Public IP Addresses

Overview

A public IP address is an IP address that can be accessed directly via the Web and assigned by your Internet Service Provider (ISP) to your network router. Your device also has a private IP; the IP remains hidden once it connects to the network through the router's public IP. Using a public IP address to connect to the Internet is like using a PO Box instead of providing your home address. It's a bit more secure but more noticeable. If the resource on your tenant is to be directly accessible from the network, it must have a public IP address. Depending on the type of resource, there may be other requirements. Certain types of resources in the lease are designed to be directly accessible from the Web and automatically include a public IP address. For example, NAT gateway or a general load balancer. What can now access other types of resources as long as they are configured? For example, the instance in your VCN.

Public IP Address

The public (external) IP address is assigned to each device connected to the Web, and each IP address is unique. Therefore, it is impossible to have two devices with the same public IP address. This addressing scheme allows widgets to "search" and exchange information online. The user cannot control the (public) IP address assigned to the device. Since the device is connected to the network, the network service provider will transfer a public IP address to the machine as soon as possible. This usually doesn't seem right. Public IP addresses are generally static, dynamic, or shared.

Static IP

Public static is sometimes referred to as private, meaning that the IP address never changes and is linked to a user, device, server, or website. A web service provider provides unique and constant IP addresses for different routers (they never change for each device). In this case, the router performs the NAT process instead of the ISP, so when the router sends or receives data from a remote host on the Web, the ISP is "transparent."

Most users do not need a static IP address, but when external devices, websites, or users must remember their IP address for continued use, a static IP address is essential.

For example, if you continuously need to access a tool remotely. Since the IP address never changes, you or other users only need to remember one IP address at any given time to be successful on the device.

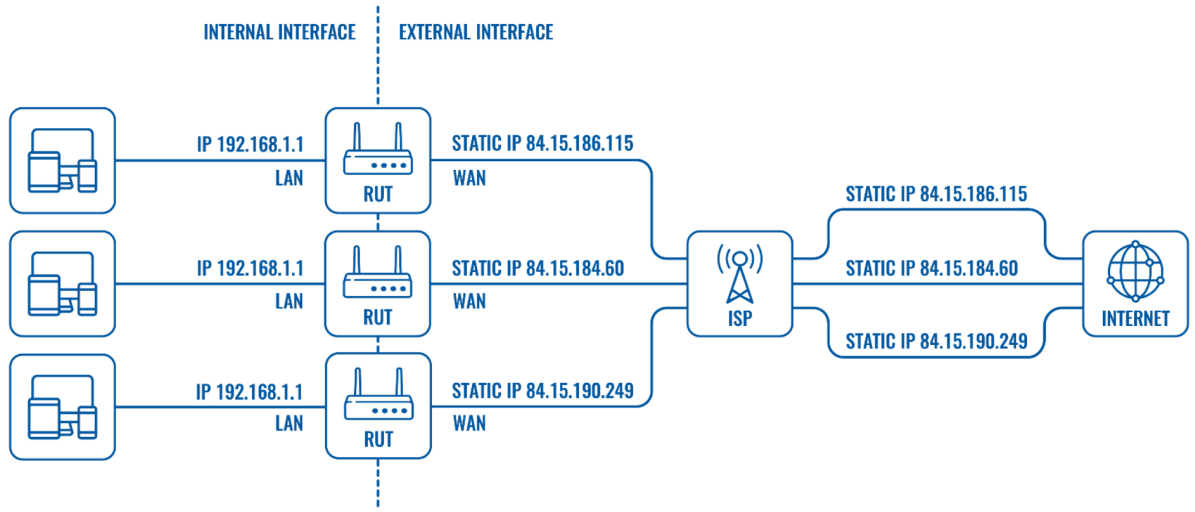

Figure 1: Static IP

Shared IP

Shared IP in some cases, an ISP can assign a public IP address to a group of users and then use NAT to isolate their traffic. We all know that multiple devices (even websites) can share a public IP address. The ISP provides the customer with a private WAN IP address and then uses NAT to distinguish which host a particular packet should be directed to. However, shared IP has a massive disadvantage because the owner of the tool or website is no longer the only entity responsible for its IP address. For example, if one of the multiple users with the same IP address commits some cybercrime so that IP address is blocked, what will also block all users using that IP. You can find more information about Network Address Translation (NAT) here.

Dynamic IP address

A dynamic public network means that the IP address may change from time to time (for example, once you lose the connection and reconnect, the ISP may change the address periodically). We all know that in the case of a dynamic IP address, the ISP provides a private WAN IP address for the router and then "translates" it to a public IP address when connecting to a remote host on the Web. The most significant difference with a static IP address is that the dynamic IP provided by the ISP is not permanent. They will change when the router disconnects and reconnects, re-registers with the network

operator, or in some cases, the ISP may periodically update the IP address. When it comes to remote access, dynamic IP complicates things because it is impossible to know the external IP address at any given time. Although the use of dynamic IP addresses for remote access is more complicated, it is not impossible; what can achieve it by using active DNS services (Service → Dynamic DNS). Naming services or DNS provide names for IP addresses (for example, www.google.com, www.facebook.com). Dynamic DNS will periodically rebind the IP address to the hostname. Therefore, when using dynamic DNS, you only need to remember the hostname to be successful on the selected device at any given time, although its IP address may change from time to time.