pro that is billed on a subscription basis.

- 1.
2. On the **Elastic IP Addresses** page, click **Create EIP**.
3. On the buy page, select **Subscription**, and set the following parameters for the elastic IP address.
 - **Region:** Select a region for the elastic IP address. **China (Hong Kong)** is selected in this example.
 - **Connection Type:** Select **BGP (Multi-ISP)** or **BGP (Multi-ISP) Pro**.
 - **BGP (Multi-ISP):** Up to 89 high-quality BGP lines are available on a global scale. Direct connections can be established from all regions in mainland China through a variety of ISPs. The following ISPs can provide the direct connections: China Telecom, China Unicom, China Mobile, China Railcom, China Netcom, CERNET, China Broadcast Network, Dr. Peng, and Founder.
 - **BGP (Multi-ISP) Pro:** BGP (Multi-ISP) Pro is provided to improve the efficiency of data transmission between mainland China and regions outside mainland China. Compared with BGP (Multi-ISP), BGP (Multi-ISP) Pro can be used to establish direct connections without the use of international ISP services. This reduces the network latency.
BGP (Multi-ISP) Pro is selected in this example.
 - **Network Type:** Select a network type. **Public** is selected in this example.
 - **Bandwidth Value:** Specify the bandwidth of the elastic IP address that meets your requirements. **10 Mbit/s** is selected in this example.
 - **Name:** Enter a name for the elastic IP address.
The name must be 2 to 128 characters in length, and start with a letter or Chinese character. It can contain letters, Chinese characters, digits, periods (.), underscores (_), and hyphens (-).
 - **Quantity:** Select the number of elastic IP addresses that meets your requirements.
 - **Service Time:** Select a subscription duration.
4. Click **Buy Now** and complete the payment.
5. Click **Console** and go to the **Elastic IP Addresses** page.

On the Elastic IP Addresses page, the Connection Type of the purchased elastic IP address displays BGP (Multi-ISP) Pro.

<input type="checkbox"/>	Instance ID/Name	IP Address	Monitor	Bandwidth	Connection Type	Charge Type(All) ↑	Status(All) ↑
<input type="checkbox"/>	eip-j6c[redacted]9tt	47[redacted]s3		10 Mbps Pay By Bandwidth	BGP (Multi-ISP) Pro	Subscription Jul 11, 2020, 00:00:00 Expire	Available

Step 2: Associate an elastic IP address with an ECS instance

You can associate an elastic IP address with a VPC-connected ECS instance. ECS instances can communicate with the Internet after they are associated with elastic IP addresses.

Take the following steps to associate the elastic IP address with an ECS instance:

1. On the Elastic IP Addresses page, find the elastic IP address created in Step 1, and click **Bind Resource** in the Actions column.
2. In the **Bind Elastic IP Address to Resources** dialog box, set the following parameters to associate the elastic IP address with an ECS instance:
 - **Instance Type:** Select the type of the instance to be associated with the elastic IP address. Select **ECS Instance** in this example.
 - **Binding Mode:** Select a binding mode.
 - Only Normal is supported. In the Normal mode:
 - Both elastic IP address and private IP address of the ECS instance are available.
 - In the operating system of the ECS instance, the elastic IP address is not displayed. You must call the DescribeInstances operation to query the elastic IP address that is associated with the ECS instance. For more information, see [DescribeInstances](#).
 - When an elastic IP address (EIP) is deployed as an NAT application layer gateway (ALG), some protocols are not supported. For example, H.323, Session Initiation Protocol (SIP), Domain Name System (DNS), Real Time Streaming Protocol (RTSP), and Trivial File Transfer Protocol (TFTP).
 - **Select an Instance to Bind:** Select an ECS instance to be associated with the elastic IP address.
3. Click **OK**.

Step 3: Test the network latency

After you associate the elastic IP address with the ECS instance, you can test the network latency in the networking between mainland China and the website application that is deployed in China (Hong Kong).

1. Open Command Prompt on a computer in mainland China.
2. Run the `ping` command to `ping` the elastic IP address that is associated with the ECS instance. The test result shows that the network latency is reduced when users in mainland China use the elastic IP address of BGP (Multi-ISP) Pro to access the ECS instance.

Network latency of accessing an ECS instance that is associated with an elastic IP address of BGP (Multi-ISP) Pro

```
[root@i7bp1e1ke70d9k3tli17czZ ~]# ping 47.████.46
PING 47.████.46 (47.████.46) 56(84) bytes of data.
64 bytes from 47.████.46: icmp_seq=1 ttl=45 time=33.2 ms
64 bytes from 47.████.46: icmp_seq=2 ttl=45 time=33.2 ms
64 bytes from 47.████.46: icmp_seq=3 ttl=45 time=33.2 ms
64 bytes from 47.████.46: icmp_seq=4 ttl=45 time=33.2 ms
64 bytes from 47.████.46: icmp_seq=5 ttl=45 time=33.2 ms
^C
--- 47.████.46 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4004ms
rtt min/avg/max/mdev = 33.238/33.247/33.256/0.163 ms
```

Network latency of accessing an ECS instance that is associated with an elastic IP address of BGP (Multi-ISP)

```
[root@i7bp1e1ke70d9k3tli17czZ ~]# ping 8.████.38
PING 8.████.38 (8.████.38) 56(84) bytes of data.
64 bytes from 8.████.38: icmp_seq=1 ttl=45 time=112 ms
64 bytes from 8.████.38: icmp_seq=2 ttl=45 time=111 ms
64 bytes from 8.████.38: icmp_seq=3 ttl=45 time=111 ms
64 bytes from 8.████.38: icmp_seq=4 ttl=45 time=104 ms
64 bytes from 8.████.38: icmp_seq=5 ttl=45 time=109 ms
^C
--- 8.████.38 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4004ms
rtt min/avg/max/mdev = 104.208/109.888/112.068/2.983 ms
```

Note The actual network latency in the communication supported by the elastic IP address of BGP (Multi-ISP) Pro varies based on the quality of the ISP network.

