Virtual Private Cloud

Elastic IP Address

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Elastic IP (EIP) is a public IP address resource that you can purchase and possess independently. EIP can be dynamically bound to a VPC ECS instance without restarting the ECS instance.

An EIP address is a NAT IP. It is located in the public network gateway of Alibaba Cloud, and mapped to the private network interface card (NIC) of the bound ECS instance in the way of NAT. Therefore, the ECS instance with a bounded EIP can communicate with the Internet without disclosing its EIP in the NIC.

Note: Currently, only ECS instances support the binding of an EIP address.

EIP features

Independently purchased and possessed

- You can purchase an EIP as an independent resource instead of bundling with other computing resources or storage resources.

Flexible binding

- You can bind an EIP to an ECS instance in any VPC to make the instance accessible to the Internet, and release it whenever Internet communication is not needed.

- Configurable network capabilities
    - You can adjust the bandwidth of an EIP as needed. The bandwidth changes take effect immediately.

Differences between EIP and ECS public IP

The following table lists the differences between EIP addresses and ECS public IP addresses.

Comparison items	EIP	ECS public IP
Independently possessed	Yes	No
Dynamically binding and unbinding to and from ECS instances	Yes	No
Viewed on the NIC of ECS instances	No	Yes

Pricing

Billing method

EIP supports Pay-As-You-Go billing, a post payment method. EIP fees are collected according to the actual network traffic and are billed hourly.

Billing items

Total cost = instance retention fee + network traffic fee.

Instance fee

Cost = price * retention time

Instance retention fee is billed on hourly-basis, fee is deducted in real time. Partial hours are billed as full hours. Each EIP address is charged independently.

Traffic fee:

Cost = price * billing traffic

Charged traffic: The cumulative value of the EIP address's outbound traffic in an hour. Outbound traffic refers to data transferred from the Alibaba Cloud data center to the Internet, the reverse is inbound traffic.

Traffic fee is billed on hourly-basis, fee is deducted in real time. Each EIP address is charged independently.

Note: Modifying the bandwidth limitation does not affect the unit price. Although, we recommend setting the bandwidth based on your actual needs to avoid generating excess billing traffic due to malicious access.

The following table lists the price of EIP addresses in different regions.

Region	Traffic Fee (USD/GB/Hour)	Retention Fee (USD/Hour)

East China 1 (Hangzhou)/North China 2 (Beijing) / South China 1 (Shenzhen) / East China 2 (Shanghai)	0.125	0.003
Hong Kong	0.1563	0.009
Singapore	0.117	0.006
Asia Pacific NE 1 (Japan)	0.12	0.005
Central Europe 1 (Frankfurt)	0.07	0.006
Middle East 1 (Dubai)	0.447	0.009
US East 1/US West 1	0.078	0.005

**Note**: The price may have changed, refer to the EIP console for current prices.

Example

Assume that you purchased an EIP address in the East China 1 region at 9:30 and set the bandwidth limit to 10 Mbit/s.

Then, you immediately bound this EIP address to an ECS instance and started your business.

You made two bandwidth changes that day:

- At 17:00, the bandwidth was changed from 10 Mbit/s to 20 Mbit/s.
- At 23:00, the bandwidth was changed from 20 Mbit/s to 15 Mbit/s.
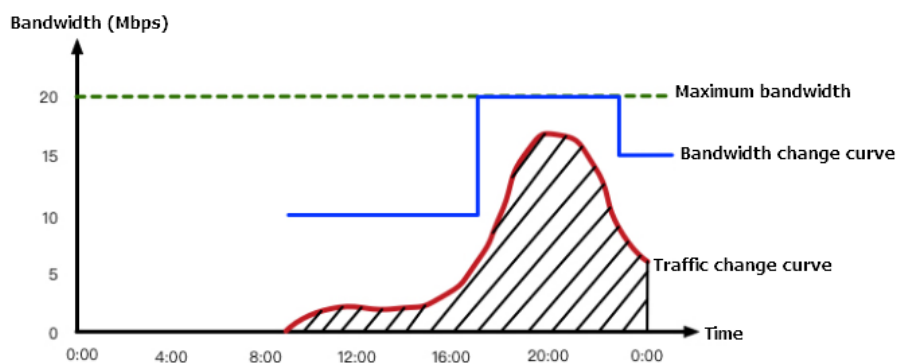
According to the pricing model, the total cost of this EIP address on that day is $7.5465 USD (retention fee + traffic fee).

- Retention fee

- The EIP address used a total of 14.5 hours, billing time is taken as 15 hours.
- The retention fee in the East China 1 region is $0.0031 USD per hour.
- The total retention fee of the EIP address is **0.0031 * 15 = $0.0465 USD**.

- Traffic fee

- The total traffic consumed by the EIP address that day is 60 GBs.
- The traffic fee in the East China 1 region is $0.125 USD per GB.
- The total traffic fee is **0.125 * 60 = $7.5 USD**.

The account owner of the EIP resource will receive an email reminder when any Elastic IP Address is overdue.

