REPEATING METHOD OF WIRELESS REPEATING DEVICE, AND WIRELESS REPEATING DEVICE

FIELD OF THE INVENTION

[0001] The present invention relates to the field of communications technologies, and in particular, to a repeating method of a wireless repeating device, and a wireless repeating device.

BACKGROUND OF THE INVENTION

[0002] With the rapid development of wireless broadband Internet access services, wireless home gateway products develop rapidly. However, a physical layout of high-power wireless local area network, (Wireless Local Area Network, WLAN), devices has certain limitations and a penetration capability of ~~wireless broadband~~WIFI, (wireless fidelity, ~~WIFI)~~ signals is weak, which result in that there are certain blind areas in WIFI signal coverage, and therefore, development opportunities are brought to a WLAN signal repeating device WLAN Repeater. A WLAN Repeater includes a WLAN access point side, (Access Point, AP,) and a WLAN client side Client, where the WLAN AP side of the WLAN Repeater may receive access of a station, (Station, STA,) device, and the WLAN Client side may be used an STA to connect to another AP, which is as a good extension of WIFI signals, to effectively solve a coverage problem of the WIFI signals. Currently, for a WLAN Repeater product on the market, when data transmission is performed by a downstream interface, (a WLAN AP interface,) and an upstream interface, (a WLAN Client interface), a wireless STA MAC address attached to a WLAN AP side is replaced with a MAC address of a WLAN Client side of the Repeater itself. Therefore, an existing Repeater product is not a WIFI signal repeater in a real sense.

[0003] However, in a scenario of WLAN coverage based on MAC address authentication/accounting, for example, in a scenario of enterprise-level WLAN, (AP/AC,) coverage based on AAA authentication and accounting or portal authentication, if the existing WLAN Repeater is adopted, an accounting party or an authentication party can perform accounting for an address of a WLAN Client of the WLAN Repeater only, and cannot perform accounting for an STA MAC address of each attached STA separately. Therefore, the existing WLAN Repeater cannot meet a requirement of unified authentication/accounting based on a MAC address.

Embodiment 1

[0020] A structural diagram of a system in an application scenario of the present invention is as shown in FIG. 1. The system includes multiple upstream APs: AP1, AP2, AP3, ..., APn, multiple downstream wireless stations: STA1, STA2, STA3, ..., STAm, where both m and n are nonzero positive integers, and a wireless repeating device. The wireless repeating device may include multiple virtual upstream WLAN Client interfaces and multiple virtual downstream WLAN AP interfaces, where the wireless repeating device accesses an upstream AP through an upstream WLAN Client interface, a downstream STA establishes a connection with a downstream WLAN AP interface of the wireless repeating device, and the wireless repeating device may implement transparent transmission of an attached STA MAC address and forwarding of a management flow and data flow between multiple virtual upstream and downstream interfaces. A working process of the wireless repeating device specifically includes: initialization of multiple SSIDs, wireless STA MAC address mapping, dynamic management of upstream and downstream interfaces, and forwarding of service data flows of upstream and downstream interfaces. A repeating method of the wireless repeating device is described below through an embodiment, FIG. 2 is a flowchart of implementing a repeating method of a wireless repeating device according to Embodiment 1 of the present invention, and details are described below:

[0021] In step S201, network connection information of an upstream AP is synchronized to a downstream WLAN AP interface of the wireless repeating device after the wireless repeating device establishes a connection with the upstream AP.

[0022] In this embodiment, when the number of the upstream APs is one, network connection information of the one upstream AP is synchronized to one downstream WLAN AP interface; when the number of the upstream APs is multiple, network connection information of the multiple upstream APs is synchronized to multiple downstream WLAN AP interfaces, where the upstream APs may be multiple APs in different encryption/authentication modes.

[0023] In step S202, downstream wireless STA MAC address information is obtained according to the downstream WLAN AP interface corresponding to the synchronized upstream AP, and an upstream WLAN Client interface in a mapping relationship with an STA MAC address is established.

[0024] In this embodiment, the mapping relationship between the STA MAC address and the established upstream WLAN Client interface is a reversible single mapping relationship.

[0025] In step S203, management is performed, according to the mapping relationship between the STA MAC address and the established upstream WLAN Client interface, on data forwarded

between the upstream AP and a downstream wireless STA, where the data is management action data or service data.

