

the AP and a hidden service set identifier SSID of the AP; and

sending, to the terminal device, information about the AP available to the terminal device, where the information about the available AP includes the hidden SSID of the AP.

- 5 **[0006]** With reference to the first aspect, in a first possible implementation manner of the first aspect, the determining, according to the first current information and at least one piece of second current information, an access point AP available to the terminal device includes:

10 matching at least one type of information in the first current information with information that is in the at least one piece of second current information and that is corresponding to the at least one type of information; and

 determining an AP corresponding to the second current information as the AP available to the terminal device, where a matching result of the AP meets a preset available condition.

- 15 **[0007]** With reference to the first aspect or the first possible implementation manner of the first aspect, in a second possible implementation manner of the first aspect, before the determining, according to the first current information and at least one piece of second current information, an access point AP available to the terminal device, the method further includes:

20 receiving the second current information sent by the AP; and

 if it is determined, according to the second current information sent by the AP, that the AP is an unregistered access point, registering the AP and saving the second current information sent by the AP; or if it is determined, according to the second current information sent by the AP, that the AP is a registered access point,
25 updating locally saved second current information according to the second current information sent by the AP.

[0008] With reference to the second possible implementation manner of the first aspect, in a third possible implementation manner of the first aspect, the receiving the second current information sent by the AP includes:

30 receiving the second current information periodically sent by the AP; or receiving the second current information sent by the AP when second current information changes; or periodically sending a second current information obtaining request to the AP, and receiving the second current information sent by the AP.

[0009] With reference to the first aspect or the first to the third possible

service set identifier SSID of the AP; and

a sending module, configured to send, to the terminal device, information about the AP available to the terminal device, where the information about the available AP includes the hidden SSID of the AP.

5 [0016] With reference to the third aspect, in a first possible implementation manner of the third aspect, the AP determining module is specifically configured to: match at least one type of information in the first current information with information that is in the at least one piece of second current information and that is corresponding to the at least one type of information, and determine an AP
10 corresponding to the second current information as the AP available to the terminal device, where a matching result of the AP meets a preset available condition.

[0017] With reference to the third aspect or the first possible implementation manner of the third aspect, in a second possible implementation manner of the third aspect, the receiving module is further configured to: before the AP determining
15 module determines, according to the first current information and the at least one piece of second current information, the AP available to the terminal device, receive the second current information sent by the AP; and if it is determined, according to the second current information sent by the AP, that the AP is an unregistered access point, register the AP and save the second current information sent by the AP; or if it is
20 determined, according to the second current information sent by the AP, that the AP is a registered access point, update locally saved second current information according to the second current information sent by the AP.

[0018] With reference to the second possible implementation manner of the third aspect, in a third possible implementation manner of the third aspect, the receiving
25 module is specifically configured to: receive the second current information periodically sent by the AP; or receive the second current information sent by the AP when second current information changes; or periodically send a second current information obtaining request to the AP, and receive the second current information sent by the AP.

30 [0019] With reference to the third aspect or any one of the first to the third possible implementation manners of the third aspect, in a fourth possible implementation manner of the third aspect, the receiving module is specifically configured to: receive the first current information sent by the terminal device, and if the terminal device is an unregistered terminal device, register the terminal device

one type of information in the first current information with information that is in the at least one piece of second current information and that is corresponding to the at least one type of information, and determine an AP corresponding to the second current information as the AP available to the terminal device, where a matching result of the AP meets a preset available condition.

[0027] With reference to the fifth aspect or the first possible implementation manner of the fifth aspect, in a second possible implementation manner of the fifth aspect, the receiver is further configured to receive the second current information sent by the AP, and the processor is further configured to: if it is determined, according to the second current information sent by the AP, that the AP is an unregistered access point, register the AP and save the second current information sent by the AP; or if it is determined, according to the second current information sent by the AP, that the AP is a registered access point, update locally saved second current information according to the second current information sent by the AP.

[0028] With reference to the second possible implementation manner of the fifth aspect, in a third possible implementation manner of the fifth aspect, the receiver is specifically configured to: receive the second current information periodically sent by the AP; or receive the second current information sent by the AP when second current information changes; or periodically send a second current information obtaining request to the AP, and receive the second current information sent by the AP.

