Elastic IP

Best Practices

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Security Declaration

Vulnerability

Huawei's regulations on product vulnerability management are subject to the *Vul. Response Process.* For details about this process, visit the following web page:
https://www.huawei.com/en/psirt/vul-response-process
For vulnerability information, enterprise customers can visit the following web page:
https://securitybulletin.huawei.com/enterprise/en/security-advisory

Contents

1 Public Network Access

Products

Cloud services, such as EIP, NAT Gateway, and ELB can be used to connect to the Internet.

- EIP

  The EIP service provides independent public IP addresses and bandwidth for Internet access. EIPs can be bound to or unbound from ECSs, BMSs, virtual IP addresses, NAT gateways, and load balancers. Various billing modes are provided to meet diverse service requirements.

- ELB

  ELB distributes access traffic among multiple ECSs to balance the application load, improving fault tolerance and expanding service capabilities of applications. You can create a load balancer, configure a listening protocol and port, and add backend servers to a load balancer. You can also use a listener to check the running state of backend servers to ensure that requests are sent only to healthy servers.

- NAT Gateway

  NAT Gateway provides both SNAT and DNAT for your servers in a VPC and allows servers in your VPC to access or provide services accessible from the Internet through flexible and simple configuration.

Providing Services Accessible from the Internet

- Single ECS provides services accessible from the Internet.

  If you have only one application and the service traffic is small, you can assign an EIP and bind it to the ECS so that the ECS can provide services accessible from the Internet.

Figure 1-1 EIP
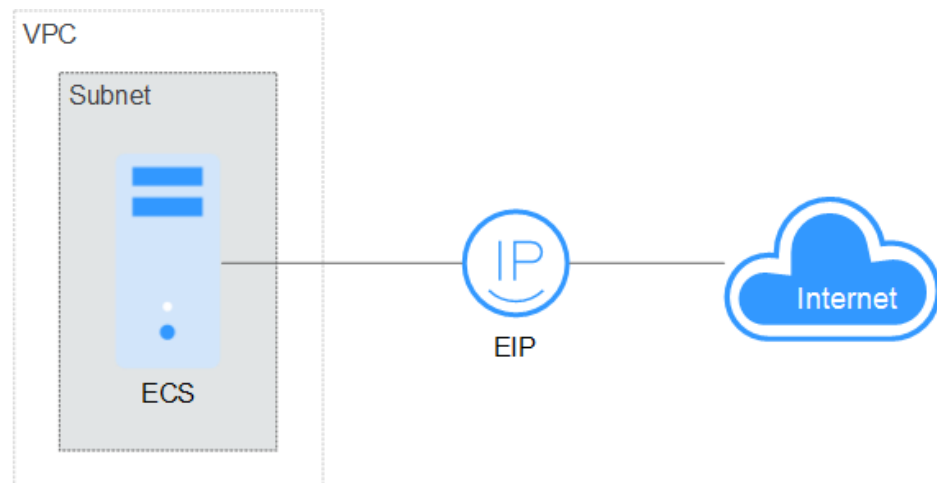
- Multiple ECSs balance workloads.

  In high-concurrency scenarios, such as e-commerce, you can use load balancers to distribute incoming traffic across multiple ECSs, allowing a large number of users to concurrently access your business system or application. ELB deeply integrates with the Auto Scaling (AS) service, which enables automatic scaling based on service traffic and ensures service stability and reliability.