[0026] In this embodiment, management actions may be associate, (Associate), authenticate, (Authenticate), disassociate notify, (Disassociate notify), deauthenticate notify, (Deauthenticate notify), and reassociate, (Reassociate).

[0027] In this embodiment, the network connection information of the upstream AP is synchronized to the downstream WLAN AP interface, and the upstream WLAN Client interface in the mapping relationship with the STA MAC address is established; based on the foregoing mapping relationship, for actions of operations performed on a data flow or management flow between the upstream AP and the upstream WLAN Client interface, all the actions may be performed by a downstream WLAN AP interface proxy corresponding to the upstream AP interface, and a certain downstream STA, where the downstream STA may be searched for through the mapping relationship between the STA MAC address and the upstream WLAN Client interface, thereby achieving effective transparent transmission of the attached wireless STA MAC address. Therefore, for corresponding actions of authentication and accounting performed by an upstream AAA authentication party or accounting party on the upstream WLAN Client interface through the upstream AP, all the corresponding actions may be performed by a downstream WLAN AP interface proxy corresponding to the upstream AP, and a certain downstream STA. In this manner, it is achieved that the AAA authentication or accounting party may perform accounting on an STA MAC address of each attached STA separately, thereby meeting a requirement of unified authentication/accounting based on a MAC address. Meanwhile, when a WLAN Repeater is interconnected with some upstream gateway devices with enabled DHCP spoofing/flooding functions, a DHCP Server of an upstream device may still implement normal functions such as IP address assignment or lease renewing, and an STA at a WLAN Client side may obtain a corresponding IP address and continue with Internet access.

Embodiment 2

[0028] FIG. 3 is a flowchart of implementing a repeating method of a wireless repeating device according to Embodiment 2 of the present invention. Details are described below:

[0029] In step S301, a WIFI connection is established between an initialized upstream WLAN Client interface of a wireless repeating device and an upstream AP.

[0030] In this embodiment, initializing a WLAN Client interface of an upstream wireless repeating device may be initialing one upstream WLAN Client interface, and may also be

initializing multiple upstream WLAN Client interfaces, which is not used to limit the present invention here.

[0031] In step S302, network connection information of the upstream AP is obtained, and the network connection information of the upstream AP is synchronized to a downstream WLAN AP interface.

[0032] In this embodiment, the network connection information may include an encryption mode of a network connection, password information of a network connection, service set identifier, (Service Set Identifier, SSID,) information, an authentication manner, a physical working channel, and so on.

[0033] In step S303, the initialized upstream WLAN Client interface is deregistered.

[0034] In this embodiment, when the synchronization is completed, the initialized upstream WLAN Client interface is deregistered, to prevent an interface which is not deregistered from occupying a system resource.

[0035] In step S304, a connection is established between a downstream wireless STA and the downstream WLAN AP interface that is corresponding to the synchronized upstream AP.

[0036] In this embodiment, a network connection may be established between a downstream wireless STA and a downstream WLAN AP interface, and network connections may also be established between multiple downstream wireless STAs and a same downstream WLAN AP interface.

[0037] In step S305, if the downstream wireless STA and the downstream WLAN AP interface that is corresponding to the synchronized upstream AP are connected successfully, STA MAC address information is obtained.

[0038] In this embodiment, if the downstream wireless STA and the downstream WLAN AP interface that is corresponding to the synchronized upstream AP are connected successfully, STA MAC address information corresponding to the STA is obtained; if the downstream wireless STA and the downstream WLAN AP interface that is corresponding to the synchronized upstream AP are not connected successfully, the network connection continues to be performed.

[0039] In step S306, an upstream WLAN Client interface in a mapping relationship with an STA MAC address is established.

[0040] In this embodiment, by establishing the upstream WLAN Client interface which is in the mapping relationship with the STA MAC address, automatic mapping from the STA MAC address to the upstream WLAN Client interface is completed.

[0041] In step S307, management is performed, according to the mapping relationship between the STA MAC address and the established upstream WLAN Client interface, on data forwarded

between the upstream AP and the downstream wireless STA, where the data is management action data or service data.

[0042] In this embodiment, management actions may be associate, (Associate), authenticate, (Authenticate), disassociate notify, (Disassociate notify), deauthenticate notify, (Deauthenticate notify), and reassociate, (Reassociate).

