Alibaba Cloud
Global Acceleration

User Guide

Issue: 20180910

Legal disclaimer

Alibaba Cloud reminds you to carefully read and fully understand the terms and conditions of this legal disclaimer before you read or use this document. If you have read or used this document, it shall be deemed as your total acceptance of this legal disclaimer.

1. You shall download and obtain this document from the Alibaba Cloud website or other Alibaba Cloud-authorized channels, and use this document for your own legal business activities only. The content of this document is considered confidential information of Alibaba Cloud. You shall strictly abide by the confidentiality obligations. No part of this document shall be disclosed or provided to any third party for use without the prior written consent of Alibaba Cloud.
2. No part of this document shall be excerpted, translated, reproduced, transmitted, or disseminated by any organization, company, or individual in any form or by any means without the prior written consent of Alibaba Cloud.
3. The content of this document may be changed due to product version upgrades, adjustments, or other reasons. Alibaba Cloud reserves the right to modify the content of this document without notice and the updated versions of this document will be occasionally released through Alibaba Cloud-authorized channels. You shall pay attention to the version changes of this document as they occur and download and obtain the most up-to-date version of this document from Alibaba Cloud-authorized channels.
4. This document serves only as a reference guide for your use of Alibaba Cloud products and services. Alibaba Cloud provides the document in the context that Alibaba Cloud products and services are provided on an "as is", "with all faults" and "as available" basis. Alibaba Cloud makes every effort to provide relevant operational guidance based on existing technologies. However, Alibaba Cloud hereby makes a clear statement that it in no way guarantees the accuracy, integrity, applicability, and reliability of the content of this document, either explicitly or implicitly. Alibaba Cloud shall not bear any liability for any errors or financial losses incurred by any organizations, companies, or individuals arising from their download, use, or trust in this document. Alibaba Cloud shall not, under any circumstances, bear responsibility for any indirect, consequential, exemplary, incidental, special, or punitive damages, including lost profits arising from the use or trust in this document, even if Alibaba Cloud has been notified of the possibility of such a loss.
5. By law, all the content of the Alibaba Cloud website, including but not limited to works, products, images, archives, information, materials, website architecture, website graphic layout, and webpage design, are intellectual property of Alibaba Cloud and/or its affiliates. This intellectual property includes, but is not limited to, trademark rights, patent rights, copyrights, and trade

secrets. No part of the Alibaba Cloud website, product programs, or content shall be used, modified, reproduced, publicly transmitted, changed, disseminated, distributed, or published without the prior written consent of Alibaba Cloud and/or its affiliates. The names owned by Alibaba Cloud shall not be used, published, or reproduced for marketing, advertising, promotion, or other purposes without the prior written consent of Alibaba Cloud. The names owned by Alibaba Cloud include, but are not limited to, "Alibaba Cloud", "Aliyun", "HiChina", and other brands of Alibaba Cloud and/or its affiliates, which appear separately or in combination, as well as the auxiliary signs and patterns of the preceding brands, or anything similar to the company names, trade names, trademarks, product or service names, domain names, patterns, logos, marks, signs, or special descriptions that third parties identify as Alibaba Cloud and/or its affiliates).

6. Please contact Alibaba Cloud directly if you discover any errors in this document.

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

Contents

1 Dedicated-bandwidth instances

1.1 Activate the ECS backend service

After binding an ECS instance to a dedicated-bandwidth instance, you must activate the backend service. By adding a sub interface to the ECS Network Interface Card (NIC), the ECS instance then can receive packets sent from the dedicated-bandwidth instance.

To avoid network conflicts between Global Acceleration and the Internet configurations of ECS instances such as EIP and NAT Gateway, the system uses the public IP of the Global Accelerati on instance and the IP address of the backend service (not the private IP of the ECS) to establish a connection.

An ECS instance of the VPC network has only one private NIC and one private IP address. It cannot receive packets sent from Global Acceleration. Activating the backend service adds the IP address of the backend service as a sub interface to the ECS NIC. In this way, the ECS instance can receive packets sent from Global Acceleration.

Prerequisites

- Create a dedicated-bandwidth Global Acceleration instance
- Bind an ECS instance to the dedicated-bandwidth instance.

