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Chapter 1 Commands for Device-Location

1.1 device-location fingerprint ipv4 <eng_ipv4> port <eng_port> interval <2-65535> rssi_filter <enable/disable> scan-type <full-channel/generic-channel>

Command: device-location fingerprint ipv4 <eng_ipv4> port <eng_port> interval <2-65535> rssi_filter <enable/disable> scan-type <full-channel/generic-channel>
no device-location fingerprint

Function: Enable location function, set IP address and port for engine, after set channel scan mode for AP, AP wireless drive start to scan, receive wireless frame of surround phone and other wireless equipment terminal, then parse every data and save needed data for location, smooth the RSSI value in data and send to location engine.

Parameters: <eng_ipv4>: IPV4 address of location engine.

<eng_port>: the port that location engine receive location data.

<2-65535>: interval that AP send location data.

<enable/disable>: open rssi filtrate or not, disable is close.

<full-channel/generic-channel>: full-channel is full-channel scan, generic-channe is generic-channel scan (2.4G only scan channel 1, 6, 11).

Command Mode: AP profile configuration mode

Default: Disable.

Usage Guide: The command enable location function for AP. After enable the function, AC issue profile, open location function related parameters and set scan parameters, AP open location function according to received pprofile configuration after it online.

Example: enable location function for AP, for collected RSSI value that wireless client send in wireless frame, send it to location engine whose IP address is 192.168.1.100.

```
AC(config-ap-profile)#device-location fingerprint ipv4 192.168.1.100 port 10608 interval 2 rssi-filter enable scan-type generic-channel
```

1.2 device-location rf-scan

Command: device-location rf-scan

no device-location rf-scan

Function: Enable wireless rf-scan location function. The no command disables this

function.

Parameters: None.

Command Mode: Wireless Global Mode.

Default: Enable.

Usage Guide: This command is used to enable wireless rf-scan location function. After enabling, wireless AC will conduct to calculate according to the rf-scan data from AP. Use different algorithms according to number of APs to calculate the coordinate of AP or client.

Example: Enable wireless rf-scan location function.

```
AC(config-wireless)#device-location rf-scan
```

1.3 device-location rf-scan interval

Command: device-location rf-scan interval <30-3600>

no device-location rf-scan interval

Function: Configure calculating interval of rf-scan location algorithm. The no command recovers to be default.

Parameters: <30-3600> is the calculating interval of location algorithm.

Command Mode: Wireless Global Mode.

Default: 60s.

Usage Guide: This command is used to configure calculating interval of rf-scan location algorithm. Configure the rf-scan time less than the calculating interval of location algorithm as best. It can make sure the data used in each calculating is the newest.

Example: Configure the calculating interval of location algorithm as 120s.

```
AC(config-wireless)#device-location rf-scan-interval 120
```

1.4 device-location building

Command: device-location building <1-8>

no device-location building <1-8>

Function: Create building of AP and enter the building configuration mode. The no command deletes the appointed building.

Parameters:<1-8> is building ID.

Command Mode: Wireless Global Mode.

Default: None.

Usage Guide: This command is used to Create building of AP and enter the building configuration mode. Locating AP need to configure coordinate in floor of building to participate in location. The no command deletes the appointed building. And the floor under building and AP coordinate information will be deleted.

Example: Create building 3 and enter building configuration mode.

```
AC (config-wireless)#device-location building 3
```

```
AC (config-building)#
```

1.5 description

Command: `description WORD`

no description

Function: Configure the description name of building. The no command recovers to be default.

Parameters: *WORD* is the description name of building. It is made up by the characters from 1 to 64.

Command Mode: building Configuration Mode.

Default: The description name is “building-n” as default; n is ID of building.

Usage Guide: This command is used to configure the description name of building. It can show the situation of building and it is convenient to remember, comprehend and use.

Example: Configure the description name of building as work-1.

```
AC (config-building)#description work-1
```

1.6 floor

Command: `floor <1-20>`

no floor <1-20>

Function: Create floor of AP and enter floor configuration mode. The no command deletes the appointed floor.

Parameters: `<1-20>` is ID of floor.

Command Mode: building Configuration Mode.

Default: None.