[0029] With reference to the fifth aspect or any one of the first to the third possible implementation manners of the fifth aspect, in a fourth possible implementation manner of the fifth aspect, the receiver is specifically configured to: receive the first current information sent by the terminal device, and if the terminal device is an unregistered terminal device, register the terminal device according to the first current information.

[0030] With reference to the fifth aspect or any one of the first to the fourth possible implementation manners of the fifth aspect, in a fifth possible implementation manner of the fifth aspect, the current location information of the terminal device includes at least one type of the following information: Global Positioning System GPS coordinates of the terminal device, a serving cell identifier of the terminal device, an indoor/outdoor attribute of the terminal device, or a Media Access Control MAC address, an Internet Protocol IP address, and signal strength that are of an AP found by the terminal device; and the first current information further

[0081] Further, the information about the available AP further includes signal strength of the available AP. If there are more than two pieces of information about the available AP, a specific implementation method of the foregoing step 203 may be: sorting priorities of more than two available APs according to the signal strength of the available APs, and attempting to access the WLAN starting from the available AP with the highest priority by using the available APs one by one until the access is successful.

[0082] FIG. 3 is a flowchart of still another embodiment of a hidden hotspot access method according to the present invention. As shown in FIG. 3, the method in this embodiment may include the following steps.

[0083] s301. An AP sets an SSID to a hidden state.

[0084] s302. A platform device receives second current information sent by the AP.

[0085] There may be three receiving manners in s302. A first manner is receiving the second current information periodically sent by the AP. A second manner is receiving the second current information sent by the AP when second current information changes. A third manner is periodically sending a second current information obtaining request to the AP, and receiving the second current information sent by the AP. That is, the platform device may actively and periodically query whether the second current information of the AP changes and needs to be updated, or the AP may update local information when the second current information of the AP changes, or the AP may periodically trigger the platform device to update local information.

[0086] s303. If it is determined, according to the second current information sent by the AP, that the AP is an unregistered access point, the platform device registers the AP and saves the second current information of the AP.

[0087] Step s303 is an optional step. Only when the AP is an unregistered access point, it is required to register the AP and save the second current information of the AP. Registration in this embodiment may be considered as that the platform device has recorded the SSID of the AP before receiving the second current information sent by the AP. If the platform device has not recorded the SSID of the AP, it indicates that the AP has not been registered. Therefore, after receiving the second current information sent by the AP, the platform device saves the second current information, and records the SSID of the AP to complete registration.

the AP meets a preset available condition.

[0103] Further, the receiving module 11 is further configured to: before the AP determining module determines, according to the first current information and the at least one piece of second current information, the AP available to the terminal device, receive the second current information sent by the AP; and if it is determined, according to the second current information sent by the AP, that the AP is an unregistered access point, register the AP and save the second current information sent by the AP; or if it is determined, according to the second current information sent by the AP, that the AP is a registered access point, update locally saved second current information according to the second current information sent by the AP.

[0104] Further, the receiving module 11 is specifically configured to: receive the second current information periodically sent by the AP; or receive the second current information sent by the AP when second current information changes; or periodically send a second current information obtaining request to the AP, and receive the second current information sent by the AP.

[0105] Further, the receiving module 11 is specifically configured to: receive the first current information sent by the terminal device, and if the terminal device is an unregistered terminal device, register the terminal device according to the first current information.