Step 1 Obtain the IP address of the backend service

After binding an ECS instance to the dedicated-bandwidth instance, a service IP address is allocated to it. To obtain the IP address of the backend service, complete these steps:

1. Log on to the *VPC console*.
2. In the left-side navigation pane, click **Global Acceleration**.
3. Click **Dedicated Bandwidth** and find the target instance.
4. In the **Backend Service Instance** column, view the backend service IP.

   The backend service IP is an unused private IP randomly allocated from the VSwitch to which the ECS instance belongs.

Step 2 Add a NIC sub interface

You need to add a subnet interface to activate the acceleration service.

> **Note:**
> You need to add a sub interface to the NIC of the ECS instance, instead of adding a new NIC.

- Configure a Linux ECS instance

  The following procedure takes the Ubuntu 16.04 64 operating system as an example:

  1. Log on to the ECS instance and run the following command to open the NIC configuration file:

     ```
     sudo vi /etc/sysconfig/network-scripts/ifcfg-eth0:1
     ```

  2. Add the following configurations to the configuration file:

     ```
     DEVICE=eth0:1
     IPADDR=172.16.1.209
     NETMASK=255.255.255.255
     ONBOOT=yes
     ```

     where:

     - **DEVICE** is the name of the sub interface.
     - **IPADDR** is the IP address of the backend service.

  3. Run the following command to enable the NIC sub interface:

     ```
     ifup eth0:1
     ```

- Configure a Windows ECS instance

  Complete the following steps to configure a Windows ECS instance:

  1. Log on to the ECS instance and run the **ipconfig** command to view the IP address of the instance.

2. Run the following command to create an Ethernet interface:

```
netsh interface ipv4 set address name=<Ethernet adapter name>
source=static address= mask=<Subnet mask> gateway=<Default gateway
>
```

Example:

```
netsh interface ipv4 set address name="Local connection 4" source=
static address=172.16.x.xxx mask=255.255.255.255 gateway=172.16.x.
xxx
```

3. Run the following command to add a sub interface:

```
netsh interface ipv4 add address <Ethernet adapter name> <Backend
service IP address> <Subnet mask>
```

Example:

```
netsh interface ipv4 add address "Local connection 4" 172.16.x.xxx
 255.255.255.255
```

1.2 Bind a backend service

You can bind an ECS instance or an SLB instance of the VPC network to a dedicated-bandwidth instance to accelerate the Internet access deployed on the ECS instance or SLB instance.

Prerequisites

Create a dedicated-bandwidth instance.

Procedure

1. Log on to the *VPC console*.
2. In the left-side navigation pane, click **Global Acceleration** and then click the **Dedicated Bandwidth** tab.
3. Select a region, find the target instance and click **Bind Instance**.
4. Configure the backend service as follows and then click **OK**.

Configuration	Description
Backend Service Region	Select the region of the backend service. The region of the backend service must be located in the selected service area, but cannot be the same as that of the Global Accelerati on instance.

Configuration	Description
Instance Type	Select the cloud resource where the backend service that you want to accelerate is deployed: • **ECS Instance**: Accelerate the service deployed on an ECS instance of the VPC network. **Note:** For ECS instances, you must activate the backend service after binding. For more information, see *Activate the ECS backend service*. • **SLB Instance**: Accelerate the backend service added to an SLB instance of the VPC network. **Note:** After binding a backend server to a Global Acceleration instance, the backend server can be accessed from the Internet. Make sure that you have configured corresponding security rules for the ECS instance, or have configured access control policies for the SLB instance.
Bind Instance	Select the instance you want to bind.

1.3 Manage dedicated-bandwidth instances

A dedicated-bandwidth Global Acceleration instance provides a dedicated Internet bandwidth and a public IP for accelerating the Internet access for the added backend service. The bandwidth can only be used by the instance itself.

Create a dedicated-bandwidth instance

After creating a dedicated-bandwidth instance, a public IP is allocated in the region of the instance for accelerating the Internet access. For more information, see *Step 1. Create a Global Acceleration instance*.

Bind a backend service

After creating a dedicated-bandwidth instance, you can bind the backend service that you want to accelerate to the instance directly. The backend service can be bound only to an ECS instance or SLB instance of a VPC network. For more information, see *Bind a backend service*.

Unbind a backend service

You can unbind a backend service from a dedicated-bandwidth instance when acceleration is no longer required. To unbind a backend service, complete these steps:

1. Log on to the *VPC console*.
2. In the left-side navigation pane, click **Global Acceleration**.
3. Click **Dedicated Bandwidth** and find the target instance.
4. Click **Unbind** in the **Actions** column.
5. In the displayed dialog, click **OK**.