Figure 1-2 ELB
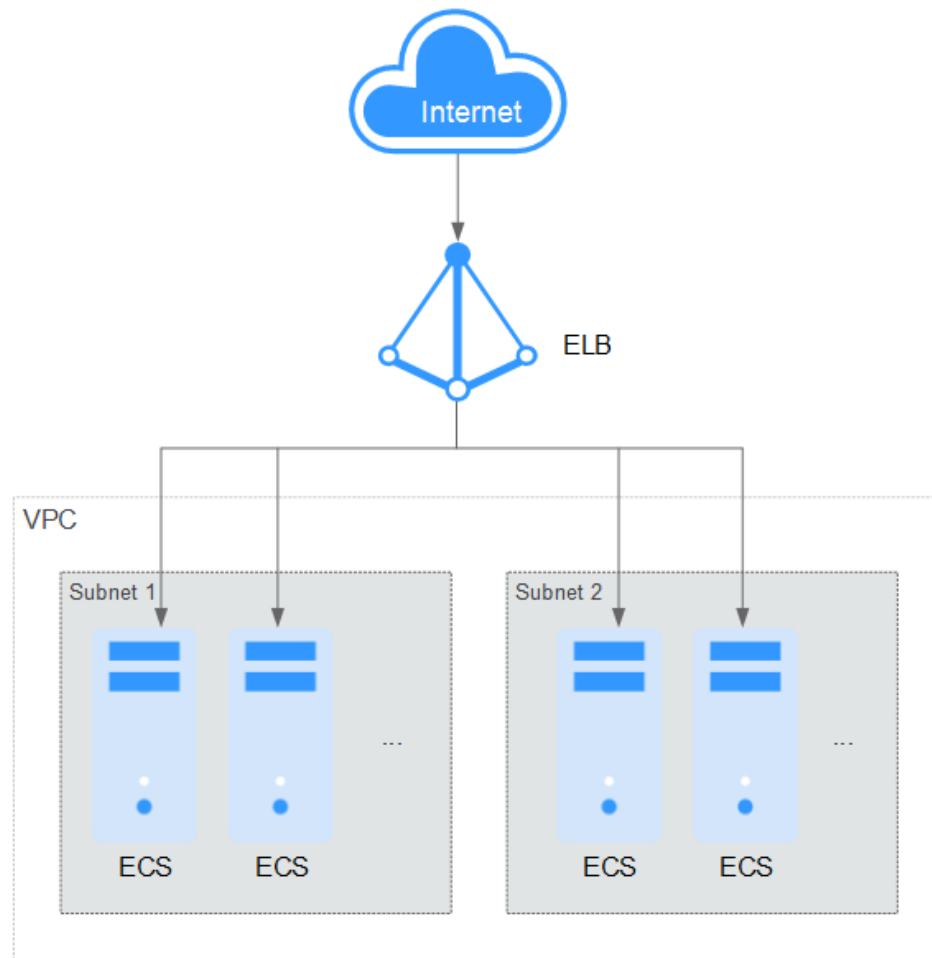
Accessing the Internet

- Single ECS accesses the Internet.

  When an ECS needs to access the Internet, you can bind an EIP to the ECS so that the ECS can access the Internet. Huawei Cloud allows your EIP to be billed on a pay-per-use basis. If you do not need to use the EIP, you can flexibly unbind it.

Figure 1-3 EIP
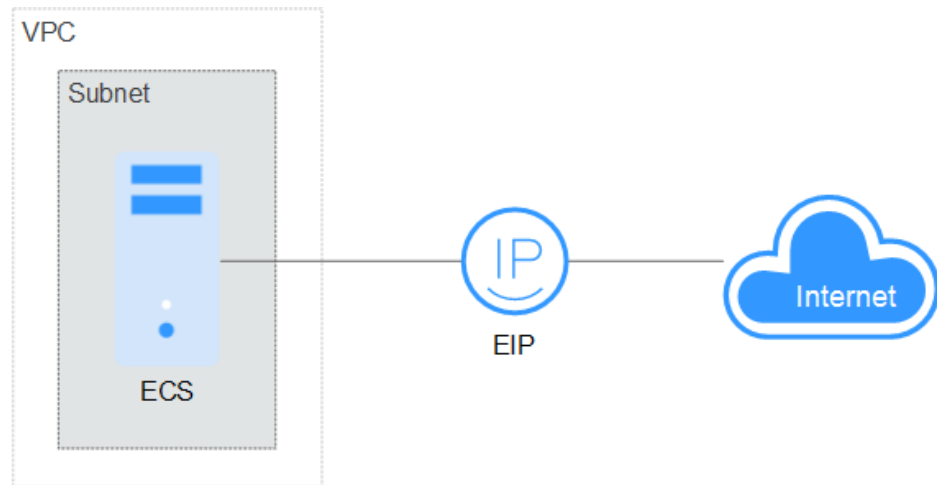
- Multiple ECSs access the Internet.

    If multiple ECSs in your VPC need to access the Internet, you can use a NAT gateway and configure SNAT rules by subnet to allow ECSs in the VPC to access the Internet. If you access to the Internet using an EIP but with no DNAT rules configured, external users cannot directly access the public network address of the NAT gateway through the Internet, ensuring ECS security.