Usage Guide: This command is used to Create floor of AP and enter the floor configuration mode. Locating AP need to configure coordinate in floor of building to participate in location. The no command deletes the appointed floor. And AP coordinate information under floor will be deleted.

Example: Create floor 3 of AP and enter floor configuration mode.

```
AC (config-building)#floor 3
```

```
AC (config-floor)#
```

1.7 ap xy-coordinate

Command: ap <macaddr> xy-coordinate metres x-coordinate y-coordinate

no ap <macaddr>

Function: Configure coordinate information of the appointed AP. The no command deletes the coordinate information.

Parameters: <macaddr> is MAC address of AP.

x-coordinate is x-axis coordinate.

y-coordinate is y-axis coordinate.

Command Mode: floor Configuration Mode.

Default: None.

Usage Guide: This command is used to configure the coordinate information of the appointed AP. The unit of coordinate value configured should be appointed when configure the coordinate information. Configure the unit as feet or metres. The coordinate unit configured can be different to the unit showed in location, the value will be transformed automatically.

Example: Configure the coordinate of the appointed AP as (10, 100) and the unit is feet.

```
AC (config-floor)#ap 00-03-0f-00-00-00 xy-coordinate feet 10 100
```

1.8 description

Command: description WORD

no description

Function: Configure the description name of floor. The no command recovers to be default.

Parameters: *WORD* is the description name of floor. It is made up by the characters from 1 to 64.

Command Mode: floor Configuration Mode.

Default: The description name is "none" as default.

Usage Guide: This command is used to configure the description name of floor. It can show the situation of floor and it is convenient to remember, comprehend and use.

Example: Configure the description name of floor as test.

```
AC (config-floor)#description test
```

1.9 show wireless device-location

Command: show wireless device-location

Function: Show global location function status.

Parameters: None.

Command Mode: Admin Mode.

Default: None.

Usage Guide: This command is used to examine the global status information of rf-scan location function, rf-scan report status and the rf-scan report interval configured.

Example: Show global location function status.

AC#show wireless device-location

```
Measurement System..... Metric
RF-Scan Location Report..... Disable
RF-Scan Location Interval (seconds)..... 60
```

1.10 show wireless device-location building

Command: show wireless device-location building [<1-8>]

Function: Show global location building configuration.

Parameters: <1-8> is building ID.

Command Mode: Admin Mode.

Default: None.

Usage Guide: This command is used to show the configuration situation of global building or appointed building.

Example: Show global location building configuration.

AC#show wireless device-location building

Building	Building Description	Number of Floors	Number of APs
1	Building-1	2	3
2	Building-2	0	0
3	Building-3	0	0

Show the appointed building configuration.

AC#show wireless device-location building 1

```
Building..... 1
Building Description..... Building-1
Number of Floors..... 2
Number of APs..... 3
```

1.11 show wireless device-location building floor

Command: show wireless device-location building [<1-8>] floor [<1-20>]

Function: Show global floor configuration status of location function.

Parameters:<1-8> is building ID.

<1-20> is floor ID.

Command Mode: Admin Mode.

Default: None.

Usage Guide: This command is used to examine the configuration status of location function global floor or the appointed floor.

Example: Show global floor configuration status of location function.

AC#show wireless device-location building floor

Building/ Floor	Floor Description	Number of APs
1/1	None	2
1/2	None	1

Total Floors.....2

Show appointed floor configuration status of location function.

AC#show wireless device-location building 1 floor 1

```
Building..... 1
Building Description..... Building-1
Floor..... 1
Floor Description..... None
Number of APs..... 2
```

Show floor configuration status of appointed building in location function.

AC#show wireless device-location building 1 floor

Floor	Floor Description	Number of APs
1	None	2
2	None	1

Total Floors.....2

1.12 show wireless device-location building floor ap

Command: show wireless device-location building [<1-8>] floor [<1-20>] ap

Function: Show global AP configuration status of location function.

Parameters: <1-8> is building ID.
 <1-20> is floor ID.

Command Mode: Admin Mode.

Default: None.

Usage Guide: This command is used to examine configuration status of global AP or the AP in floor of the appointed building in location function.

Example: Show global AP configuration status of location function.