Add an instance name

To add a name for the instance, complete these steps:

1. Log on to the *VPC console*.
2. In the left-side navigation pane, click **Global Acceleration**.
3. Click **Dedicated Bandwidth** and find the target instance.
4. Rest the pointer on the instance ID, and then click the displayed pencil icon.
5. In the displayed dialog box, enter a name and then click **OK**.

   The name can contain 2-128 characters and must start with an English or Chinese character. It can contain numbers, underscores and hyphens.

Add an instance description

To add a description for the instance, complete these steps:

1. Log on to the *VPC console*.
2. In the left-side navigation pane, click **Global Acceleration**
3. Click **Dedicated Bandwidth** and find the target instance.
4. Rest the pointer on the description area, and then click the displayed pencil icon.
5. In the displayed dialog box, enter a description and then click **OK**.

   The description can contain 2-256 characters, but cannot start with `http://` or `https://`.

Modify the bandwidth

You can change the bandwidth of a Global Acceleration instance any time. Changes take effect immediately. To change the bandwidth, complete these steps

1. Log on to the *VPC console*.

2. In the left-side navigation pane, click **Global Acceleration**.
3. Click **Dedicated Bandwidth** and find the target instance.
4. Click **Change Bandwidth** in the **Bandwidth** column of the target Global Acceleration instance. Then, select a new bandwidth based on your needs and complete the payment.

Renew an instance

You must renew a Global Acceleration instance before it expires to avoid a termination of your service. To renew an instance, complete these steps:

1. Log on to the *VPC console*.
2. In the left-side navigation pane, click **Global Acceleration**.
3. Click **Dedicated Bandwidth** and find the target instance.
4. Click **Renew** in the **Actions** column.
5. Select a new time to purchase and complete the payment.

2 Shared-bandwidth instances

2.1 Manage shared-bandwidth instances

A shared-bandwidth Global Acceleration instance provides the Internet bandwidth only and no public IP. You can add multiple Elastic IP Addresses (EIPs) to a shared-bandwidth instance and then bind these EIPs to the backend servers to be accelerated.

Create Instance

Before configuring acceleration services, you must create a Global Acceleration instances. By sharing the instance bandwidth, the shared-bandwidth instance help you save Internet cost. For more information, see *Step 1. Create a Global Acceleration instance*.

Add an EIP

No public IP is provided for shared-bandwidth instances. You must add an EIP to it to accelerate the Internet access. For more information, see *Add an EIP*.

Bind a backend service

After creating a shared-bandwidth instance and binding EIPs, you can bind the EIPs to the backend servers. Shared-bandwidth instances support adding SLB instances of the VPC network and ECS secondary ENI. Up to 50 EIPs can be added to a shared-bandwidth instance and each EIP can be bound to a backend service. For more information, see *Bind a backend service*.

Add an instance name

To add a name for the instance, complete these steps:

1. Log on to the *VPC console*.
2. In the left-side navigation pane, click **Global Acceleration**.
3. Click **Shared Bandwidth** and find the target instance.
4. Rest the pointer on the instance ID, and then click the displayed pencil icon.
5. In the displayed dialog box, enter a name and then click **OK**.

   The name can contain 2-128 characters and must start with an English or Chinese character. It can contain numbers, underscores and hyphens.

Add an instance description

To add a description for the instance, complete these steps:

1. Log on to the *VPC console*.
2. In the left-side navigation pane, click **Global Acceleration**.
3. Click **Shared Bandwidth** and find the target instance.
4. Rest the pointer on the description area, and then click the displayed pencil icon.
5. In the displayed dialog box, enter a description and then click **OK**.

   The description can contain 2-256 characters, but cannot start with `http://` or `https://`.

Unbind a backend service

You can unbind a backend service from the EIP when the Internet acceleration is no longer required. To unbind a backend service, complete these steps:

1. Log on to the *VPC console*.
2. In the left-side navigation pane, click **Global Acceleration**.
3. Click **Shared Bandwidth** and find the target instance.
4. Click **Unbind** in the **Actions** column.
5. In the displayed dialog, click **OK**.

