Content

Chapter 1 Configuration and Debug
Commands for Device-finger
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Chapter 1   Configuration and Debug Commands for device-finger Recognition

1.1 access-control {down|up}

**Command: access-control {down|up} {ip {<1-199>|<acl-name>}|ipv6
<acl-name>|mac <acl-name>}**
Function: Add one kind of input, output ACL rules information of terminal users. ACL
supported types are as follows: L2 is MAC, L3 is IP, L4 is port.
Parameters: down: down, output direction.

up: up, input direction.

ip<1-199>: ACL table name of ipv4 types, named by numbers.

ip<acl-name>: ACL table name of ipv4 types, named by string.

ipv6<acl-name>: ACL table name of ipv6 types, named by string.

mac<acl-name>: ACL table name of MAC types, named by string. The maximum

length of <acl-name> allowed for 64 bytes and the string only includes letters. <acl-name>

must be same with "ip access-list {standard|extended} <acl-name>".

Command Mode: device-finger config mode
Default: None.
Usage Guide: When configure ACL rules, users must be sure that the ACL rule already

exists, if not exist, the configuration failed and gives a message; when configuration

repeat, given the existing configuration information. Added ACL rules do not work for

authenticated and online users, it only works for the terminal users which are new

authenticated and online.

Example: Configure a ACL to bind to down direction.
AC(config-device-finger)#access-control down ip test

1.2 device-finger dhcp-option

**Command: device-finger dhcp-option {55|60} {equals|starts-with} <option-number>
device-description <description-info >**

Function: Configure a device-finger recognition information in wireless global mode.

Parameters: 55: DHCP option 55.

60: DHCP option 60.

equals: DHCP option value equals.

starts-with: What DHCP option value to start.

<option-number>：DHCP option value, the value is not case-insensitive, the

maximum length is 64 bytes, every byte is 16 hexadecimal

characters, such as 0 to 9, a to f and A to F (example:

0103060F77fC).

<description-info>: Describes the user roles, the longest description information is

128 bytes which including data, letter, space , -_ and on.

Command Mode: Wireless global configuration mode.

Default: None.

Usage Guide: When AC processing a device-finger recognition request (such as option
code=55, len=12, value=0103060f77fc), it will give priority to match fingerprint information
of equals (namely matching device-finger dhcp option 55 equals 0103060F77FC
device-description iPhone fingerprint information), the matching principle is an exact
match is preferred, only in the case of an exact match can not find, fuzzy matching
(fingerprint information of starts-wth) will be used. As long as there is a matching
information, return matching information and no longer match.

Example: Configure a fingerprint recognition information that DHCP option 55 value is
0103060F77FC.

AC(config-wireless)#device-finger   dhcp-option   55   equals   0103060F77FC

device-description Apple product

1.3 device-finger enable

Command: device-finger enable

Function: Open device-finger recognition function. Fingerprint recognition function aimed

at some VAP of AP.

Parameters: None.

Command Mode: network mode.

Default: Close.

Usage Guide: After ensure at least configure a device-finger recognition information in wireless global mode, it will open device-finger recognition switch, otherwise, give a prompt that trun on the switch after configuring device-finger information. After open the function, AP will listen to the client DHCP messages and forward useful messages to AC by DCN private information (namely management messages); repeat open the switch, given that have been in the open state tips; when the switch state changes, it needs to perform a manual issued to send configuration to AP. The manual issued commands in AC is as follows: wireless ap profile apply <profile-id>.

Example: Enable device-finger recognition function.

AC#(config-network)# device-finger enable

1.4 debug wireless device-finger detail event

Command: debug wireless device-finger detail event <client-mac>

Function: Open debug wireless device-finger detail events switch.

Parameters: client-mac: client MAC address, it can be for a user to debug.

Command Mode: Admin configuration mode.

Default: Disable

Usage Guide: After open debug wireless device-finger detail events switch, it can check trace and debug information.

