



IP Theft

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Introduction to IP Theft

The IP Theft feature prevents the usage of an IP address that is already assigned to another device. If the controller finds that two wireless clients are using the same IP address, it declares the client with lesser precedence binding as the IP thief and allows the other client to continue. If blocked list is enabled, the client is put on the exclusion list and thrown out.

The IP Theft feature is enabled by default on the controller. The preference level of the clients (new and existing clients in the database) are also used to report IP theft. The preference level is a learning type or source of learning, such as Dynamic Host Configuration Protocol (DHCP), Address Resolution Protocol (ARP), data glean (looking at the IP data packet that shows what IP address the client is using), and so on. The wired clients always get a higher preference level. If a wireless client tries to steal the wired IP, that client is declared as a thief.

The order of preference for IPv4 clients are:

1. DHCPv4
2. ARP
3. Data packets

The order of preference for IPv6 clients are:

1. DHCPv6
2. NDP
3. Data packets



Note The static wired clients have a higher preference over DHCP.

Configuring IP Theft (GUI)

Procedure

- Step 1** Choose **Configuration > Security > Wireless Protection Policies > Client Exclusion Policies**.
- Step 2** Check the **IP Theft or IP Reuse** check box.
- Step 3** Click **Apply**.

Configuring IP Theft

Follow the procedure given below to configure the IP Theft feature:

Procedure

	Command or Action	Purpose
Step 1	configure terminal Example: Device# configure terminal	Enters global configuration mode.
Step 2	wireless wps client-exclusion ip-theft Example: Device(config)# wireless wps client-exclusion ip-theft	Configures the client exclusion policy.

Configuring the IP Theft Exclusion Timer

Follow the procedure given below to configure the IP theft exclusion timer:

Procedure

	Command or Action	Purpose
Step 1	configure terminal Example: Device# configure terminal	Enters global configuration mode.
Step 2	wireless profile policy <i>profile-policy</i> Example: Device(config)# wireless profile policy default-policy-profile	Configures a WLAN policy profile and enters wireless policy configuration mode.

	Command or Action	Purpose
Step 3	exclusionlist timeout <i>time-in-seconds</i> Example: Device(config-wireless-policy)# exclusionlist timeout 5	Specifies the timeout, in seconds. The valid range is from 0-2147483647. Enter zero (0) for no timeout.

Verifying IP Theft Configuration

Use the following command to check if the IP Theft feature is enabled or not:

```
Device# show wireless wps summary

Client Exclusion Policy
  Excessive 802.11-association failures : Enabled
  Excessive 802.11-authentication failures: Enabled
  Excessive 802.1x-authentication      : Enabled
  IP-theft                            : Enabled
  Excessive Web authentication failure : Enabled
  Cids Shun failure                    : Enabled
  Misconfiguration failure             : Enabled
  Failed Qos Policy                    : Enabled
  Failed Epm                           : Enabled
```

Use the following commands to view additional details about the IP Theft feature:

```
Device# show wireless client summary

Number of Local Clients: 1

MAC Address      AP Name          WLAN State      Protocol Method  Role
-----
000b.bbb1.0001  SimAP-1         2 Run            11a      None      Local

Number of Excluded Clients: 1

MAC Address      AP Name          WLAN State      Protocol Method
-----
10da.4320.cce9  charlie2        2 Excluded       11ac     None

Device# show wireless device-tracking database ip

IP              VLAN  STATE      DISCOVERY  MAC
-----
20.20.20.2     20   Reachable  Local      001e.14cc.cbff
20.20.20.6     20   Reachable  IPv4 DHCP  000b.bbb1.0001

Device# show wireless exclusionlist

Excluded Clients

MAC Address      Description          Exclusion Reason      Time Remaining
-----
10da.4320.cce9          IP address theft      59
```

```
Device# show wireless exclusionlist client mac 12da.4820.cce9 detail
```

```
Client State : Excluded  
Client MAC Address : 12da.4820.cce9  
Client IPv4 Address: 20.20.20.6  
Client IPv6 Address: N/A  
Client Username: N/A  
Exclusion Reason : IP address theft  
Authentication Method : None  
Protocol: 802.11ac  
AP MAC Address : 58ac.780e.08f0  
AP Name: charlie2  
AP slot : 1  
Wireless LAN Id : 2  
Wireless LAN Name: mhe-ewlc  
VLAN Id : 20
```