Modify the bandwidth

You can change the bandwidth of an instance any time and the change takes effect immediately. To modify the bandwidth, complete these steps:

1. Log on to the *VPC console*.
2. In the left-side navigation pane, click **Global Acceleration**.
3. Click **Shared Bandwidth** and find the target instance.
4. Click **Change Bandwidth** in the **Bandwidth** column of the target Global Acceleration instance. Then, select a new bandwidth based on your needs and complete the payment.

Renew an instance

You can renew a Global Acceleration instance before it expires to avoid the impact of service interruption on your service. To renew an instance, complete these steps:

1. Log on to the *VPC console*.
2. In the left-side navigation pane, click **Global Acceleration**.
3. Click **Shared Bandwidth** and find the target instance.
4. Click **Renew** in the **Actions** column.
5. Select a new time to purchase and complete the payment.

2.2 Bind a backend service

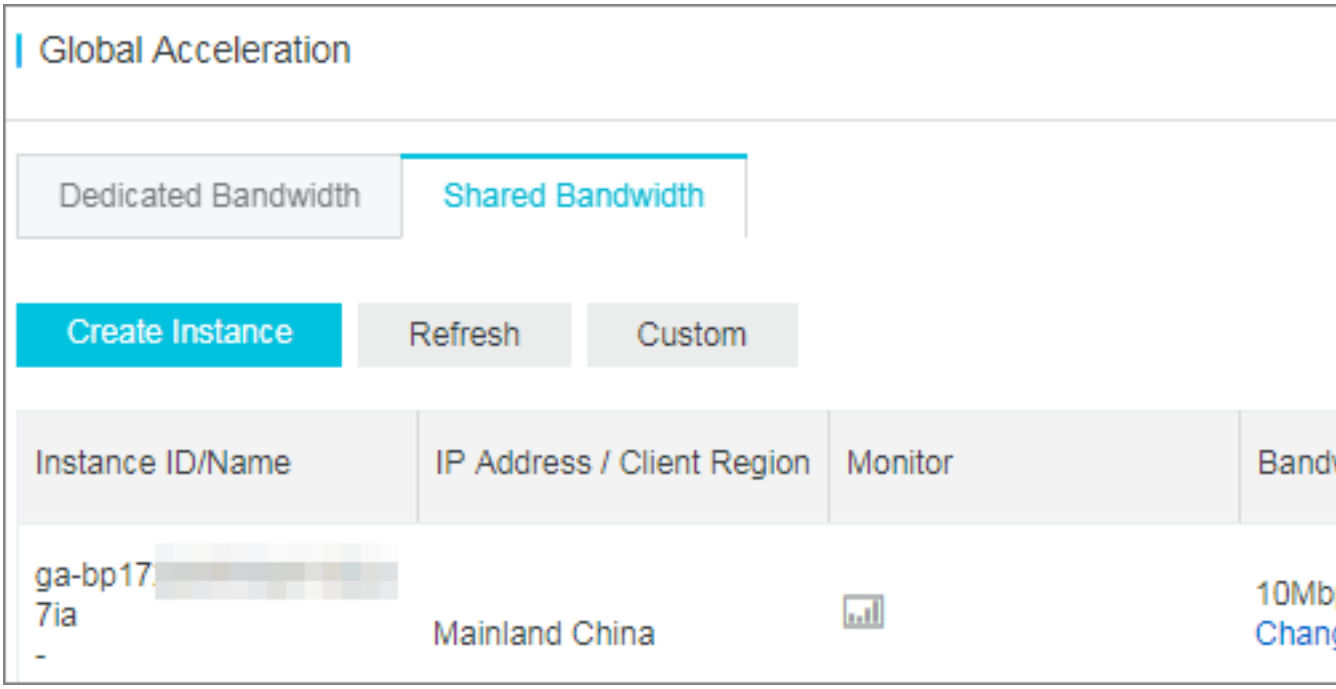
You can bind the EIP that is added to a shared-bandwidth instance to a secondary Elastic Network Interface (ENI) of an ECS instance or an SLB instance of the VPC network to accelerate the Internet access deployed on the ECS instance or SLB instance.

Prerequisites

A shared-bandwidth Global Acceleration instance is created and an EIP is added to the instance.

Procedure

1. Log on to the *VPC console*.
2. In the left-side navigation pane, click **Global Acceleration** and then click **Shared Bandwidth**.
3. Find the target instance and click the added IP address.



4. On the **Global Acceleration IP Addresses** page, click the **Bind Instance** option of the target EIP.
5. Configure the backend service as follows and then click **OK**.

