CLAIMS

1. A sensing method, which is applied to a sensing device, comprising:

sending a first request to a sensing server, wherein the first request is to request the sensing server to start a sensing service for a designated AP, and the sensing service of the sensing server is to receive measurement data reported by the designated AP and obtain a sensing result based on the measurement data;

receiving a first response sent by the sensing server with respect to the first request;

sending a second request to the designated AP when the first response comprises a success indication, wherein the second request is to inform the designated AP to start the sensing service, and the second request comprises information of a designated STA(s) bound to the designated AP and information of the sensing server, and the sensing service of the designated AP is to, after obtaining the measurement data by performing signal measurement on a sensing signal sent by the designated STA(s), report the measurement data to the sensing server;

receiving a second response sent by the designated AP with respect to the second request;

sending a third request to the designated STA(s) when the second response comprises a success indication, wherein the third request is to inform the designated STA(s) to send the sensing signal to the designated AP;

receiving a third response sent by the designated STA(s) with respect to the third request;

starting receiving the sensing result sent by the sensing server when the third response comprises a success indication.

2. The method according to claim 1, wherein after starting receiving the sensing result sent by the sensing server, the method further comprises:

sending a first update request to the sensing server if information of the

designated AP is updated, wherein the first update request comprises updated information of the designated AP;

receiving a first update response sent by the sensing server with respect to the first update request, wherein the first update response is to indicate whether the sensing server has been updated successfully.

3. The method according to claim 2, wherein after starting receiving the sensing result sent by the sensing server, the method further comprises:

sending a second update request to the designated AP if the information of the designated STA(s) bound to the designated AP or the information of the sensing server is updated, wherein the second update request comprises updated information of the designated STA(s) bound to the designated AP and/or updated information of the sensing server;

receiving a second update response sent by the designated AP with respect to the second update request, wherein the second update response is to indicate whether the designated AP has been updated successfully;

wherein the third request further comprises a designated packet sending rate; after starting receiving the sensing result sent by the sensing server, the method further comprises:

sending a third update request to the designated STA(s) if the information of the designated AP bound to the designated STA(s) or the designated packet sending rate is updated, wherein the third update request comprises updated information of the designated AP bound to the designated STA(s) and/or an updated designated packet sending rate;

receiving a third update response sent by the designated STA(s) with respect to the third update request, wherein the third update response is to indicate whether the designated STA(s) has been updated successfully.

4. The method according to claim 3, wherein before sending the first request to the sensing server, the method further comprises:

sending a first initialization request to the sensing server, wherein the first initialization request is to request the sensing server to start a sensing initialization service for the designated AP, and the sensing initialization service of the sensing server is to receive the measurement data reported by the designated AP within an initialization time window and obtain a sensing initialization result based on the measurement data;

receiving a first initialization response sent by the sensing server with respect to the first initialization request;

sending a second initialization request to the designated AP when the first initialization response comprises a success indication, wherein the second initialization request is to inform the designated AP to start the sensing initialization service, the second initialization request comprises the information of the designated STA(s) bound to the designated AP and the information of the sensing server, and the sensing initialization service of the designated AP is to, after obtaining the measurement data by performing signal measurement on a sensing signal sent by the designated STA(s), report the measurement data to the sensing server;

receiving a second initialization response sent by the designated AP with respect to the second initialization request;

sending a third initialization request to the designated STA(s) when the second initialization response comprises a success indication, wherein the third initialization request is to inform the designated STA(s) to start sending the sensing signal to the designated AP;

receiving a third initialization response sent by the designated STA(s) with respect to the third initialization request;

receiving the sensing initialization result sent by the sensing server when the third initialization response comprises a success indication.

