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Chapter 1 Load-Balance

1.1 Introduction to Load-Balance

1.1.1 Overview of Load-Balance

As shown in the following picture (such as a single AC, 2 APs and some clients), there are two APs connect to the same AC. Currently, there are many clients connected to AP1 and one client connected to AP2. Supposing that, the network has a new client, and the new client asks for association to AP1, if you want to keep the system's load-balance, at this time you should enable load-balance configuration to regulate the system. Load-balance is mainly used to the situation of most of AP are densely deployed, there may be some overlapping channels between different APs, at this time enabling load-balance function will be propitious to regulate AP's load, which will make the whole system's function more philbert and users will better experience.

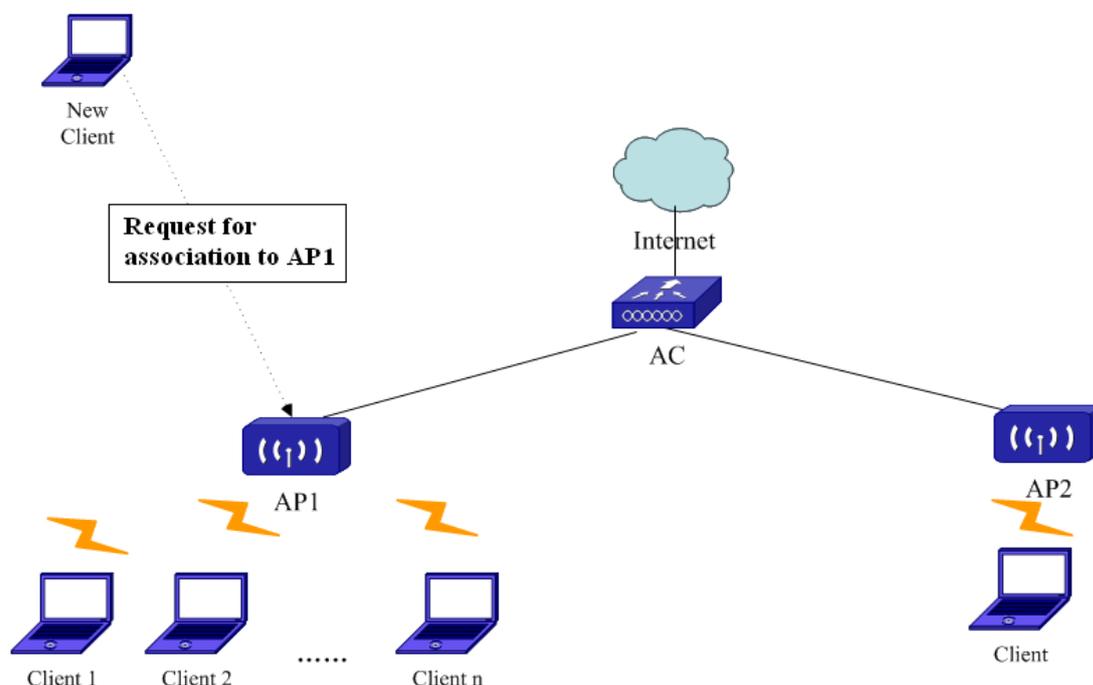


Fig 1-1 diagram of client access

Load-balance is mainly used among some APs that connected to one AC, so there is no load-balance among APs that connected to different ACs. AC supports two modes of load-balance: the load-balance based on session mode and the load-balance based on flow mode.

1.1.2 Load-balance Based on Session Mode

Basing on the session mode, load-balance is considered the number of client associated with wireless systems and AP to decide whether to accept a new client association requests. If the current number of client associated with AP has exceeded the largest number of client which can be associated with the configured AP before enabling load-balance, and the difference of the number of the clients that associated with the current AP and the number of the clients associated with other APs which is connected to the same AC as the current AP exceeds the threshold of the system configuration, the AC will enable the load-balance function. When the number of AP refusing the client connection requests because it is enabled load-balance reaches the threshold of the system configuration, the AP should accept association requests from the current client if this client re-association request is sent to the current AP again.