Figure 1-4 NAT gateway
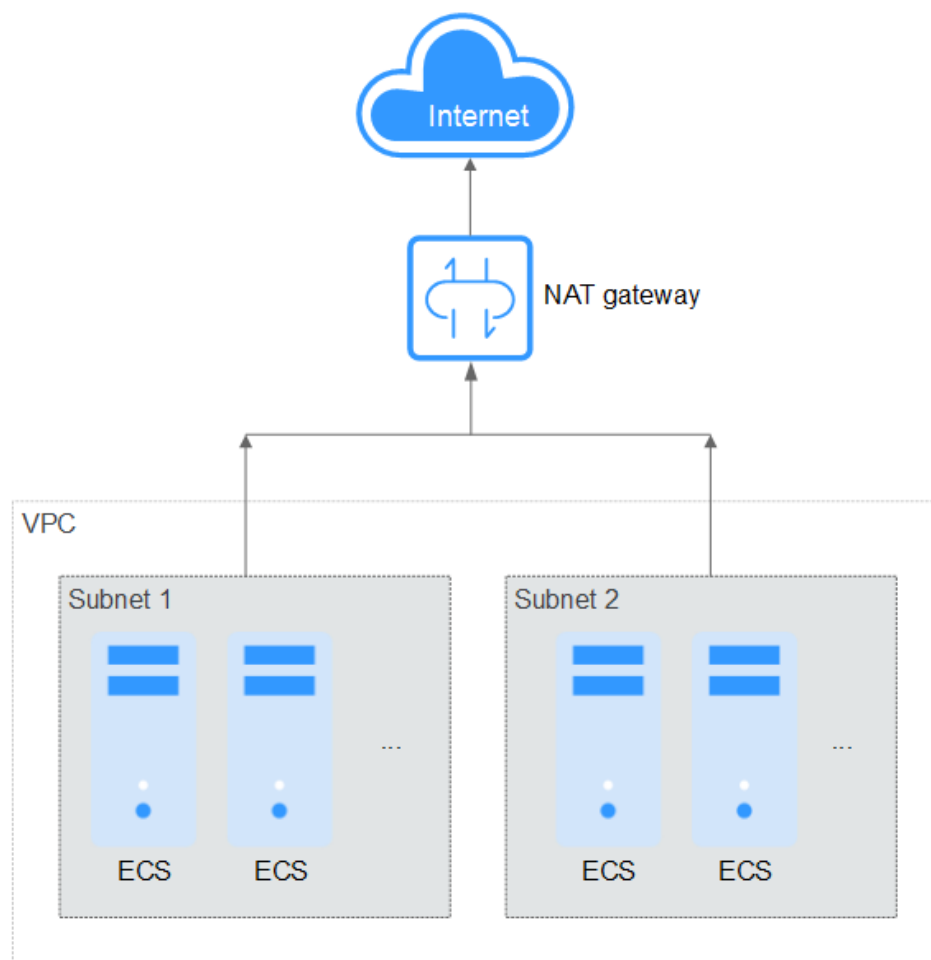
2 Lower Public Network Costs

You can select a proper bandwidth and billing mode based on your service requirements.

Shared Bandwidth

A shared bandwidth is an independent bandwidth product. You can **add pay-per-use EIPs to a shared bandwidth** to allow the EIPs to share the bandwidth. You can bind EIPs to resources such as ECSs, NAT gateways, and load balancers so that these resources can use the shared bandwidth. For more information, see **Shared Bandwidth Overview**.

Table 2-1 describes the scenarios and cost savings of different billing modes of shared bandwidth.