[0106] FIG. 5 is a schematic structural diagram of an embodiment of a terminal device according to the present invention. As shown in FIG. 5, the apparatus in this embodiment may include: a sending module 21, a receiving module 22, and an access module 23. The sending module 21 is configured to send first current information to a platform device. The first current information includes an access point query request and current location information of the terminal device. The receiving module 22 is configured to receive information that is about at least one available access point AP and that is sent by the platform device. The information about the available AP includes a hidden service set identifier SSID of the available AP, the information about the available AP is information about an available AP that is determined by the platform device according to the first current information and at least one piece of second current information, and the second current information includes current location information of the AP and the hidden SSID of the AP. The access module 23 is configured to access a wireless local area network WLAN according to the information about the at least one available AP.

least one type of the following information: Global Positioning System GPS coordinates of the terminal device, a serving cell identifier of the terminal device, an indoor/outdoor attribute of the terminal device, or a Media Access Control MAC address, an Internet Protocol IP address, and signal strength that are of an AP found by the terminal device. The first current information further includes at least one type of the following information: radio interference information of the terminal device, temperature and humidity at a current location of the terminal device, or power supply information of the terminal device.

[0113] Further, the current location information of the AP includes at least one type of the following information: GPS coordinates of the AP, a serving cell identifier of the AP, an indoor/outdoor attribute of the AP, or a MAC address, an IP address, and signal strength that are of the AP. The second current information further includes at least one type of the following information: radio interference information of the AP, temperature and humidity at a current location of the AP, or power supply information of the AP.

[0114] Further, the processor 12 is specifically configured to: match at least one type of information in the first current information with information that is in the at least one piece of second current information and that is corresponding to the at least one type of information, and determine an AP corresponding to the second current information as the AP available to the terminal device. A matching result of the AP meets a preset available condition.

[0115] Further, the receiver 11 is further configured to receive the second current information sent by the AP. The processor is further configured to: if it is determined, according to the second current information sent by the AP, that the AP is an unregistered access point, register the AP and save the second current information sent by the AP; or if it is determined, according to the second current information sent by the AP, that the AP is a registered access point, update locally saved second current information according to the second current information sent by the AP.

[0116] Further, the receiver 11 is specifically configured to: receive the second current information periodically sent by the AP; or receive the second current information sent by the AP when second current information changes; or periodically send a second current information obtaining request to the AP, and receive the second current information sent by the AP.

[0117] Further, the receiver 11 is specifically configured to: receive the first

CLAIMS

What is claimed is:

1. A hidden hotspot access method, comprising:

receiving first current information sent by a terminal device, wherein the first
5 current information comprises an access point query request and current location
information of the terminal device;

determining, according to the first current information and at least one piece of
second current information, an access point AP available to the terminal device,
wherein the second current information comprises current location information of the
10 AP and a hidden service set identifier SSID of the AP; and

sending, to the terminal device, information about the AP available to the
terminal device, wherein the information about the available AP comprises the hidden
SSID of the AP.

2. The method according to claim 1, wherein the determining, according to the
15 first current information and at least one piece of second current information, an
access point AP available to the terminal device comprises:

matching at least one type of information in the first current information with
information that is in the at least one piece of second current information and that is
corresponding to the at least one type of information; and

20 determining an AP corresponding to the second current information as the AP
available to the terminal device, wherein a matching result of the AP meets a preset
available condition.

3. The method according to claim 1 or 2, before the determining, according to the
first current information and at least one piece of second current information, an
25 access point AP available to the terminal device, further comprising:

receiving the second current information sent by the AP; and

if it is determined, according to the second current information sent by the AP,
that the AP is an unregistered access point, registering the AP and saving the second
current information sent by the AP; or if it is determined, according to the second
30 current information sent by the AP, that the AP is a registered access point, updating
locally saved second current information according to the second current information
sent by the AP.

4. The method according to claim 3, wherein the receiving the second current information sent by the AP comprises:

receiving the second current information periodically sent by the AP; or

5 receiving the second current information sent by the AP when second current information changes; or

periodically sending a second current information obtaining request to the AP, and receiving the second current information sent by the AP.

5. The method according to any one of claims 1 to 4, wherein the receiving first current information sent by a terminal device comprises:

10 receiving the first current information sent by the terminal device, and if the terminal device is an unregistered terminal device, registering the terminal device according to the first current information.

6. The method according to any one of claims 1 to 5, wherein the current location information of the terminal device comprises at least one type of the following
15 information: Global Positioning System GPS coordinates of the terminal device, a serving cell identifier of the terminal device, an indoor/outdoor attribute of the terminal device, or a Media Access Control MAC address, an Internet Protocol IP address, and signal strength that are of an AP found by the terminal device; and the first current information further comprises at least one type of the following
20 information: radio interference information of the terminal device, temperature and humidity at a current location of the terminal device, or power supply information of the terminal device.

