Content

Chapter 1   Wireless Function in NAT

1.1 Introduction to the Wireless Function in NAT

NAT (Network Address Translation) belongs to WAN technology, it is a kind of transformation technology from private (retained) address to lawful IP address. It is applied in all kinds of Internet accessing methods and networks. NAT has solved the problem of lack of IP addresses and it can also avoid the attack from external network. It can hide and protect the internal computers.

The wireless function configuration except portal in NAT environment is same to the configuration in non-NAT environment. In NAT, AP should discover the AC to create the cluster.

1.2 Wireless Cluster Configuration in NAT

The wireless cluster function configuration in NAT is as below:

1. AC is connected to the private network and it is connected to the public network through NAT device.
    a. Map the UDP and TCP protocols of 57776-57779 port of AC on NAT device.
    b. Configure the public IP address that AC mapped on AP. Login the web page of AP and configure the public IP address that AC mapped on AP mode page.
2. AC is connected to the public network.
    a. Configure the public IP address that AC mapped on AP. Login the web page of AP and configure the public IP address that AC mapped on AP mode page.

1.3 Portal Authentication Configuration in NAT

The portal authentication configuration in NAT is as below:

1. Enable the virtual IP map on-off

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Command	Explanation
Portal Global Configuration Mode	
virtual-ip-map enable **no virtual-ip-map enable**	Enable the virtual IP map function. The no command disables this function.

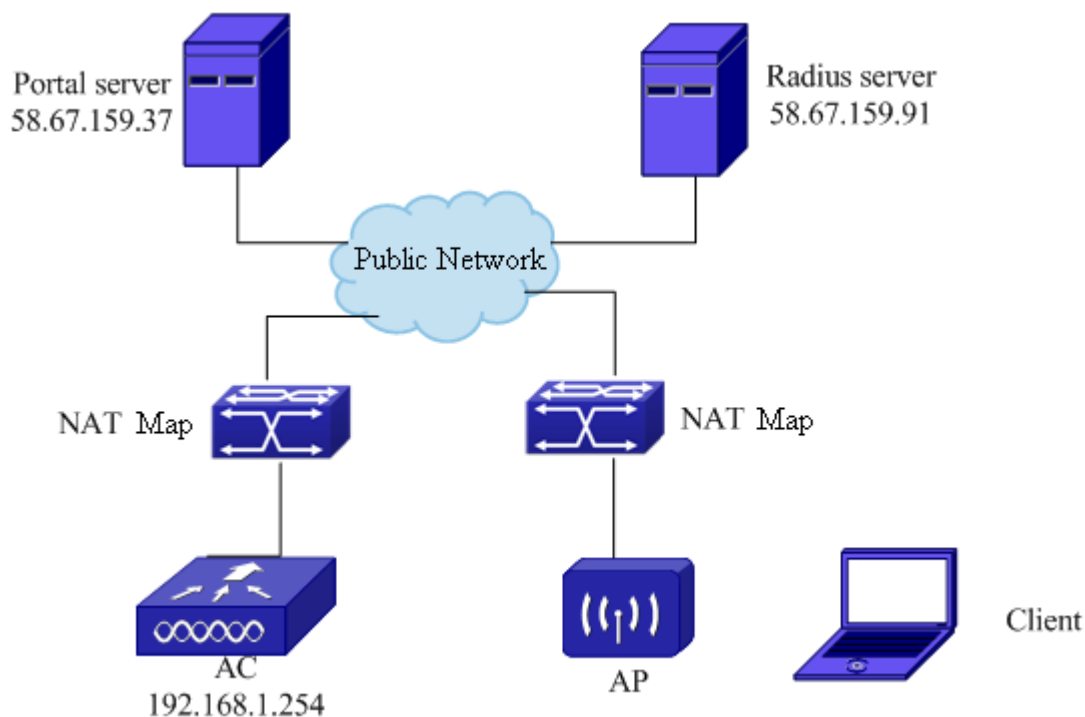# 1.4 Portal Authentication Configuration in NAT Example

Typical case:

Fig 1-1 Case of Portal Authentication Configuration in NAT

As shown in the above figure, AC and AP are both connected to the public network through the NAT map. The portal server and radius server are both in the public network. After the client is associated with AP, the virtual ip map function should be configured for the portal authentication.

The configuration is as below:

1. Configure the authentication key, authentication server, accounting server and aaa mode of the radius server.

AC(config)#radius-server key 0 test

AC(config)#radius-server authentication host 58.67.159.91

AC(config)#radius-server accounting host 58.67.159.91

AC(config)#aaa-accounting enable

AC(config)#aaa enable

AC(config)#radius nas-ipv4 192.168.1.254

AC(config)#radius source-ipv4 192.168.1.254

AC(config)#aaa group server radius wlan

AC(config-sg-radius)#server 58.67.159.91

2. Under the captive portal mode, create the cp instance, the configuration is as below.

AC(config)#captive-portal

AC(config-cp)#enable

AC(config-cp)#external portal-server server-name nat ipv4   58.67.159.37 port 2000

AC(config-cp)#free-resource 1 destination ipv4 58.67.159.37/32 source any

AC(config-cp)#configuration 1

AC(config-cp-instance)#enable

AC(config-cp-instance)#radius accounting

AC(config-cp-instance)#radius-acct-server wlan

AC(config-cp-instance)#radius-auth-server wlan

AC(config-cp-instance)#redirect attribute ssid enable

AC(config-cp-instance)#ac-name 0100.0010.010.00

AC(config-cp-instance)#redirect url-head http://58.67.159.37/index.jsp

AC(config-cp-instance)#portal-server ipv4 nat

AC(config-cp-instance)#interface ws-network 1

3. Configure the network and apply it.

AC(config-wireless)#network 1

AC(config-network)#ssid portal-nat

AC(config-network)#security mode none

AC(config-network)#exit

AC(config-wireless)#ap profile 1

AC(config-ap-profile)#radio 1

AC(config-ap-profile-radio)#vap 0

AC(config-ap-profile-vap)#network 1

AC#wirelessap profile apply 1

4. Configure the virtual IP map of portal function in NAT.

AC(config-cp)#virtual-ip-map enable

After enabled the virtual IP map function, the IP address of client can be mapped to be the virtual IP, and it can make the client conduct the portal authentication normally in NAT.

1.5 Portal Authentication Configuration in NAT Troubleshooting

If there are problems in using the portal authentication function in NAT, please check the following reasons.

☞ Check if the corresponding network of ssid which is associated with the client is bound to the cp instance.

☞ Input the command of **show running-config current-mode** under the captive portal global mode to check if the virtual IP map function is configured.

☞ If there is no problem in above steps, please input the command of **show version** and **show wireless ap version status** to check if the versions of AC and AP are matching. If not, please contact with the engineer for replace the version.