In Fig 1-1, assume the number of clients that are managed by AP1 and AP2 has reached the largest number of 10, the new client cannot associate with it; set AP1 associated with 10 clients, AP2 associated with 3 clients, the difference of the clients that associate with the different APs on the same AC exceeds the configured threshold of 4, the current AP enables the load-balance function, the new client associates to AP1 unsuccessfully, then it will associate with AP2; when the system is enabled load-balance, if the times of new client request to associate with AP1 reach the threshold of the system configuration 3, then the client re-associating to AP1 will be successful.

1.1.3 Load-balance Based on Flow Snapshot Mode

In the flow snapshot mode, when a new client comes to associates, the system will determine if enable load-balance on current AP according to the flow on AP. If the data flow of the current AP has exceeded the configured maximum data flow of the single AP allowing before it is enabled the load-balance, and the difference of the data flow on the current AP and the data flow of the other APs that connected to the same AC as the current AP exceeds the threshold of the configuration data flow, then the current AP should enable load-balance function. When the number of AP refusing the clients connection requests because it is enabled load-balance reaches the threshold of the system configuration, if this client requests to associate with the current AP again, then the AP will accept of the current client request.

1.1.4 AP Load-balance Groups Configuration

In practical applications, before client joins the network, it usually scans lots of AP devices and sends association request frames to many devices. At this time, in order to balance the load of every AP that has received the client association request frames,

more than one load-balance groups are needed to be created in system. When users under the configuration mode set the load-balance mode that was referenced by this configuration mode, the system will make up every AP that use this load-balance configuration template to be a load-balance group. A new AP load-balance group has been created. The system can create 16 load-balance configuration templates at most and load-balance configuration template 1 is the default, it is created after the system startup. If the current load-balance group only has one AP, the AP does not start the load-balance function.

1.1.5 Enable Load-balance on AC

In practical applications, before client join the network, it usually scans lots of AP devices and sends association request frames to many devices. At this time, in order to balance the load of every AP that has received the client association request frames, the load-balance function should be enabled on the AP with a heavy task. When the AC received client association request packet from an AP, the AC will compare the current AP with the other APs which are from the same load-balance group as the current AP, and the APs must be in the neighbor AP list of the current client (APs must have been directly managed by the current AC). Decide whether to enable the load-balance function according to the result of comparison.

1.2 Load-balance Configuration

1. Create/delete load-balance mode

Command	Explanation
Wireless Global Mode	
ap load-balance template <1-16> no ap load-balance template <1-16>	Create load-balance configuration mode, the no command deletes it.

2. Enable/disable the load-balance function of AP

Command	Explanation
Load-balance Configuration Mode	
load-balance {session traffic} no load-balance	Enable load-balance function and the no command disables this function.

3. Configure the load-balance configuration mode of the appointed AP configuration mode

Command	Explanation
AP Profile Configuration Mode	

load-balance template <1-16> no load-balance template	Configure the load-balance configuration mode for the appointed AP configuration mode. The no command deletes it.
--	---

4. Configure the client number threshold that AP can associate with when enabling load-balance and configure the difference threshold of the client number which requests to associate with the AP and the client number which associates to other APs in the same load-balance group as that AP

Command	Explanation
Load-balance Configuration Mode	
load-balance session window <1-256> threshold <1-8> no load-balance session	Configure the client number threshold that AP can associate with when enabling load-balance and configure the difference threshold of the client number which requests to associate with the AP and the client number which associates to other APs in the same load-balance group as that AP. The no command recovers it to be default.

5. Configure the data flow threshold on AP when enabling load-balance and configure the difference threshold of the data flow that client requests to associate with the AP and the data flow that client associates to other APs in the same load-balance group as that AP

Command	Explanation
Load-balance Configuration Mode	
load-balance traffic window <1-100> threshold <1-100> no load-balance traffic	Configure the data flow threshold on AP when enabling load-balance and configure the difference threshold of the data flow that client requests to associate with the AP and the data flow that client associates to other APs in the same load-balance group as that AP. The no command recovers to be default.

6. After enabling load-balance, configure times an AP can refuse the client association requisition before AP accept the client

Command	Explanation
Load-balance Configuration Mode	

load-balance denial <0-10> no load-balance denial	After enabling load-balance, configure times an AP can refuse the client association requisition before AP accept the client. The no command recovers to be default.
--	--

7. Enable/disable the internal debug on-off of load-balance function on the AP

Command	Explanation
Admin Mode	
[no] debug wireless load-balance internal <macaddr>	Enable/disable the internal debug on-off of load-balance function on the AP.