5. The method according to claim 4, wherein after starting receiving the sensing result sent by the sensing server, the method further comprises:

sending a first termination request to the sensing server, wherein the first termination request is to request the sensing server to terminate sensing the measurement data reported by the designated AP and to terminate reporting the sensing result to the sensing device;

receiving a first termination response sent by the sensing server with respect to the first termination request;

sending a second termination request to the designated AP, wherein the second termination request is to request the designated AP to stop measuring the sensing signal;

receiving a second termination response sent by the designated AP with respect to the second termination request;

sending a third termination request to the designated STA(s), wherein the third termination request is to request the designated STA(s) to stop sending the sensing signal;

receiving a third termination response sent by the designated STA(s) with respect to the third termination request.

6. The method according to claim 5, wherein the first request, the first initialization request, the first update request and the first termination request are all sensing messages of a first type;

the sensing message of a first type comprises a message type, an initialization time window and information of a designated AP;

in the event that the designated AP is bound to a room, the sensing message of a first type further comprises a number of rooms and room information of each room, the information of the designated AP is located in the room information of the bound room, and the room information comprises a room identifier, a reporting rate of the sensing server, a data type of measurement data, a number of designated APs in the room and information of each designated AP; in the event that the designated AP is not bound to a room, the sensing message of a first type also comprises a number of

designated APs, and the information of each designated AP comprises a MAC address of the AP, a reporting rate of the sensing server and a sampling rate of measurement data by the AP;

wherein the first response, the first initialization response, the first update response and the first termination response are all sensing response messages of a first type;

the sensing response message of a first type comprises a message type, a response result and a failure reason.

7. The method according to claim 5, wherein the second request, the second initialization request, the second update request and the second termination request are all sensing messages of a second type;

the sensing message of a second type comprises a message type, a data type, a sampling rate of measurement data, an IP address version of the sensing server, an IP address of the sensing server, a port number of the sensing server, a number of designated STA(s)s and information of each designated STA(s);

wherein, when the sensing message of a second type is the second termination request, the data type, the sampling rate of measurement data, the IP address version of the sensing server, the IP address of the sensing server, the port number of the sensing server, the number of designated STA(s)s and the information of each designated STA(s) all take a value of null;

wherein the second response, the second initialization response, the second update response and the second termination response are all sensing response messages of a second type;

the sensing response message of a second type comprises a message type, a response result, a failure reason and a MAC address of the designated AP.

8. The method according to claim 5, wherein the third request, the third initialization request, the third update request and the third termination request are all sensing messages of a third type;

the sensing message of a third type comprises a message type and a designated packet sending rate;

wherein the third response, the third initialization response, the third update response and the third termination response are all sensing response messages of a third type;

the sensing response message of a third type comprises a message type, a response result, a failure reason and a MAC address of the designated STA(s).

9. A sensing method, which is applied to a sensing server, comprising:

receiving a first request sent by a sensing device, wherein the first request is to request the sensing server to trigger a sensing service for a designated AP;

sending a first response with respect to the first request to the sensing device;

receiving measurement data reported by the designated AP when the first response comprises a success indication, wherein the designated AP is bound to a designated STA(s), and the measurement data is obtained after the designated AP performs signal measurement on a sensing signal sent by the designated STA(s);

reporting a sensing result of the measurement data to the sensing device.

10. The method according to claim 9, wherein after reporting the sensing result to the sensing device, the method further comprises:

receiving a first update request sent by the sensing device, wherein the first update request comprises updated information of the designated AP;

sending a first update response with respect to the first update request to the sensing device, wherein the first update response is to indicate whether the sensing server has been updated successfully;

preferably, wherein before receiving the first request sent by the sensing device, the method further comprises:

receiving a first initialization request sent by the sensing device, wherein the first

initialization request comprises an initialization time window and information of the designated AP;

sending a first initialization response with respect to the first initialization request to the sensing device;

receiving the measurement data sent by the designated AP when the first initialization response comprises a success indication, wherein the designated AP is bound to a designated STA(s), and the measurement data is obtained after the designated AP performs signal measurement on a sensing signal sent by the designated STA(s);

sending a sensing initialization result of the measurement data to the sensing device;

preferably, wherein after reporting the sensing result to the sensing device, the method further comprises:

receiving a first termination request sent by the sensing device, wherein the first termination request is to request the sensing server to terminate sensing the measurement data reported by the designated AP and to terminate reporting the sensing result to the sensing device;

sending a first termination response with respect to the first termination request to the sensing device.