If a payment is overdue for 15 days or less, the EIP still functions normally.

After 15 days, the EIP service will be suspended and the account owner will receive another email reminder.

If the account owner recharges the account within 15 days after the service is suspended, the service will automatically restart and resume. Otherwise, the EIP will be released and the account owner will receive an email reminder.

Log on to the **EIP console**.

On the **Elastic IP Address List** page, click a region and find the target EIP instance.

Click **More** > **Modify Bandwidth**.
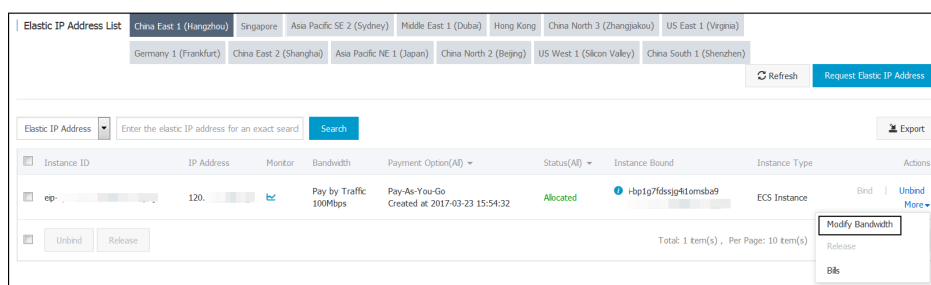
In the **Configuration upgrade** section of the **Confirm order** page, adjust the bandwidth value and then click **Activate**.

You can bind an EIP to an ECS instance so that the ECS instance can communicate with the Internet, and unbind it when the Internet communication is not needed.

Apply for an EIP

Log on to the **EIP console** and click **Apply for Elastic IP**.

On the purchase page, select the region, bandwidth, and purchase quantity for the EIP, and click **Buy Now**.

Complete the payment.

Bind an EIP

Before binding an EIP to an ECS instance, ensure that the following conditions are met:

The regions of the EIP and ECS instance to be bound are the same.

The ECS instance to be bound is not allocated any public IP address.

Procedure

Log on to the **EIP console**.

On the **Elastic IP Address List** page, choose a region.

All the EIP addresses under the selected region are displayed.

Click **Bind** next to the target EIP.

In the **Bind** dialog, select the ECS instance. Click **OK**.

Note: You can only bind an EIP to an ECS instance in Running or Stopped status.

On the **Elastic IP Address List** page, click **Refresh** on the upper-right corner.

When the EIP address status is changed to Allocated, it indicates that the ECS instance bound with the EIP can communicate with the Internet.

Unbind and release an EIP

Before releasing an EIP, you must unbind it.

Procedure

Log on to the **EIP console**.

On the **Elastic IP Address List** page, click the region of the Elastic IP address to be released.

Next to the target EIP, click **Unbind**.

In the **Unbind Elastic IP Address** dialog, click **OK** to confirm.

Click **Refresh** on the upper-right corner. When EIP address status is changed to **Available**, click **More** > **Release**.

In the **Release Elastic IP Address** dialog, click **OK** to confirm.
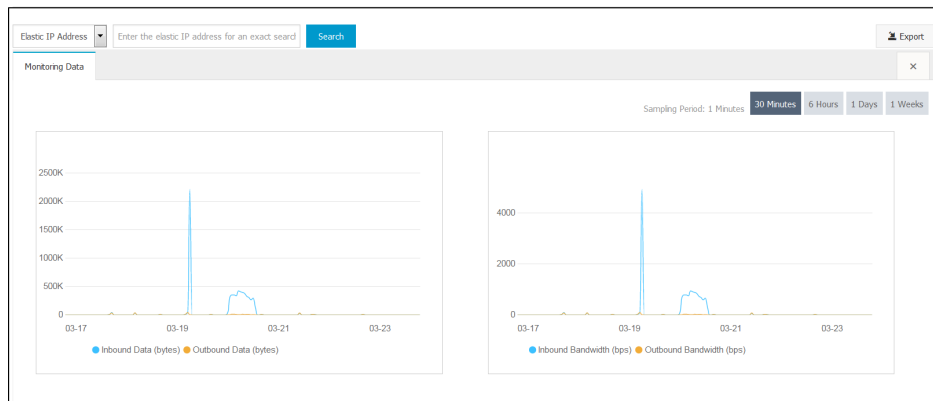
The released EIP will be deleted from the list.

Monitor EIP traffic

Log on to the **EIP console**.

On the **Elastic IP Address List** page, click a region. All the Elastic IP addresses under the selected region are displayed.

Click the monitor icon next to the target EIP.

On the **Monitoring Data** page, select a monitoring period to view the traffic data.

Only the ECS instances are supported to bind an EIP.

If an ECS instance already has a system allocated public IP, it cannot be bound with any EIP.

One ECS instance can be bound with only one EIP, and vice versa.

The EIP and the bound ECS instance must be in the same region.

A single account can possess a maximum of 20 EIPs. You can submit a ticket to apply for more EIPs.