AC#show wireless device-location building floor ap

Building/ Floor Number	AP MAC Address	XY Co-ordinate (Meters)
1/1	00-03-0f-18-22-00	100, 100
1/1	00-03-0f-19-6a-f0	101, 101
1/2	00-03-0f-1e-52-80	50, 50

Total APs.....3

Show configuration status of AP in floor of the appointed building in location function.

AC#show wireless device-location building 2 floor ap

Floor No.	AP MAC Address	XY Co-ordinate (Meters)
1	00-03-0f-1e-58-60	5, 5

Total APs.....1

1.13 show wireless device-location {ap|client} triangulation {status-all|status-located}

Command: show wireless device-location {ap|client} triangulation {status-all|status-located}

Function: Show global location information.

Parameters:ap shows located ap information.

Client shows located client information.

Status-all shows all location information.

Status-located shows the information of successful location.

Command Mode: Admin Mode.

Default: None.

Usage Guide: The command is used to examine the location information of all APs or clients; it also used to examine the information of successful location.

Example: Show the location information of all APs.

AC#show wireless device-location ap triangulation status-all

Device MAC Address	Device Type	Building/ Floor Number	Detected XY Coordinate (Meters)	Last Computation Status
00-03-0f-1b-d0-22	Detected AP	0/0	0, 0	Not Executed
00-03-0f-1b-d0-30	Detected AP	1/1	100, 100	Success
c8-7b-5b-1c-e6-64	Detected AP	0/0	0, 0	Failure

Total APs..... 3

Show the client information of successful location only.

AC#show wireless device-location client triangulation status-located

Device MAC Address	Device Type	Building/ Floor Number	Detected XY Coordinate (Meters)	Last Computation Status
00-03-0f-0f-08-27	Detected Client	1/1	101, 101	Success
f8-db-7f-4b-c8-8e	Detected Client	1/1	100, 100	Success

f8-db-7f-98-ca-a1 Detected Client 1/1 100, 100 Success

Total Located Clients..... 3

1.14 show wireless device-location triangulation status

Command: show wireless device-location {ap|client} <mac> triangulation status

Function: Show the detailed location information of the appointed AP or client.

Parameters:ap shows located ap information.

Client shows located client information.

<mac> is the mac address of the appointed ap or client.

Command Mode: Admin Mode.

Default: None.

Usage Guide: This command is used to examine the detailed location information of the appointed AP or client.

Example: Show the detailed location information of the appointed AP.

AC#show wireless device-location ap 00-03-0f-01-0b-40 triangulation status

```
Device MAC Address..... 00-03-0f-01-0b-40
Device Type..... Detected AP
Location Data Type..... Present
Location Computation Status..... Success
Last Successful Computation..... 0d:02:05:35
Building number..... 1
Floor Number..... 1
X-Coordinate..... 100 Meters
Y-Coordinate..... 100 Meters
```

1.15 show wireless device-location global-status

Command: show wireless device-location global-status

Function: Show global location status information of manual to trigger location.

Parameters:None.

Command Mode: Admin Mode.

Default:None.

Usage Guide: This command is used to examine global location status information of

manual to trigger location.

Example: Show global location status information of manual to trigger location.

AC#show wireless device-location global-status

```

Device Type..... AP
Device MAC Address..... 00-03-0f-12-fe-45
Building..... All
Floor..... All
Use Operational Mode Radios..... Yes
Location Procedure Status..... In Progress
Time since device-location triggered..... 0d:00:00:07
Number of Locator APs..... 3
Number of Detecting APs..... 0
Number of Buildings with Detected Signal..... 0
Number of Floors with Detected Signal..... 0
Building with the Highest Detected Signal..... 0
Floor with the Highest Detected Signals..... 0
    
```

1.16 show wireless device-location floor-status

[building <1-8> floor <1-20>]

Command: show wireless device-location floor-status [building <1-8> floor <1-20>]

Function: Show the location result information of manual to trigger location.

Parameters: <1-8> is building ID.

<1-20> is floor ID.

Command Mode: Admin Mode.

Default: None.

Usage Guide: This command is used to examine the location result information of manual to trigger location.

Example: Show the location result information of manual to trigger location.