1.3 Load-balance Configuration Examples

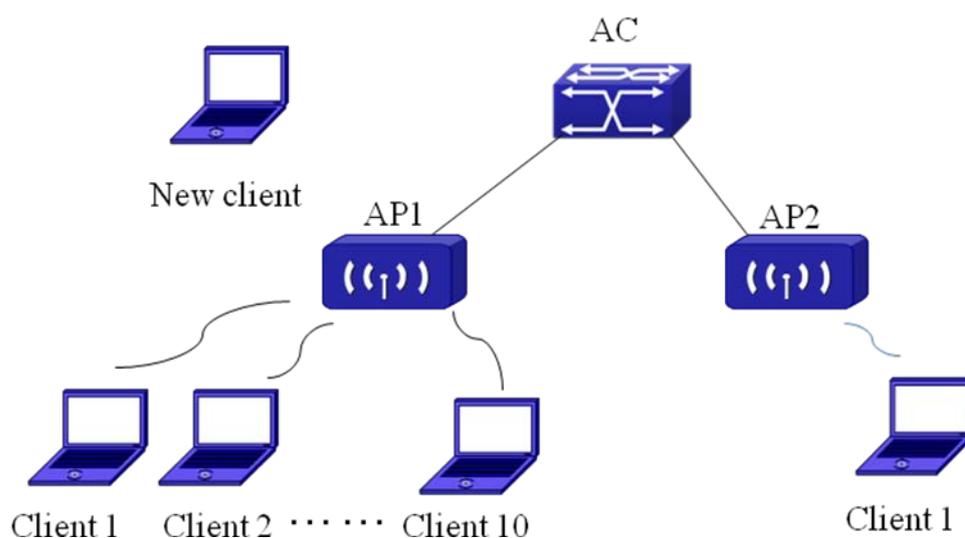


Fig 1-2 load-balance topology

AC configuration:

Conduct load-balance function under session mode:

Create template:

```
AC(config-wireless)#ap load-balance template 1
```

Enable session mode of load-balance function and set threshold

```
AC(config-load-balance)#load-balance session
```

```
AC(config-load-balance)#load-balance session window 10 threshold 2
```

Enter ap profile 1 and add load-balance template of 1

```
AC(config-wireless)#ap profile 1
```

```
AC (config-ap-profile)#load-balance template 1
```

Set refusing times as 5:

```
AC(config-load-balance)#load-balance denial 5
```

Enable debug message:

```
AC#debug wireless load-balance internal 00-03-0f-18-ec-d0
```

A new client requests to associate with AP1. Because AP1 refuses this client association, two situations will occur, one is AP1 directly refuses the client connection and make it connect to AP2, another is AP1 accept the connect request of this client after AP1 continuous to refuse client connection five times.

Conduct load-balance function under traffic mode:

Create template:

```
AC(config-wireless)#ap load-balance template 1
```

Enable traffic mode of load-balance function and configure threshold:

```
AC(config-load-balance)#load-balance traffic
```

```
AC(config-load-balance)#load-balance traffic window 40 threshold 20
```

Enter ap profile 1 and add load-balance template of 1:

```
AC(config-wireless)#ap profile 1
```

```
AC (config-ap-profile)#load-balance template 1
```

Set refusing times as 5:

```
AC(config-load-balance)#load-balance denial 5
```

At this time, the traffic passed by AP1 exceeds 40M and the traffic passed by AP2 is 20 less than AP1. A new client requests to associate with AP1. Because AP1 refuses this client association, two situations will occur, one is AP1 directly refuses the client connection and make it connect to AP2, another is AP1 accept the connect request of this client after AP1 continuous to refuse client connection five times.

1.4 Load-balance Troubleshooting

- ☞ Enable load-balance is AC's responsible, not AP's, so load-balance can be enabled under no configuration was issued.
- ☞ The whole number of the client that associated with AP under session mode has exceeded the maximum number that a single AC can contain, and the difference of the client number that connected to the AP and the client number that connect to the other APs (two APs are on the same AC and in the same load-balance group) is larger than the configured threshold then the system will enable the load-balance function under the session mode.