Example: Open debug wireless device-finger which MAC address is 00-24-d7-bf-8d-e8 detail events switch

AC#debug wireless device-finger detail event 00-24-d7-bf-8d-e8

MAC:00-24-d7-bf-8d-e8 detail

WD_LEVEL_WIRELESS_DEVICE_FINGER_MSG_DETAIL_EVENT debug is on

%Nov 11 11:04:40 2014 filename:wireless_device_finger.c, lineno:178, Device-finger: before match: client:00-24-d7-bf-8d-e8, option 55:010f03062c2e2f1f2179f92b.

%Nov 11 11:04:40 2014 filename:wireless_device_finger.c, lineno:220, Device-finger: match success(index:0), client:00-24-d7-bf-8d-e8, option 55:010f03062c2e2f1f2179f92b, device-descrip: x202, ACL down:1-abc, up:0-.

%Nov 11 11:04:40 2014 filename:wireless_device_finger.c, lineno:581, Client Device ACL message send to AP:00-03-0f-26-16-20

1.5 debug wireless device-finger trace

Command: debug wireless device-finger trace <ap-mac>

Function: Open debug wireless device-finger trace switch.

Parameters: ap-mac: AP MAC address which can aim at a AP to debug.

Command Mode: Admin configuration mode.

Default: Disable.

Usage Guide: Open debug wireless device-finger trace switch, output debug wireless device-finger trace information.

Example: Open debug wireless device-finger trace switch.

AC#debug wireless device-finger trace 00-03-0f-26-16-20

MAC:00-03-0f-26-16-20 event

WD_LEVEL_WIRELESS_DEVICE_FINGER_MSG_TRACE debug is

onWD_LEVEL_WIRELESS_DEVICE_FINGER_MSG_TRACE debug is on

AC#%Nov 11 11:31:18 2014 filename:peer_txrx.c, lineno:6194, Msg Type: 0x98, Rxd

WS_CLIENT_DEVICE_FINGER_REQ_MSG from 70.1.1.3

%Nov 11 11:31:18 2014 filename:wireless_device_finger.c, lineno:262, Entering

wirelessClientDeviceFingerReqMsgProcess.

%Nov 11 11:31:18 2014 filename:wireless_device_finger.c, lineno:585, Leaving

wirelessClientDeviceFingerRepelyAclMsgSend.

%Nov 11 11:31:18 2014 filename:wireless_device_finger.c, lineno:458, Leaving

wirelessClientDeviceFingerReqMsgProcess.

1.6 debug wireless device-finger error

Command: debug wireless device-finger error

Function: Open debug wireless device-finger error switch.

Parameters: None.

Command Mode: Admin configuration mode.

Default: Disable.

Usage Guide: Open debug wireless device-finger error switch, output wireless device-finger error information.

Example: None.

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1.7 debug wireless device-finger packet all|send|receive|dump

Command: debug wireless device-finger packet {send|receive|dump|all} <ap-mac>

Function: Open debug wireless device-finger packet switch.

Parameters: send: open debug wireless device-finger packet send information.

receive: open debug wireless device-finger packet receive information.

dump: open debug wireless device-finger packet dump information.

all: open debug wireless device-finger packet send, receive and dump information.

ap-mac: AP MAC address which can aim at a AP to debug.

Command Mode: Admin configuration mode.

Default: Disable.

Usage Guide: Open debug wireless device-finger packet switch, output debug wireless device-finger packet information. It will print 0X0098 and 0X0099 only wireless device matches finger recognition information and bind ACL.

Example: Open debug wireless device-finger packet switch.