11. The method according to claim 10, wherein,

the first request, the first initialization request, the first update request and the first termination request are all sensing messages of a first type;

the sensing message of a first type comprises a message type, an initialization time window and information of a designated AP;

in the event that the designated AP is bound to a room, the sensing message of a first type further comprises a number of rooms and room information of each room, and the information of the designated AP is located in the room information of the

bound room, and the room information comprises a room identifier, a reporting rate of the sensing server, a data type of measurement data, a number of designated APs in the room and information of each designated AP; in the event that the designated AP is not bound to a room, the sensing message of a first type also comprises a number of designated APs, and the information of each designated AP comprises a MAC address of the AP, a reporting rate of the sensing server and a sampling rate of measurement data by the AP;

wherein the first response, the first initialization response, the first update response and the first termination response are all sensing response messages of a first type;

the sensing response message of a first type comprises a message type, a response result and a failure reason.

12. The method according to claim 5 or 10, wherein the measurement data reported by the designated AP is located in a sensing message of a fourth type;

the sensing message of a fourth type comprises a number of channel state information (CSI) samples and CSI samples;

each CSI sample comprises a CSI packet, which is a data structure of a structural type, and is to carry CSI measurement data obtained by a single sampling of a sensing signal by the designated AP;

or

wherein the sensing result and the sensing initialization result are located in a sensing result message;

the sensing result message comprises a message type, an initialization result and a failure reason;

the message type occupies 4 bits and indicates that the sensing result message is to carry: the sensing result when taking a value of a first value; and, the sensing initialization result when taking a value of a second value;

the initialization result occupies 1 bit and is either success or failure;

the failure reason occupies 3 bits, and when the initialization result is success, is represented by a field of enumerate type;

in the event that the sensing result message is to carry the sensing result, the initialization result and the failure reason each take a value of null, and the sensing message of a fifth type also comprises a number of sensing results and information of each sensing result;

the number of sensing results occupies 8 bits, and its maximum value is 256;

the information of each sensing result comprises an identifier of a room where the designated AP is located or a MAC address of the designated AP, and a sensing result corresponding to the identifier of the room or the designated AP;

the identifier of the room occupies 16 bits, the MAC address of the designated AP occupies 48 bits, and the sensing result corresponding to the identifier of the designated room or the designated AP occupies 8 bits.

13. The method according to claim 1 or 9, wherein the sensing result is located in a sensing result message, and the sensing result message comprises a number of sensing results and each sensing result;

the number of sensing results occupies 8 bits, and its maximum value is 256;

information of each sensing result comprises an identifier of a room where the designated AP is located or a MAC address of the designated AP, and a sensing result corresponding to the identifier of the room or the designated AP;

the identifier of the room occupies 16 bits, the MAC address of the designated AP occupies 48 bits, and the sensing result corresponding to the identifier of the designated room or the designated AP occupies 8 bits.

14. The method according to claim 4 or 10, wherein the sensing initialization result is located in a sensing initialization message;

the sensing initialization message comprises an initialization result and a failure reason;

the initialization result occupies 1 bit and is either success or failure;

the failure reason occupies 3 bits, and when the initialization result is success, is represented by a field of enumerate type.

15. A sensing device, comprising:

a processor;

a transceiver;

a machine-readable storage medium having stored therein machine-executable instructions that can be executed by the processor; wherein the machine-executable instructions cause the processor to carry out the method of any one of claims 1-8.

16. A sensing server, comprising:

a processor;

a transceiver;

a machine-readable storage medium having stored therein machine-executable instructions that can be executed by the processor; wherein the machine-executable instructions cause the processor to carry out the method of any one of claims 9-14.