- ☞ Under the flow mode, when the traffic that throw the current AP is more than the configured threshold and the difference of that traffic and the traffic on other APs (two APs are on the same AC and in the same load-balance group) is greater than the configured threshold, then the load-balance function of traffic mode will be enabled.

Chapter 2 5G Priority Configuration

2.1 Introduction to 5G Priority

802.11n network is compatible with 802.11a/g network. In the transmission rate, 802.11n can provide the rate of 300Mbps to 600Mbps; this is higher than the rate of 52Mbps that the 802.11a and 802.11g provide. It provides more efficient wireless access service for users.

In the dual network, the client will connect to the 2.4GHz network as default. It will cause the excessive pressure to the 2.4GHz band, but the 5GHz band resources are not used. So too many users are in 2.4GHz, the density is large, the 5GHz band resources are wasted. The user Internet experience is too bad.

For ensuring the user communication requirements, the wireless clients should be connected to the radio. For the dual clients, they can be forced to connect to the 5GHz. So the problem that guiding the dual AP to connect to the 5GHz network in priority to balance the load of the two bands for more throughputs should be solved. The 5G priority means: for the dual clients, AP does not response the 2.4G probing request and association that the clients send. It refuses the 2.4G access and only responses the 5G probing request and association to guide the dual clients to associate with the 5G band.

2.2 5G Priority Configuration

The 5G priority configuration on AC is as below:

1) Enable/disable the 5G priority function

Command	Explanation
Wireless Profile Config Mode	
band-select enable no band-select enable	Enable/disable the 5G priority function.

2) 5G priority configuration is issued

Command	Explanation
Wireless Profile Config Mode	
band-select download	Issue the 5G priority configuration in time.

3) Configure the band-select cycle count/configure the scanning interval of the band-select cycle-count.

Command	Explanation
Wireless Profile Config Mode	

<p>band-select cycle-count <1-50> no band-select cycle-count</p>	<p>band-select cycle-count <1-50>: Configure the band-select cycle count to probe the client; no band-select cycle-count: the cycle-count is recovered to be the default value of 30.</p>
<p>band-select cycle-threshold <200-5000> no band-select cycle-threshold</p>	<p>band-select cycle-threshold <200-5000>: configure the scanning interval of the band-select cycle-count to probe the client; no band-select cycle-threshold: the cycle-threshold is recovered to be the default value of 1000.</p>

4) Configure the signal strength threshold of the 5G priority client.

Command	Explanation
Wireless Profile Config Mode	
<p>band-select client-Rssi <0-90> no band-select client-Rssi</p>	<p>Configure the signal strength threshold of the 5G priority client. Only the client whose client-Rssi is higher than the threshold can access normally. <0-90> means the configuration range, the default configuration is 0.</p>

5) Enable/disable and configure the load-balance threshold of 5G priority function

Command	Explanation
Wireless Profile Config Mode	
<p>band-select load-balance session <0-40> [gap <1-8>] no band-select load-balance</p>	<p>band-select load-balance session <0-40> [gap <1-8>]: Enable the load-balance threshold of 5G priority function (single AP), configure the threshold. session <0-40> means the threshold of the connected clients on 5GHz, the default value is 0 (disable); when the value is higher than the threshold and the value of gap is satisfied, the load-balance command will be run. gap <1-8> means the difference of the clients of 5GHz and 2.4GHz, the default value is 4; when the value is higher than the threshold and the value of session is satisfied, the load-balance command will be</p>

	run. no band-select load-balance: disable the load-balance threshold of 5G priority function
--	---