AC#show wireless device-location floor-status

Building/ Floor	Device Found	Number of Detecting APs	Solution Type	(X,Y) (Meters)	Circle Radius (Meters)	Sigma (Meters)
1/1	Found	2	Point	(100,100)	0	3

1/2	Not Found	0	No Solution	(0,0)	0	0
2/1	Not Found	0	No Solution	(0,0)	0	0

1.17 wireless device-location start-search

Command: wireless device-location start-search {ap|client} <mac> [building <1-8>] [floor <1-20>] [use-operational-mode-radios]

Function: Trigger location function manually; locate ap or client.

Parameters: <mac> is mac address of located ap or client.

<1-8> is ID of the appointed located building.

<1-20> is ID of the appointed located floor.

[use-operational-mode-radios] appoint the radio of active mode to participate in location.

Command Mode: Admin Mode.

Default: Trigger location function manually as default. APs with radio of sentry mode of all buildings and floors will participate in location.

Usage Guide: This command is used to trigger location function manually and locate ap or client.

Example: Trigger location function manually to locate ap; locate in all buildings and floors and the radio of active mode is not used.

AC#wireless device-location start-search ap 00-03-0f-00-00-40

```
Device Type..... AP
Device MAC Address..... 00-03-0f-00-00-40
Building..... All
Floor..... All
Number of Locator APs..... 0
Use Operational Mode Radios..... No
Device Location Search is triggered.
```

Trigger location function manually to locate client; locate in all buildings and floors and use the radio of active mode.

AC#wireless device-location start-search client 00-0d-0a-30-99-db building 1 floor 1 use-operational-mode-radios

```
Device Type..... Client
Device MAC Address..... 00-0d-0a-30-99-db
Building..... 1
```

Floor..... 1
 Number of Locator APs..... 2
 Use Operational Mode Radios..... Yes
 Device Location Search is triggered.

1.18 Aeroscout

Command: aeroscout

no aeroscout

Function: Enable ae server to participate in location. The no command disables it.

Parameters: None.

Command Mode: profile Configuration Mode.

Default: ae server does not participate in location as default.

Usage Guide: This command is used to enable ae server to participate in location.

Example: Enable ae server to participate in location.

AC(config-ap-profile)#aeroscout

1.19 debug wireless device-location

Command: debug wireless device-location {internal-info | error}

no debug wireless device-location {internal-info | error}

Function: Enable detailed debug and error information on-off of device-location function.

The no command disables it.

Parameters: **internal-info** is detailed debug information;

Error is error information.

Command Mode: Admin Mode.

Default: Disable.

Usage Guide: This command is used to enable detailed debug and error information on-off of device-location function to examine the detailed debug information in location process and the error information when the error occurred.

Example: Enable detailed debug information on-off of device-location function.

AC#debug wireless device-location internal-info

internal WD_LEVEL_DEV_LOC_ONDEMAND_INFO debug is

on

internal WD_LEVEL_DEV_LOC_TRIANG_INFO debug is on

1.20 debug wireless device-location packet dump

Command: debug wireless device-location packet dump

no debug wireless device-location packet dump

Function: Enable the debug information on-off of the message content in On-Demand Device Location function. The no command disables it.

Parameters: None.

Command Mode: Admin Mode.

Default: Disable.

Usage Guide: This command is used to enable the debug information on-off of the message content in On-Demand Device Location function to examine the detailed packets information in location process.

Example: Enable the debug information on-off of the message content in On-Demand Device Location function.

```
AC#debug wireless device-location packet dump
      packet WD_LEVEL_DEV_LOC_ONDEMAND_PKT debug is on
```

1.21 debug wireless device-location tuning

Command: debug wireless device-location tuning

no debug wireless device-location tuning

Function: Enable the debug information on-off of the specific information in algorithm adjustment in Device Location function. The no command disables it.

Parameters: None.

Command Mode: Admin Mode.

Default: Disable.

Usage Guide: This command is used to enable the debug information on-off of the specific information in algorithm adjustment in Device Location function to examine debug information in location algorithm calculating.

Example: Enable the debug information on-off of the specific information in algorithm adjustment in Device Location function.

```
AC#debug wireless device-location tuning
      internal WD_LEVEL_DEV_LOC_DIST_MAP debug is on
      internal WD_LEVEL_DEV_LOC_SOLUTION debug is on
      internal WD_LEVEL_DEV_LOC_TUNE debug is on
```