AC#debug wireless device-finger packet all 00-03-0f-26-16-20

MAC:00-03-0f-26-16-20 packet

WD_LEVEL_WIRELESS_DEVICE_FINGER_MSG_PKT_RX debug is on

MAC:00-03-0f-26-16-20 packet

WD_LEVEL_WIRELESS_DEVICE_FINGER_MSG_PKT_TX debug is on

MAC:00-03-0f-26-16-20 packet

WD_LEVEL_WIRELESS_DEVICE_FINGER_MSG_PKT_DUMP debug is on

AC#filename:wireless_device_finger.c, lineno:287,

==============================

0000 00 98 00 57 00 21 00 06 00 03 0f 26 16 20 50 01

0010 00 06 00 03 0f 26 16 20 50 02 00 06 00 24 d7 bf

0020 8d e8 50 03 00 01 01 50 61 00 10 34 64 35 33 34

0030 36 35 34 32 30 33 35 32 65 33 30 50 60 00 18 30

0040 31 30 66 30 33 30 36 32 63 32 65 32 66 31 66 32

0050 31 37 39 66 39 32 62

==============================

%Nov 11 11:21:21 2014 filename:wireless_device_finger.c, lineno:391, Device-finger:

AP:00-03-0f-26-16-20, client:00-24-d7-bf-8d-e8, VAP:00-03-0f-26-16-20, radioIf:1, option

55:010f03062c2e2f1f2179f92b, option 60:4d53465420352e30.

filename:wireless_device_finger.c, lineno:551,

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0000 00 99 00 41 50 01 00 06 00 03 0f 26 16 20 50 02

0010 00 06 00 24 d7 bf 8d e8 50 03 00 01 01 50 60 00

0020 20 01 61 62 63 00 00 00 00 00 00 00 00 00 00 00

0030 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00

0040 00

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1.8 no access-control {down | up}

Command: no access-control {down | up}

Function: Configure delete down or up direction ACL rules.

Parameters: down: input direction.

　　　　up: output direction.

Command Mode: device-finger config mode.

Default: None.

Usage Guide: Delete a ACL rule information, when the delete information does not exist, error message is given. Delete ACL rule does not work on the users which had authentication online and bond the rule, namely users will use the ACL rule again.

Example: Delete a down direction ACL rule.

AC(config-device-finger)# no access-control down

1.9 no device-finger dhcp-option

Command: no device-finger dhcp-option　　{55|60} {equals|starts-with} <option-number>

Function: Delete a device-finger recognition information in wireless global mode.

Parameters: 55：DHCP option 55。

　　　　　　60：DHCP option 60。

　　　　　　equals: DHCP option value equals.

　　　　　　starts-with: What DHCP option value to start.

<option-number>：DHCP option value, the value is not case-insensitive, the maximum length is 64 bytes, every byte is 16 hexadecimal characters, such as 0 to 9, a to f and A to F (example: 0103060F77fC).

Command Mode: Wireless global configuration mode.

Default: None.

Usage Guide: Delete a device-finger recognition information, corresponding to delete configured all ACL rules; when the delete information does not exist, give an error messages. When the deleted device-finger recognition information is the last information and there have "device-finger enable" in the network, it will be asked to turn off the switch and then you can delete information. Deleted device-finger information does not work on authencation online users.

Example: Delete a fingerprint recognition information that DHCP option 55 value is 0103060F77FC.

AC(config-wireless)# no device-finger dhcp-option 55 equals 0103060F77FC

1.10 no device-finger enable

Command: no device-finger enable

Function: Close device-finger recognition function.

Parameters: None.

Command Mode: network mode.

Default: Close.

Usage Guide: Close device-finger recognition function in network, repeat turn off switch and given that have been in a closed state tips; when the switch state changes, it needs to perform a manual issued to send configuration to AP.

Example: Close device-finger recognition function.

AC(config-network)# no device-finger enable

1.11 no debug wireless device-finger detail event

Command: no debug wireless device-finger detail event < client-mac >

Function: Close debug wireless device-finger detail events switch.

Parameters: client-mac: client MAC address, it can be for a user to debug.

Command Mode: Admin configuration mode.

Default: Disable

Usage Guide: Close debug wireless device-finger detail events switch, stop output debug wireless device-finger detail events information.