4. Deploy an FTP server by using an EIP

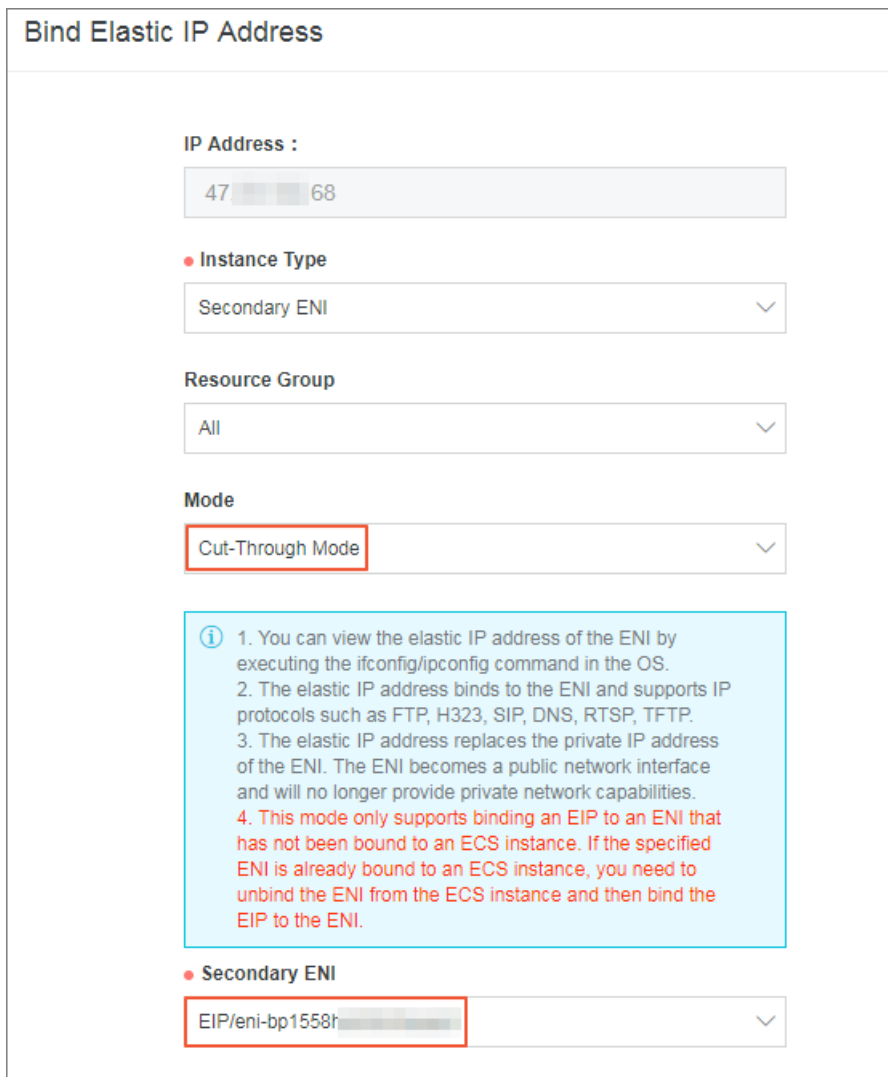
You can use the EIP cut-through mode to associate an Elastic IP Address (EIP) with an FTP server to provide FTP services. This topic takes an FTP server deployed with a Windows system as an example.

Procedure

1. Purchase a new Elastic IP address.
2. Associate the EIP with a secondary Elastic Network Interface (ENI) and select the EIP cut-through mode.

Note Make sure that the selected secondary ENI is not associated with any ECS instance.

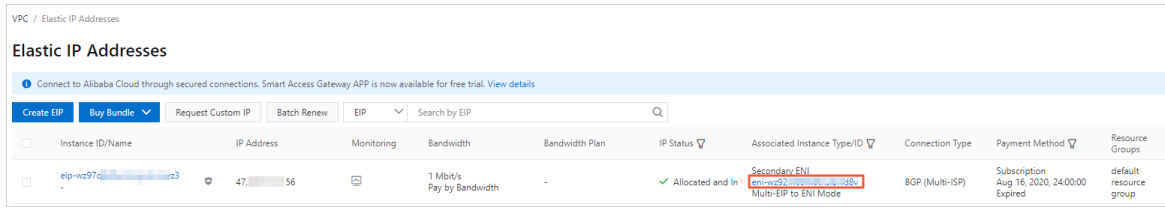
For more information, see [Associate an EIP with a secondary ENI in cut-through mode.](#)



3. Purchase an ECS instance of the Windows Server 2016 system and deploy an FTP service.

Instance ID/Name	IP Address	Status	Network Type	Instance Type Family	VPC Details	Billing Method	Automatic Renewal	Connection Status	Stopped By	Actions
i-bp1to5a	192.168.1.8 (Private)	Running	VPC	ecs.g5.xlarge	vpc-bp13c	Pay-As-You-Go	November 30, 2018, 10:38	-	-	Manage Connect

4. On the page of EIP list, click the link of the associated ENI.



5. On the Network Interfaces page, find the ENI associated with the EIP and click Bind to Instance to associate the ENI with the ECS instance deployed with the FTP service.



Result

Use the EIP address associated with the ENI to access the FTP service.

Note Make sure that the security group rules of the ECS instance allow access from the Internet.