Configuration	Description
Region	Select the region of the backend service. The region of the backend service must be located in the selected service area, but cannot be the same as that of the Global Accelerati on instance.

Configuration	Description
Instance Type	Select the cloud resource that the backend service to be accelerated is deployed: • **Secondary ENI**: Accelerate the service deployed on the ECS instance bound to the selected secondary ENI. **Note:** Currently, only ECS secondary ENI is supported. • **SLB Instance**: Accelerate the backend service added to the selected SLB instance of the VPC network. **Note:** After binding a backend server to a Global Acceleration instance, the backend server can be accessed from the Internet. Make sure that you have configured corresponding security rules for the ECS instance, or have configured access control policies for the SLB instance.
Bind Instance	Select the instance you want to bind.

2.3 添加EIP

带宽共享型实例创建后，您需要为其添加弹性公网IP（EIP）用来为后端服务的公网访问加速。

前提条件

已创建带宽共享型全球加速实例。

背景信息

添加后，EIP将具备访问加速的能力并且共享全球加速实例的带宽，节省公网成本。EIP加入全球加速实例后：

- 添加的EIP共享全球加速实例的带宽，EIP原本的带宽峰值无效。
- EIP原本的计费模式无效，变为单纯的公网IP，不额外计流量或带宽费用。

操作步骤

1. 登录#########。
2. 在全球加速页面，单击带宽共享型。
3. 找到目标实例，然后单击添加**IP**地址。
4. 在添加**IP**页面，完成以下操作：

- 如果您的账号下没有未使用的EIP，单击购买**EIP**并添加到全球加速，输入要购买的EIP个数，然后单击确定。

  创建后，EIP会自动添加到带宽共享型实例中。
- 如果您的账号有未使用的EIP，单击从已有**EIP**列表选取，选择要绑定的EIP，然后单击确定。

> 说明：
> EIP实例的地域必须和全球加速实例的地域相同。

3 Instance types

Global Acceleration provides two kinds of instance types: dedicated-bandwidth instances and shared-bandwidth instances.

Dedicated-bandwidth instances

A dedicated-bandwidth Global Acceleration instance provides a dedicated Internet bandwidth and a public IP for accelerating the Internet access of the backend service. A dedicated-bandwidth Global Acceleration instance provides a dedicated Internet bandwidth and a public IP for accelerating the Internet access for the added backend service. The bandwidth of a dedicated-bandwidth instance is exclusively used by the Global Acceleration instance itself. The bandwidth is used only by the instance itself.

After creating a dedicated-bandwidth instance, you can bind the backend service to it directly.

Shared-bandwidth instances

A shared-bandwidth Global Acceleration instance provides a shared Internet bandwidth, but does not provide a public IP.

You can add one or more Elastic IP Addresses (EIPs) to a shared-bandwidth instance. After they are added, the EIPs can be used to accelerate the Internet access for the backend services. Additionally, the EIPs share the bandwidth of the shared-bandwidth instance to reduce the Internet cost.

The regions of the backend services that the EIPs are bound to must be the same.

A shared-bandwidth instance allows you to separately manage IP and bandwidth, and has the following benefits:

- Cost effectiveness

  The EIPs added to a shared-bandwidth instance share the instance, reducing the Internet cost.
- Flexible management

  When you want to change the public IP of your service, instead of purchasing a new Global Acceleration instance, you can unbind the EIP from the backend service and then bind a new EIP to the backend service.
- Cross-region binding

  The EIP added to a shared-bandwidth instance can bind to a backend service that is in a different region from the EIP.

Dedicated-bandwidth instances vs. Shared-bandwidth instances

Items	Dedicated-bandwidth instances	Shared-bandwidth instances
Bind backend services in different regions	Yes. You can bind the backend services in different regions to a dedicated-bandwidth instance directly.	Yes. After adding an EIP to a shared-bandwidth instance, the EIP can bind to a backend service in a different region.
Share the bandwidth of the instance	No.	Yes
Public IP	A public IP is allocated to a dedicated-bandwidth instance for accelerating the Internet access.	No public IP is allocated to a shared-bandwidth instance. You must add one or more EIPs to the instance for accelerating the Internet access.
Supported backend services	ECS and SLB instances of the VPC network.	ECS secondary ENI and SLB instances of the VPC network.