Example: Close debug wireless device-finger which MAC address is 00-24-d7-bf-8d-e8 detail events switch

AC#no debug wireless device-finger detail event 00-24-d7-bf-8d-e8

1.12 no debug wireless device-finger trace

Command: no debug wireless device-finger trace < ap-mac >

Function: Close debug wireless device-finger trace switch.

Parameters: ap-mac: AP MAC address which can aim at a AP to debug.

Command Mode: Admin configuration mode.

Default: Disable.

Usage Guide: Close debug wireless device-finger trace switch, stop output debug wireless device-finger trace information.

Example: Close debug wireless device-finger trace switch.

AC# no debug wireless device-finger trace 00-03-0f-26-16-20

1.13 no debug wireless device-finger error

Command: debug wireless device-finger error

Function: Close debug wireless device-finger error switch.

Parameters: None.

Command Mode: Admin configuration mode.

Default: Disable.

Usage Guide: Close debug wireless device-finger error switch, stop output debug wireless device-finger error information.

Example: None.

1.14 no debug wireless device-finger packet

all|send|receive|dump

Command: no debug wireless device-finger packet {send|receive|dump|all} <ap-mac>

Function: Close debug wireless device-finger packet switch.

Parameters: send: close debug wireless device-finger packet send information.

receive: close debug wireless device-finger packet receive information.

dump: close debug wireless device-finger packet dump information.

all: close debug wireless device-finger packet send, receive and dump information.

ap-mac: AP MAC address which can aim at a AP to debug.

Command Mode: Admin configuration mode.

Default: Disable.

Usage Guide: Close debug wireless device-finger packet switch, stop output debug wireless device-finger packet information.

Example: Close debug wireless device-finger packet switch.

AC#no debug wireless device-finger packet all 00-03-0f-26-16-20

1.15 no debug all

Command: no debug all

Function: Close debug wireless device-finger recognition information at the same time.

Parameters: None.

Command Mode: Admin configuration mode.

Default: Disable.

Usage Guide: When close all debug switch, close thedebug of wireless device-finger recognition.

Example: Close debug wireless device-finger recognition information at the same time.

AC#no debug all

all possible debugging has been turned off

1.16 show wireless client device-type

[<device-descrip> |]

Command: show wireless client device-type [<device-descrip> |]

Function: Show all user's device-finger information or all users of a type device-finger information corresponded.

Parameters: <device-descrip>: device description, namely device types.

Command Mode: Admin mode.

Default: None.

Usage Guide: The show command can check all user's device-finger information or all users of a type device-finger information corresponded in wireless mode.

Example: Show device-finger information of online users.

AC#show wireless client device-type

Client Mac	Device-Type	DHCP Option
ACL DOWN	ACL UP	
----------------	----------------------------	-------------------------------
----------------------------------	---------------------------------	
00-24-d7-bf-8d-e8 x201		55:010f03062c2e2f1f2179f92b
IP - abc	<none>	
60-fa-cd-14-0f-11 <none>		55:0103060f77fc
<none>	<none>	

1.17 show wireless client <client-mac> status

Command: show wireless client <client-mac> status

Function: Show device types description information of current users or all online users.

Parameters: <client-mac>: user's mac address.

Command Mode: Admin mode.

Default: None.

Usage Guide: Using show command to check device types description information of current users.

Example: Show device types description information of user whose MAC address is 00-24-d7-bf-8d-e8.

AC#show wireless client 00-24-d7-bf-8d-e8 status

MAC address.................................... 00-24-d7-bf-8d-e8

Detected IP Address............................ 80.1.1.2

VAP MAC Address................................ 00-03-0f-26-16-20

AP MAC Address................................. 00-03-0f-26-16-20

Location.......................................

Radio.. 1 - 802.11b/g/n

Associating Switch............................. Local Switch

Switch MAC Address............................. 00-03-0f-1a-8d-3a

Switch IP Address.............................. 70.1.1.1

Tunnel IP Address.............................. -----

SSID... 123ji

NetBIOS Name................................... PC201411051052

Status... Authenticated

Channel....................................... 11

User Name....................................