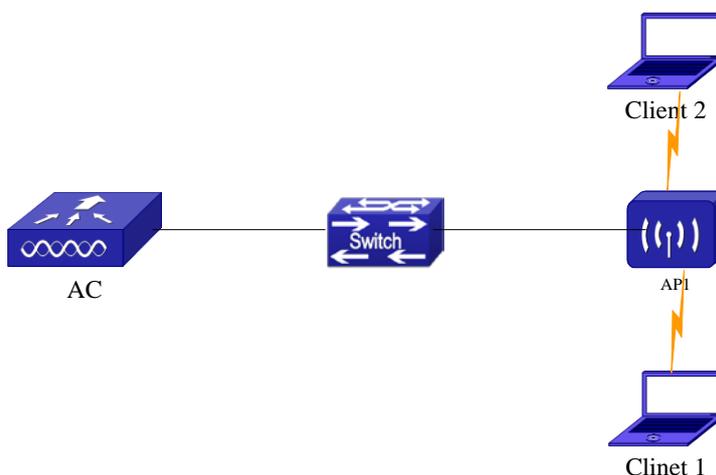
6) Check the 5G priority function status on the current AP

Command	Explanation
Wireless Profile Config Mode	
show wireless ap profile <1-1024> band-select status	Read the 5G priority function status under the profile and print it onto the screen.

7) Configure the AC configuration pushing transmission, push it together with the other configurations under the profile.

Command	Explanation
Wireless Config Mode	
peer-switch configuration ap-profile no peer-switch configuration ap-profile	Configure the AC configuration pushing transmission, the no command means not to push the 5G priority and other profile configurations when configuring the pushing.

2.3 5G Priority Example



AC connects to the ap through the switch or poe, ap is managed successfully. Client1 and client2 are the dual clients.

1. Basic configuration of AC:

AC (config-wireless)#ap profile 1 //Enter into the ap profile configuration mode

AC (config-ap-profile)#band-select enable //Enable the 5G priority

```

AC (config-ap-profile)#band-select client-Rssi 10 //Configure the RSSI value of the
allowed accessing clients
AC (config-ap-profile)#band-select cycle-count 30 //Configure the scanning
cycle-count of client
AC (config-ap-profile)#band-select cycle-threshold 1000 //Configure the scanning
interval of client
AC (config-ap-profile)#band-select download //Issue the 5G configuration
ac6(config-ap-profile)#sho wireless ap profile 1 band-select status
    
```

```

AP Profile ID..... 1
band-select..... enable
band-select cycle count..... 30
band-select cycle threshold..... 1000
band-select client RSSI..... 10
    
```

The corresponding template of Ap1 is profile1. Choose a vap respectively under the radio1 and radio2 and use a network. The ssid is wlan_test.

Before the 5G configuration is issued, client1 and client2 (associate with 2.4GHz in priority) associate with the wlan_test and choose the 2.4GHz in priority.

After the 5G configuration is issued, client1 and client2 associate with the 5GHz successfully.

```

AC(config-ap-profile)#sho wireless client status
    
```

```

MAC Address
(*) Peer Managed VAP MAC Address SSID Status Network
Time
-----
c0-cb-38-3e-11-6f 00-03-0f-27-93-91 wlan_test Auth 0d:07:26:55
c0-cb-38-3e-13-9e 00-03-0f-27-93-91 wlan_test Auth 2d:02:35:29
    
```

2. 5G priority load-balance testing

```

AC (config-ap-profile)#band-select loadbalance session 1 gap 1 //Configure the
parameters of the single ap load-balance: session means the threshold of the connected
clients on 5GHz, gap means the difference of the clients of 5GHz and 2.4GHz. When the
two parameters both exceed the configured value, client will associate with 2.4GHz.
    
```

```

AC(config-ap-profile)#band-select download //Configure to issue
    
```

After the client is disconnected, start the load-balance testing;

Client 1 associates with the wlan_test first, it associates with 5G;

Client 2 starts to associate with the wlan_test, the 5G radio refuses the client 2 accessing, then the client 2 will associates with 2.4G.

2.4 5G Priority Troubleshooting

- ☞ When the 5G priority function is not enabled, client may connect to the 5G radio; this may be related to the network card. In the testing, it should be ensured if the 2.4G radio replies the probe response and association response.

Chapter 3 Fair Time

3.1 Introduction to Fair Time

Under the current WLAN system, there are multiple modes clients. The clients of different modes support the different rate. For the clients of same modes, the transmission rate may be different because of the different wireless environment (the different distance from AP, the hinder between the client and AP). For the packets of the same length, the time that AP sends the packet to the low rate client is longer than the time that AP sends the packet to the high rate client. It causes that the low rate client occupies the channel for a long time and make the high rate client cannot access the channel. It will influence the quality of service of the high rate client and the handling of the network.