[0043] Optionally, when the data is management action data and an action initiator is the upstream AP, step S307 specifically is:

1. Through the upstream WLAN Client interface, management action data sent by the upstream AP is received, and a management action is completed; and

2. According to the mapping relationship between the STA MAC address and the established upstream WLAN Client interface, a downstream wireless STA corresponding to the upstream WLAN Client interface is searched for, and the management action is completed between a downstream WLAN AP interface corresponding to the upstream AP interface, and the downstream wireless STA.

[0044] When the management action is deauthenticate notify, after step 2, the following step is further included:

deregistering a downstream WLAN AP interface corresponding to the STA, and the upstream WLAN Client interface.

[0045] Optionally, when the data is management action data and an action initiator is the downstream wireless STA, step S307 specifically is:

1. Through the downstream WLAN AP interface, management action data sent by the downstream wireless STA is received, and a management action is completed; and

2. According to the mapping relationship between the STA MAC address and the established upstream WLAN Client interface, an upstream WLAN Client interface corresponding to the downstream wireless STA is searched for, and the management action is completed between the upstream WLAN Client interface found by searching and an upstream AP corresponding to the downstream WLAN AP interface.

[0046] When the management action is Deauthenticate notify, after step 2, the following step is further included:

deregistering a downstream WLAN AP interface corresponding to the STA, and the upstream WLAN Client interface.

[0047] For ease of understanding, an implementation process in which a WLAN Repeater performs association is illustrated below by using a specific implementation example, but the present invention is not limited to the implementation process of the implementation example. It is

so on.

[0078] The foregoing is merely exemplary embodiments of the present invention, and is not intended to limit the present invention. Any modification, equivalent replacement, and improvement made without departing from the ~~spirit and~~ principle of the present invention shall fall within the protection scope of the present invention.

CLAIMS

What is claimed is:

1. A repeating method of a wireless repeating device, wherein the method comprises the following steps:

synchronizing network connection information of an upstream AP to a downstream WLAN AP interface of the wireless repeating device after the wireless repeating device establishes a connection with the upstream AP;

obtaining, according to the downstream WLAN AP interface corresponding to the synchronized upstream AP, downstream wireless STA MAC address information, and establishing an upstream WLAN Client interface which is in a mapping relationship with an STA MAC address; and

performing, according to the mapping relationship between the STA MAC address and the established upstream WLAN Client interface, management on data forwarded between the upstream AP and a downstream wireless STA.

2. The method according to claim 1, wherein the step of synchronizing the network connection information of the upstream AP to the downstream WLAN AP interface of the wireless repeating device after the wireless repeating device establishes the connection with the upstream AP specifically is:

establishing a WIFI connection between an initialized upstream WLAN Client interface of the wireless repeating device and the upstream AP;

obtaining the network connection information of the upstream AP, and synchronizing the network connection information of the upstream AP to the downstream WLAN AP interface; and

deregistering the initialized upstream WLAN Client interface.

3. The method according to claim 1, wherein the step of obtaining, according to the downstream WLAN AP interface corresponding to the synchronized upstream AP, the downstream wireless STA MAC address information, and establishing the upstream WLAN Client interface which is in the mapping relationship with the STA MAC address specifically is:

establishing a connection between the downstream wireless STA and the downstream WLAN AP interface that is corresponding to the synchronized upstream AP;

if the downstream wireless STA and the downstream WLAN AP interface that is corresponding to the synchronized upstream AP are connected successfully, obtaining STA MAC address information; and

establishing a WLAN Client interface which is in a mapping relationship with the STA MAC address.

4. The method according to any one of claims 1 to 3, wherein the mapping relationship between the STA MAC address and the established upstream WLAN Client interface is a reversible single mapping relationship.

5. The method according to claim 1, wherein when the data is management action data and an action initiator is the upstream AP, the step of performing, according to the mapping relationship between the STA MAC address and the established upstream WLAN Client interface, the management on the data forwarded between the upstream AP and the downstream wireless STA specifically is:

through the upstream WLAN Client interface, receiving management action data sent by the upstream AP, and completing a management action; and

according to the mapping relationship between the STA MAC address and the established upstream WLAN Client interface, searching for a downstream wireless STA corresponding to the upstream WLAN Client interface, and completing a management action between a downstream WLAN AP interface corresponding to an upstream AP interface, and the downstream wireless STA.