VLAN.. 80

Transmit Data Rate............................ 12 Mbps

802.11n Capable............................... Yes

802.11ac Capable.............................. No

STBC Capable.................................. No

Physical Mode................................. 802.11b/g/n

device-type................................... x202

1.18 show wireless client <client-mac> client-qos [radius|device|] status

Command: show wireless client <client-mac> client-qos (radius|device|) status

Function: Show device types description information of current users or all online users.

Parameters: <client-mac>: user's mac address.

Command Mode: Admin mode.

Default: None.

Usage Guide: Using show command to display QoS information that current user's device type mapped.

Example: Show device types description information of user whose MAC address is 00-24-d7-bf-8d-e8.

AC#show wireless client 00-24-d7-bf-8d-e8 client-qos status

MAC address................................... 00-24-d7-bf-8d-e8

SSID.. 123ji

Client QoS Operational Status................. Enabled

Bandwidth Limit Down.......................... 0

Bandwidth Limit Up............................ 0

Access Control Down........................... IP - abc

Access Control Up............................. <none>

Diffserv Policy Down.......................... <none>

Diffserv Policy Up............................ <none>

1.19 show wireless device-finger status

Command: show wireless device-finger status

Function: Check all device-finger switch status in current network.

Parameters: None.

Command Mode: Admin mode.

Default: None.

Usage Guide: Using showcommand to show all device recognition switch status in current network.

Example: Check all device-finger switch status in current network.

DCWS-6028#show wireless device-finger status

Network ID   Device-Finger

----------   -------------

1	Disabled
2	Disabled
3	Disabled
4	Disabled
5	Disabled
6	Disabled
7	Disabled
8	Disabled
9	Disabled
10	Disabled
11	Disabled
12	Disabled
13	Disabled
14	Disabled
15	Disabled
16	Disabled
20	Enabled

1.20 show wireless device-finger configuration

Command: show wireless device-finger configuration

Function: Show all device-finger configuration.

Parameters: None.

Command Mode: Admin mode.

Default: None.

Usage Guide: Using show command to display all configured device-finger information.

Example: Check all device-finger configuration.

DCWS-6028#show wireless device-finger configuration

Device-description	DHCP Option ACL DOWN	ACL UP
-------------------------	--------------------------------------	--------------------------
x202	55:starts-with 010f03062c2e	IP -
abc	<none>	

1.21 show wireless network <network-id>

Command: show wireless network <network-id>

Function: Show device-finger recognition switch status in current network.

Parameters: <network-id>, network id number.

Command Mode: Admin mode.

Default: None.

Usage Guide: Using show command to check device-finger recognition switch status in current network.

Example: Show device-finger recognition switch status in current network.

DCWS-6028#show wireless network 20

Network ID...................................... 20

SSID.. 123ji

WDS Mode...................................... Disable

WDS Remote VAP MAC............................. -----

Interface ID.................................. 20019

Default VLAN.................................. 80

M2u Threshold................................. 6

Hide SSID..................................... Disable

Station-isolation............................. Disable

Offline-detect................................ Disable

Idle-timeout (seconds)......................... 300

Threshold (bytes)............................. 0

device-finger function........................ Enable

1.22 show debugging other

Command: show debugging other

Function: Display all the debug switches that wireless device-finger opened at the same time.

Parameters: None.

Command Mode: Admin configuration mode.

Default: disable.

Usage Guide: Display opened debug switch, and show debug switch that wireless device-finger opened.

Example: Display the debug switch that wireless device-finger opened.

AC#show debugging other

WIRELESS:

error

WD_LEVEL_WIRELESS_DEVICE_FINGER_MSG_ERROR debugging is on

MAC:00-03-0f-26-16-20   event

WD_LEVEL_WIRELESS_DEVICE_FINGER_MSG_TRACE debugging is on