Table 2-1 Examples of cost savings when you use a shared bandwidth

Billing Mode	Scenario	Example
Pay-per-use (billed by bandwidth)	You host a large number of applications on the cloud. If each ECS uses a dedicated bandwidth, a lot of bandwidths are required, which incurs high costs. You can add your instances to a pay-per-use shared bandwidth (billed by bandwidth). This can reduce network operations costs especially for workloads with different traffic peaks and troughs.	**Using pay-per-use EIPs (billed by bandwidth), each with a dedicated bandwidth:** Assume that you have 10 ECSs in the same region and each ECS has an EIP bound. Each EIP is billed by bandwidth with a maximum value of 100 Mbit/s. In this case, you need to pay the price of 10 EIPs each with a maximum bandwidth of 100 Mbit/s, that is, $427.2 USD per day. **Using a pay-per-use shared bandwidth (billed by bandwidth):** Traffic analysis of 10 EIPs shows services reach peaks and troughs at different times. The peak outbound bandwidth of the 10 ECSs to the Internet is about 500 Mbit/s. You only need to purchase one shared bandwidth of 500 Mbit/s for the 10 ECSs to share. Each ECS can enjoy a peak bandwidth 5 times higher than the original one, and you only need to pay $213.6 USD per day for the 500 Mbit/s of shared bandwidth, saving $213.6 USD per day, or about 50% of the bandwidth cost.
Yearly/ Monthly (billed by bandwidth)	For long-term workloads with stable traffic, you can select a yearly/monthly shared bandwidth (billed by bandwidth).	**Using a pay-per-use shared bandwidth (billed by bandwidth):** Assume that you buy a pay-per-use shared bandwidth of 500 Mbit/s and use it for one month (30 days). You need to pay $6,408 USD. **Using a yearly/monthly shared bandwidth (billed by bandwidth):** You can buy a yearly/monthly shared bandwidth of 500 Mbit/s for one month at $4,275 USD. This is about 33% lower than that of a pay-per-use shared bandwidth billed by bandwidth.

> **NOTICE**
>
> The prices are just for your reference. See the actual prices by visiting **EIP Pricing Details**.

Example of Public Network Cost Saving

The table below recommends bandwidths for various scenarios. You can choose one based on your service needs and adjust as necessary to optimize resource use and costs.

Table 2-2 Recommended bandwidth in different scenarios

Scenarios	Traffic Feature	Recommended Solution
Enterprise or SaaS applications	The traffic peak is stable and the usage period is long.	• Use a **yearly/monthly** dedicated bandwidth or shared bandwidth.
E-commerce platforms and gaming services	Traffic shows strong, periodic fluctuations, while services require long-term deployment.	Use a shared bandwidth billed by **bandwidth** to reduce costs.
E-commerce and gaming promotions	The traffic fluctuates greatly and the service period is short.	Use a **pay-per-use** dedicated bandwidth **(billed by traffic)**.

3 Using a Shared Bandwidth to Enable ECSs to Access the Internet via the Same Network Egress

Scenarios

A shared bandwidth allows multiple EIPs in the same region to share the same bandwidth. After a shared bandwidth is assigned, you can add multiple EIPs in the same region to the shared bandwidth. In this way, multiple EIPs can share the same bandwidth and their public network egresses can be managed in a unified manner. You can bind EIPs to ECSs, NAT gateways, or load balancers. After the EIPs are bound, these instances share the same bandwidth.

This section describes how to use shared bandwidths to provide unified public network egresses for ECSs.

Scenario 1: ECSs with EIPs Bound Using a Shared Bandwidth

If you have ECSs that have EIPs bound, you can add these EIPs to a shared bandwidth to manage the public network egress in a unified manner.

Configuration Process

Figure 3-1 Configuration process for ECSs with EIPs bound using a shared bandwidth

Procedure

1. Buy a shared bandwidth in the region where the ECSs are located.

   For details, see **Assigning a Shared Bandwidth**.

2. Add the EIPs bound to the ECSs to the shared bandwidth.

   For details, see **Adding EIPs to a Shared Bandwidth**.

Scenario 2: ECSs Without EIPs Bound Using a Shared Bandwidth

If you have ECSs that need to have EIPs bound, you can add the EIPs to a shared bandwidth when assigning the EIPs to manage the public network egress in a unified manner.

Configuration Process

Figure 3-2 Configuration process for ECSs without EIPs bound using a shared bandwidth

Procedure

1. Buy a shared bandwidth in the region where the ECSs are located.

   For details, see **Assigning a Shared Bandwidth**.

2. Buy EIPs and add them to the shared bandwidth.

   a. If there are **no available EIPs** in the region where the ECS is located, **buy an EIP** and add it to the shared bandwidth.

   b. If there are **available EIPs** in the region where the ECS instance is located, select an EIP and **add it to the shared bandwidth**.

3. Bind the EIPs to the ECS.

   For details, see **Binding an EIP to an Instance**.

Related Operations

Unbinding an EIP from an Instance: Unbind an EIP when the EIP is no longer required.

Releasing or Unsubscribing From an EIP: Release a pay-per-use EIP or unsubscribe from a yearly/monthly EIP when the EIP is no longer required.