6. The method according to claim 1, wherein when the data is management action data and an action initiator is the downstream wireless STA, the step of performing, according to the mapping relationship between the STA MAC address and the established upstream WLAN Client interface, the management on the data forwarded between the upstream AP and the downstream wireless STA specifically is:

through the downstream WLAN AP interface, receiving management action data sent by the downstream wireless STA, and completing a management action; and

according to the mapping relationship between the STA MAC address and the established upstream WLAN Client interface, searching for an upstream WLAN Client interface corresponding to the downstream wireless STA, and completing a management action between the upstream WLAN Client interface found by searching and an upstream AP that is corresponding to the downstream WLAN AP interface.

7. The method according to claim 5 or 6, wherein management actions specifically are: associate Associate, authenticate Authenticate, disassociate notify Disassociate notify, deauthenticate notify Deauthenticate notify, and reassociate Reassociate; wherein when the management action is deauthenticate notify, the method further comprises the following step:

deregistering a downstream WLAN AP interface corresponding to the STA, and the upstream WLAN Client interface.

8. The method according to claim 1, wherein when the data is service data and the service data is from the upstream AP to the downstream wireless STA, the step of performing, according to the mapping relationship between the STA MAC address and the established upstream WLAN Client interface, the management on the data forwarded between the upstream AP and the downstream wireless STA specifically is:

through the upstream WLAN Client interface, receiving service data sent by the upstream AP;

according to the mapping relationship between the STA MAC address and the established upstream WLAN Client interface, searching for a downstream wireless STA corresponding to the upstream WLAN Client interface, and mapping a destination address corresponding to the service data into an STA MAC address corresponding to the downstream wireless STA; and

through the downstream WLAN AP interface, sending the mapped service data to the downstream wireless STA.

9. The method according to claim 1, wherein when the data is service data and the service data is from the downstream wireless STA to the upstream AP, the step of performing, according to the mapping relationship between the STA MAC address and the established upstream WLAN Client interface, the management on the data forwarded between the upstream AP and the downstream wireless STA specifically is:

through the downstream WLAN AP interface, receiving service data sent by the downstream wireless STA;

according to the mapping relationship between the STA MAC address and the established upstream WLAN Client interface, searching for an upstream WLAN Client interface corresponding to the downstream wireless STA, and mapping a source address of the service data into a WLAN Client address corresponding to the upstream WLAN Client interface; and

through the upstream WLAN Client interface found by searching, sending the mapped service data to an upstream AP corresponding to the downstream WLAN AP interface.

10. A wireless repeating device, comprising:

a synchronizing unit, configured to synchronize network connection information of an upstream AP to a downstream WLAN AP interface of the wireless repeating device after a connection between the wireless repeating device and the upstream AP is established;

a mapping unit, configured to obtain, according to the downstream WLAN AP interface corresponding to the synchronized upstream AP, downstream wireless STA MAC address information, and establish an upstream WLAN Client interface which is in a mapping relationship with an STA MAC address; and

a data management unit, configured to perform, according to the mapping relationship between

the STA MAC address and the established upstream WLAN Client interface, management on data forwarded between the upstream AP and a downstream wireless STA.

11. The wireless repeating device according to claim 10, wherein the synchronizing unit comprises:

a first connection module, configured to establish a WIFI connection between an initialized upstream WLAN Client interface of the wireless repeating device and the upstream AP;

a synchronizing module, configured to obtain the network connection information of the upstream AP, and synchronize the network connection information of the upstream AP to the downstream WLAN AP interface; and

a deregistration module, configured to deregister the initialized upstream WLAN Client interface.

12. The wireless repeating device according to claim 10, wherein the mapping unit specifically comprises:

a second connection module, configured to establish a connection between the downstream wireless STA and the downstream WLAN AP interface that is corresponding to the synchronized upstream AP;

an obtaining module, configured to, if the downstream wireless STA and the downstream WLAN AP interface that is corresponding to the synchronized upstream AP are connected successfully, obtain STA MAC address information; and

a mapping establishment module, configured to establish a WLAN Client interface which is in a reversible single mapping relationship with the STA MAC address.

13. The wireless repeating device according to any one of claims 10 to 12, wherein the mapping relationship between the STA MAC address and the established upstream WLAN Client interface is a reversible single mapping relationship.

14. The wireless repeating device according to claim 10, wherein when the data is management action data and an action initiator is the upstream AP, the data management unit is specifically configured to:

through the upstream WLAN Client interface, receive management action data sent by the upstream AP, and complete a management action; and

according to the mapping relationship between the STA MAC address and the established upstream WLAN Client interface, search for a downstream wireless STA corresponding to the upstream WLAN Client interface, and complete a management action between a downstream WLAN AP interface corresponding to an upstream AP interface and the downstream wireless STA.