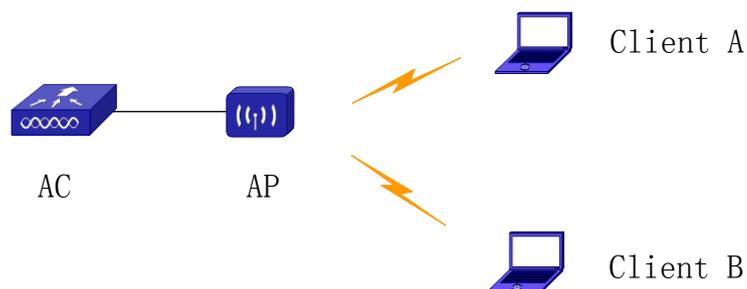
For the fair transmission, there should be the fair scheduling algorithm. The fair time function can make the clients occupy the time slice fair and it can avoid that some clients occupy the wireless resources all the time and other clients cannot get the wireless resource.

Because the WLAN is a kind of interactive network, the downlink schedule mode can influence the uplink packet sending behavior. This function only schedules the downlink flow (packet sending process of AP).

3.2 Fair Time Configuration

Command	Explanation
AP Profile Radio Config	
schedule-mode { default fair preferred } no schedule-mode	Enable the fair time function on AC and there are 3 parameters for selection: default: Configures the schedule-mode as default. It means not to enable the fair time function. fair: Configures the schedule-mode as fair. preferred: Configures the schedule-mode as preferred. no schedule-mode: Disable the fair time function on AC. It means to use the default mode.

3.3 Fair Time Example



As shown above, AP is managed by AC, the schedule-mode is configured as prefer:
AC(config-ap-profile-radio)#schedule-mode prefer
AC#wireless ap profile apply X

After configured successfully, two clients are associated with this AP, one is the 802.11g client, and the other one is the 802.11n client. Test the flow on the two clients, it can be discovered that after the prefer mode is configured, the flow on the 802.11n client is promoted then the one which is not configured the schedule-mode.

Chapter 4 Time-limit Policy

4.1 Introduction to Time-limit Policy

4.1.1 Time-limit Policy Based on SSID

The time-limit policy based on SSID makes SSID as configuration unit and related time parameters are configured under Wireless Network Mode, AC controls AP to finish time-limit function on the basis of configured time parameter. When reaching the start time of time-limit policy, AC sends appointed style message to AP to force the appointed SSID to stop providing connection service to client; but at the end of time-limit policy, AC sends appointed message to AP again to allow this SSID providing connection service to client.

If the current moment is between the time of start and end of configuration, then AC will send appointed style message to AP promptly and stop the appointed SSID providing connection service to client.

4.1.2 Time-limit Policy Based on Radio

The time-limit policy based on Radio makes Radio as configuration unit and related parameters are configured under Wireless Network Mode, AC controls AP to finish time-limit function on the basis of configured parameter. When reaching the start time of time-limit policy, AC sends appointed style message to AP to force appointed AP to close the corresponding Radio and stop receiving and sending packets of WLAN; at the ending moment of time-limit, AC will send appointed message to AP again, after AP receives this message, it will restart Radio and receive and send packets normally.

If the current moment is between the time of start and end of configuration, then AC will send appointed message to AP to disable Radio.

4.2 Time-limit Policy Configuration

1. Configure/cancel time-limit policy based on SSID

Command	Explanation
Network Configuration Mode	

time-limit from <hh:mm> to <hh:mm> weekday {monday tuesday wednesday thursday friday saturday sunday all} no time-limit [from <hh:mm> to <hh:mm> weekday {monday tuesday wednesday thursday friday saturday sunday all}]	Configure the limited period of time of time-limit policy based on SSID, in that period, the SSID stops providing connection service to client, and the current client that has connected with SSID will be forced off-line. The no command cancels part of or all non-UTC time-limit policy SSID configured.
---	---

2. Configure/cancel UTC time-limit policy based on SSID

Command	Explanation
Network Configuration Mode	
time-limit-UTC from <YYYY-MM-DD> <hh:mm> to <YYYY-MM-DD> <hh:mm> {on off} no time-limit-UTC [from <YYYY-MM-DD> <hh:mm> to <YYYY-MM-DD> <hh:mm>]	Configuring the restriction period of time-limit policy based on SSID, in this period, this SSID will enable or pause to providing service to client according to the parameters of on and off; the no command deletes the part of or all UTC time-limit policy SSID configured.

