Content

Chapter 1   DNS White-list Configuration

1.1 Introduction to DNS White-list

According to <China Mobile Wireless LAN (WLAN) AP, AC Equipment Test Specification>, AP and AC should support DNS white-list function. Currently, AP supports the portal authentication and 802.1x authentication. In portal authentication, the DNS packets are allowed transmitting as default. As the requirement of testing case, the DNS packets can be allowed transmitting only in DNS white-list. In the 802.1x authentication, user can access the network only after the successful authentication, when the DNS white-list function is joined in 802.1x authentication, the DNS server that user uses in accessing the network must be in the DNS white-list.

The DNS white-list function needs a new module named DNS white-list module for being unconcerned with the authentication. The process is as below:

(1) Mapd receives the DNS white-list configuration that the AC sends; it can analyze the DNS white-list configuration and send it to the DNS white-list module.

(2) After DNS white-list module received the white-list configuration, the DNS white-list hook function can achieve the DNS white-list checking according to the configuration.

(3) Add the DNS white-list hook function in the driver for the DNS white-list checking.

1.2 DNS White-list Configuration

The DNS white-list configuration is as below:

1. Enable the DNS white-list on-off

2. Configure the DNS white-list items

    1) Configure the DNS white-list table entries

    2) Send the DNS white-list configuration message to the managed AP

3. View the DNS white-list function configuration result

4. Configure the debug of DNS white-list

1. Enable the DNS white-list on-off

Command	Explanation
Ap-group Mode	
dns-server white-lis **no dns-server white-lis**	Enable the dns white-list function; the no command disables the on-off.

2. **Configure the DNS white-list items**

1) **Configure the DNS white-list table entries**

Command	Explanation
Ap-group Mode	
dns-server **white-list** **[IPv4Addr|IPv6Addr]** **no** **dns-server** **white-list** **[IPv4Addr|IPv6Addr]**	Configure the dns white-list table entries. The no command deletes the dns white-list table entries. 10 DNS white-list table entries are supported of each AP group.

2) **Send the DNS white-list configuration message to the managed AP**

Command	Explanation
Admin Mode	
wireless ap dns-server white-list apply [ap-group <groupName>|<apMac>|]	Send the dns white-list configuration message to the mac of the appointed managed AP or the managed AP under the AP group.

3. **View the DNS white-list function configuration result**

Command	Explanation
Admin Mode	
show **wireless** **dns-server** **whitelist** **[ap-group WORD]**	View the DNS white-list configuration.

4. **Configure the debug of DNS white-list**

Command	Explanation
Admin Mode	
**debug wireless ap-config packet {send	receive	dump} <macaddr>** **no debug wireless ap-config packet {send	receive	dump} <macaddr>**	Enable/disable the debug information of the AP configuration file updating.
debug wireless ap-config packet internal <macaddr> **no debug wireless ap-config packet internal <macaddr>**	Enable the internal debug information of the AP configuration updating.

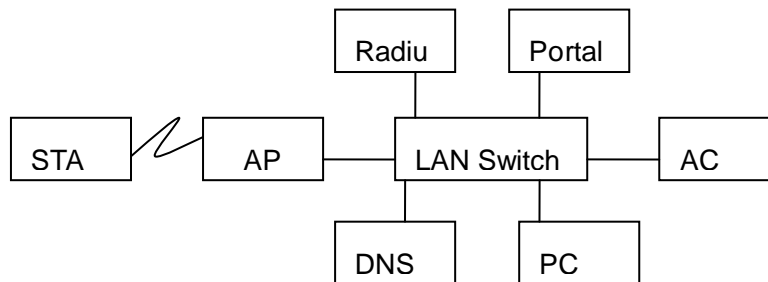# 1.3 DNS White-list Configuration Examples

Fig 1-1 DNS white-list application topology

Topology explanation: AP is managed by AC through ap-group 1.

Application: after AP is managed by AC, send the DNS white-list configuration message through AC:

1) Create AP group

AC(config-wireless)#ap-group 1

2) Make the managed AP join into the AP group 1 and the default MAC address of AP is AP name.

AC (config-ap-group)#permit-ap-name 00-03-0f-c3-c4-30

3) Enable the DNS white-list function under the ap-group.

AC(config-ap-group)#dns-server white-list

To apply the configuration, please use 'wireless ap dns-server white-list apply (ap-group <apGroupName>|<apMac>|)'!

AC#wireless ap dns-server white-list apply ap-group 1

4) Configure the items of DNS white-list.

AC(config-ap-group)#dns-server white-list 1.1.1.1

To apply the configuration, please use 'wireless ap dns-server white-list apply (ap-group <apGroupName>|<apMac>|)'!

AC(config-ap-group)#dns-server white-list 2.2.2.2

To apply the configuration, please use 'wireless ap dns-server white-list apply (ap-group <apGroupName>|<apMac>|)'!

AC#wireless ap dns-server white-list apply ap-group 1

5) View the result of the DNS white-list configuration.

AC#show wireless dns-server white-list ap-group 1

AP-Group Name:1

  DNS Server White List Mode: Enable

  DNS Server White List Entry: 1.1.1.1

                            2.2.2.2

1.4 DNS White-list Configuration Troubleshooting

When there is problem in using DNS white-list function, please check the following reasons:

☞ The same AP name is not allowed configuring in multiple AP groups.

☞ AC only sends the DNS white-list configuration message to the managed AP under the AP group.

☞ When adds a AP name in AP group, user should send the DNS white-list configuration message to the new AP by using the command manually.