15. The wireless repeating device according to claim 10, wherein when the data is management

action data and an action initiator is the downstream wireless STA, the data management unit is specifically configured to:

through the downstream WLAN AP interface, receive management action data sent by the downstream wireless STA, and complete a management action; and

according to the mapping relationship between the STA MAC address and the established upstream WLAN Client interface, search for an upstream WLAN Client interface corresponding to the downstream wireless STA, and complete a management action between the upstream WLAN Client interface found by searching and an upstream AP that is corresponding to the downstream WLAN AP interface.

16. The wireless repeating device according to claim 14 or 15, wherein management actions specifically are associate Associate, authenticate Authenticate, disassociate notify Disassociate notify, deauthenticate notify Deauthenticate notify, and reassociate Reassociate;

when the management action is deauthenticate notify, the data management unit is further configured to deregister a downstream WLAN AP interface corresponding to the STA, and the upstream WLAN Client interface.

17. The wireless repeating device according to claim 10, wherein when the data is service data and the service data is from the upstream AP to the downstream wireless STA, the data forwarding unit is specifically configured to:

through the upstream WLAN Client interface, receive service data sent by the upstream AP;

according to the mapping relationship between the STA MAC address and the established upstream WLAN Client interface, search for a downstream wireless STA corresponding to the upstream WLAN Client interface, and map a destination address corresponding to the service data into an STA MAC address corresponding to the downstream wireless STA; and

through the downstream WLAN AP interface, send the mapped service data to the downstream wireless STA.

18. The wireless repeating device according to claim 10, wherein when the data is service data and the service data is from the downstream wireless STA to the upstream AP, the data forwarding unit is specifically configured to:

through the downstream WLAN AP interface, receive service data sent by the downstream wireless STA;

according to the mapping relationship between the STA MAC address and the established upstream WLAN Client interface, search for an upstream WLAN Client interface corresponding to the downstream wireless STA, and map a source address of the service data into a WLAN Client address corresponding to the upstream WLAN Client interface; and

through the upstream WLAN Client interface found by searching, send the mapped service data to an upstream AP corresponding to the downstream WLAN AP interface.

CLAIMS

1. A repeating method of a wireless repeating device, wherein the method includes the following steps:

forming an initial upstream connection between an initial upstream WLAN Client interface of the wireless repeating device and an access point, AP, disposed upstream of the wireless repeating device;

obtaining network connection information of the AP used to form the initial upstream connection;

synchronizing the network connection information of the AP to a downstream WLAN AP interface of the wireless repeating device;

forming a first downstream connection between the downstream WLAN AP interface and a first wireless station, and a second downstream connection between the downstream WLAN AP interface and a second wireless station, using the network connection information;

establishing a first upstream WLAN Client interface of the wireless repeating device, and forming a first upstream connection between the first upstream WLAN Client interface and the AP using the network connection information;

establishing a second upstream WLAN Client interface of the wireless repeating device, and forming a second upstream connection between the second upstream WLAN Client interface and the AP using the network connection information;

saving a mapping relationship between the first upstream WLAN Client interface and an MAC address of the first wireless station, and a mapping relationship between the second upstream WLAN Client interface and an MAC address of the second wireless station;

receiving first service data sent by the AP via the first upstream WLAN Client interface, the first service data having a destination MAC address;

according to the saved mapping relationships, identifying the MAC address of the first wireless station as corresponding to the first upstream WLAN Client interface, and translating the destination MAC address to the MAC address of the first wireless station;

sending the first service data with the translated destination MAC address to the first wireless station via the downstream WLAN AP interface;

receiving second service data sent by the second wireless station, the second service data having the MAC address of the second wireless station as a source address;

according to the saved mapping relationships, identifying the second upstream WLAN Client interface as corresponding to the MAC address of the second wireless station, and translating the source address of the second service data to an MAC address of the second upstream WLAN Client interface; and

sending the second service data with the translated source address to the AP via the second upstream WLAN Client interface.

2. The method according to claim 1, wherein the method further includes:

deregistering the initialized upstream WLAN Client interface.

3. The method according to any one of claims 1 to 3, wherein the network connection information includes an encryption mode of a network connection, password information of a network connection, service set identifier, SSID, information, an authentication manner, a physical working channel.