3. Configure/cancel time-limit policy based on Radio

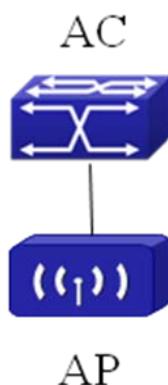
Command	Explanation
Radio Configuration Mode	
time-limit from <hh:mm> to <hh:mm> weekday {monday tuesday wednesday thursday friday saturday sunday all} no time-limit [from <hh:mm> to <hh:mm> weekday {monday tuesday wednesday thursday friday saturday sunday all}]	Configure the non-UTC limit period of the time-limit policy based on radio; the no command cancels part of or all non-UTC time-limit policy of radio.

4. Configure/cancel UTC time-limit policy based on Radio

Command	Explanation
Radio Configuration Mode	

<pre>time-limit-UTC from <YYYY-MM-DD> <hh:mm> to <YYYY-MM-DD> <hh:mm> {on off} no time-limit-UTC from <YYYY-MM-DD> <hh:mm> to <YYYY-MM-DD> <hh:mm></pre>	<p>Configure the limit period of the time-limit policy based on radio; the no command cancels part of or all UTC time-limit policy radio configured.</p>
--	--

4.3 Time-limit Policy Configuration Examples



Making an AC and the AP connect directly, and configure time-limit policy on the AC. First, configure the SSID to bind vap under the net work. And configure a user access limitation policy based on SSID with the time point of 7 to 17 o'clock on Monday.

```
AC #config
```

```
AC (config)# wireless
```

```
AC (config-wireless)# network 2
```

```
AC (config-network)# time-limit from 7:0 to 17:0 weekday Monday
```

Configure an UTC policy based on SSID and after configured this command, user will be reject accessing from 2011-10-1 0:0 to 2011-10-8 23:59.

```
AC(config-network)time-limit-UTC from 2011-10-1 0:0 to 2011-10-8 23:59 off
```

Configure a user access limitation policy based on radio with the time point of 7 to 17 o'clock on Monday.

```
AC#config
```

```
AC(config)# wireless
```

```
AC(config-wireless)#ap profile 1
```

```
AC (config-ap-profile)#radio 2
```

```
AC (config-ap-profile-radio)# time-limit from 7:0 to 17:0 weekday Monday
```

Configure an UTC policy based on radio and after configured this command, user will be reject accessing from 2011-10-1 0:0 to 2011-10-8 23:59.

```
AC (config-ap-profile-radio)# time-limit-UTC from 2011-10-1 0:0 to 2011-10-8 23:59 off
```

4.4 Time-limit Policy Troubleshooting

When configuring restriction policy based on SSID, make the SSID bind vap, then client can search for the SSID and restriction policy can become effective. If the policy does not take effect, please make the following checks:

- ☞ Whether the SSID of the network is enabled.
- ☞ Whether the common policy is included in the effective time of the UTC policy. If it's in, the common policy will be not effective and UTC will be effective.
- ☞ Check if the system time is correct after AC restart.

Chapter 5 Force-roaming

5.1 Introduction to Force-roaming

The force-roaming mainly ensures the quality of client communication. In the conference hall, auditorium and other staff-intensive area, because of large number of users and communications volume, users have higher requirements for communication quality. At the same time, because of the high density deployment and overlapping areas of AP, the client sometimes connects to the distant and poor signal quality AP and turn a blind eye to its near and strong signal quality AP. So it is necessary to force clients to disconnect with the current AP and connect to the near and strong signal quality AP.