4. The method according to claim 1, wherein the method further includes:

receiving management action data sent by the AP via the first upstream WLAN Client interface, and completing a management action; and

according to the saved mapping relationships identifying the first wireless station corresponding to the first upstream WLAN Client interface, and completing the management action between the downstream WLAN AP interface and the first wireless station.

5. The method according to claim 1, wherein the method further includes:

receiving management action data sent by the second wireless station via the downstream WLAN AP interface, and completing a management action; and

according to the saved mapping relationships identifying the second upstream WLAN Client interface corresponding to the second wireless station, and completing the management action between the second upstream WLAN Client interface and the AP.

6. The method according to claim 4 or claim 5, wherein management action includes one of: Disassociate notify, Deauthenticate notify, and Reassociate.

7. The method according to claim 6, wherein when the management action is Deauthenticate Notify, the method further includes:

deregistering the second upstream WLAN Client interface.

8. A wireless repeating device, including:

a forming unit, configured to form an initial upstream connection between an initial upstream WLAN Client interface of the wireless repeating device and an access point, AP, disposed upstream of the wireless repeating device;

an obtaining unit, configured to obtain network connection information of the AP used to form the initial upstream connection;

a synchronizing unit, configured to synchronize the network connection information of the AP to a downstream WLAN AP interface of the wireless repeating device;

the forming unit, further configured to form a first downstream connection between the downstream WLAN AP interface and a first wireless station, and a second downstream connection between the downstream WLAN AP interface and a second wireless station, using the network connection information;

an establishing unit, configured to establish a first upstream WLAN Client interface of the wireless repeating device, and form a first upstream connection between the first upstream WLAN Client interface and the AP using the network connection information;

the establishing unit, further configured to establish a second upstream WLAN Client interface of the wireless repeating device, and form a second upstream connection between the second upstream WLAN Client interface and the AP using the network connection information;

a saving unit, configured to save a mapping relationship between the first upstream WLAN Client interface and an MAC address of the first wireless station, and a mapping relationship between the second upstream WLAN Client interface and an MAC address of the second wireless station;

a receiving unit, configured to receive first service data sent by the AP via the first upstream WLAN Client interface, the first service data having a destination MAC address;

an identifying unit, configured to according to the saved mapping relationships, identify the MAC address of the first wireless station as corresponding to the first upstream WLAN Client interface, and translate the destination MAC address to the MAC address of the first wireless station;

a sending unit, configured to send the first service data with the translated destination MAC address to the first wireless station via the downstream WLAN AP interface;

the receiving unit, further configured to receive second service data sent by the second wireless station, the second service data having the MAC address of the second wireless station as a source address;

the identifying unit, further configured to according to the saved mapping relationships, identify the second upstream WLAN Client interface as corresponding to the MAC address of the second wireless station, and translate the source address of the second service data to an MAC address of the second upstream WLAN Client interface; and

the sending unit, further configured to send the second service data with the translated source address to the AP via the second upstream WLAN Client interface.

9. The wireless repeating device according to claim 8, wherein the wireless repeating device further including:

a deregistration module, configured to deregister the initialized upstream WLAN Client interface.

10. The wireless repeating device according to claim 8, wherein the network connection information includes an encryption mode of a network connection, password information of a network connection, service set identifier, SSID, information, an authentication manner, a physical working channel.

11. The wireless repeating device according to claim 8, wherein, the receiving unit, further configured to receive management action data sent by the AP via the first upstream WLAN Client interface, and complete a management action; and

the identifying unit, further configured to according to the saved mapping relationships identify the first downstream wireless station corresponding to the upstream WLAN Client interface, and complete the management action between the downstream WLAN AP interface and the first wireless station.

12. The wireless repeating device according to claim 8, wherein, the receiving unit, further configured to receive management action data sent by the second wireless station via the downstream WLAN AP interface, and complete a management action; and

the identifying unit, further configured to according to the saved mapping relationships identify the second upstream WLAN Client interface corresponding to the second wireless station, and complete a management action between the second upstream WLAN Client interface found by searching and the AP.

13. The wireless repeating device according to claim 11 or claim 12, wherein management action includes one of: Disassociate Notify, Deauthenticate Notify, and Reassociate.

14. The wireless repeating device according to claim 13, wherein when the management action is Deauthenticate Notify, the wireless repeating device further including a deregistration module, configured to deregister the second upstream WLAN Client interface.