5.2 Force-roaming Configuration

Force-roaming configuration task list is as below:

1. Enable/stop the wireless force-roaming function
2. Configure the parameter properties of force-roaming
 - 1) Configure the implementation cycle of force-roaming
 - 2) Configure the RSSI threshold of force-roaming
 - 3) Configure the refusing number threshold of the force-roaming
 - 4) Configure the aging time of refusing number threshold of the force-roaming
 - 5) Configure the threshold of signal strength
3. Launch force-roaming manually

1. Enable/stop the wireless force-roaming function

Command	Explanation
Wireless Global Mode	
force-roaming mode auto no force-roaming mode auto	Enable the wireless force-roaming function. The no command disables this function.

2. Configure the parameter properties of force-roaming

Command	Explanation
Wireless Global Mode	

force-roaming mode auto interval <15-300> no force-roaming mode auto interval	Configure the implementation cycle of force-roaming. The no command recovers to be default.
force-roaming rssi-threshold <1-45> no force-roaming rssi-threshold	Configure the RSSI threshold of force-roaming and the unit is percentage. The no command recovers to be default.
force-roaming denial-count <1-10> no force-roaming denial-count	Configure the refusing number threshold of the force-roaming. The no command recovers to be default.
force-roaming denial-timeout <1-12> no force-roaming denial-timeout	Configure the aging time of refusing number threshold of the force-roaming. The no command recovers to be default.
force-roaming hysteresis <4-28> no force-roaming hysteresis	Configure the signal strength difference which confirms the force roaming. Unit is percentage. The no command recovers to be default.

3. Launch force-roaming manually

Command	Explanation
Admin Mode	
wireless force-roaming [<macaddr>] start	Launch force-roaming manually.

5.3 Force-roaming Configuration Examples

Case:

Two APs are associated and managed by an AC. They are AP1 and AP2. Client is associated with AP1.

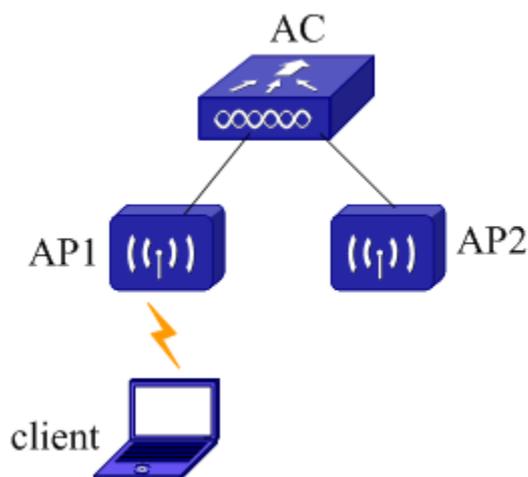


Fig 5-1 Force-roaming configuration

Configuration steps:

1. AC configuration

```
AC(config)#wireless
```

```
AC(config-wireless)#force-roaming mode auto
```

```
AC(config-wireless)#force-roaming mode auto interval 15
```

```
AC(config-wireless)#force-roaming rssi-theshold 1
```

```
AC(config-wireless)#force-roaming denial-count 1
```

```
AC(config-wireless)#force-roaming denial-timeout 1
```

```
AC(config-wireless)#force-roaming hysteresis 4
```

```
AC(config-wireless)#end
```

```
AC#wireless force-roaming start
```

5.4 Force-roaming Troubleshooting

When there are problems of using force-roaming, please check if it is wrong with reasons as below:

- ☞ If the operation of automatic force-roaming is not running, please check whether enable the mode of automatic force-roaming and configure the time interval of automatic-roaming or not.
- ☞ If the operation of automatic force-roaming is not running, please check whether the RSSI value between the current client and AP reached the required value of happening the force-roaming, and its default value is 8.
- ☞ If the operation of automatic force-roaming is not running, please check whether the RSSI difference value between the current client and the neighbor AP reached the required value of happening the force-roaming, and its default value is 10.
- ☞ If the automatic force-roaming does not run when it reached the configured time interval, please make sure that you did not change the time interval in the interval. If

the interval is modified, it will be re-timing.

- ☞ If the force-roaming is not successful when it is enabled, please check whether the refused number of force-roaming Configured is too small. The default configuration is 3. If the configuration number is too small, at the same time, the signal of the destination AP weakens. It will cause the original AP to refuse client association fewer times and make client to associate with the original AP.