7. The method according to any one of claims 1 to 6, wherein the current location information of the AP comprises at least one type of the following information: GPS
25 coordinates of the AP, a serving cell identifier of the AP, an indoor/outdoor attribute of the AP, or a MAC address, an IP address, and signal strength that are of the AP; and the second current information further comprises at least one type of the following information: radio interference information of the AP, temperature and humidity at a current location of the AP, or power supply information of the AP.

30 8. A hidden hotspot access method, comprising:

sending, by a terminal device, first current information to a platform device, wherein the first current information comprises an access point query request and current location information of the terminal device;

receiving information that is about at least one available access point AP and that

is sent by the platform device, wherein the information about the available AP comprises a hidden service set identifier SSID of the available AP; and

accessing a wireless local area network WLAN according to the information about the at least one available AP.

5 9. The method according to claim 8, the information about the available AP is information about an available AP that is determined by the platform device according to the first current information and at least one piece of second current information, and the second current information comprises current location information of the AP and the hidden SSID of the AP

10 10. The method according to claim 8 or 9, wherein the information about the available AP further comprises signal strength of the available AP; and

if there are more than two pieces of information about the available AP, the accessing a wireless local area network WLAN according to the information about the at least one available AP comprises:

15 sorting priorities of more than two available APs according to the signal strength of the available APs, and attempting to access the WLAN starting from the available AP with the highest priority by using the available APs one by one until the access is successful.

20 11. The method according to any one of claims 8 to 10, wherein the current location information of the terminal device comprises at least one type of the following information: Global Positioning System GPS coordinates, a serving cell identifier, an indoor/outdoor attribute, or a Media Access Control MAC address, an Internet Protocol IP address, and signal strength that are of a found AP; and the first current information further comprises at least one type of the following information:
25 radio interference information, temperature and humidity at a current location, or power supply information.

12. A platform device, comprising:

30 a receiving module, configured to receive first current information sent by a terminal device, wherein the first current information comprises an access point query request and current location information of the terminal device;

an access point AP determining module, configured to determine, according to the first current information and at least one piece of second current information, an access point AP available to the terminal device, wherein the second current information comprises current location information of the AP and a hidden service set

identifier SSID of the AP; and

a sending module, configured to send, to the terminal device, information about the AP available to the terminal device, wherein the information about the available AP comprises the hidden SSID of the AP.

5 13. The platform device according to claim 12, wherein the AP determining module is specifically configured to: match at least one type of information in the first current information with information that is in the at least one piece of second current information and that is corresponding to the at least one type of information, and determine an AP corresponding to the second current information as the AP available
10 to the terminal device, wherein a matching result of the AP meets a preset available condition.

14. The platform device according to claim 12 or 13, wherein the receiving module is further configured to: before the AP determining module determines, according to the first current information and the at least one piece of second current
15 information, the AP available to the terminal device, receive the second current information sent by the AP; and if it is determined, according to the second current information sent by the AP, that the AP is an unregistered access point, register the AP and save the second current information sent by the AP; or if it is determined, according to the second current information sent by the AP, that the AP is a registered
20 access point, update locally saved second current information according to the second current information sent by the AP.

15. The platform device according to claim 14, wherein the receiving module is specifically configured to: receive the second current information periodically sent by the AP; or receive the second current information sent by the AP when second current
25 information changes; or periodically send a second current information obtaining request to the AP, and receive the second current information sent by the AP.

16. The platform device according to any one of claims 12 to 15, wherein the receiving module is specifically configured to: receive the first current information sent by the terminal device, and if the terminal device is an unregistered terminal
30 device, register the terminal device according to the first current information.

17. The platform device according to any one of claims 12 to 16, wherein the current location information of the terminal device comprises at least one type of the following information: Global Positioning System GPS coordinates of the terminal device, a serving cell identifier of the terminal device, an indoor/outdoor attribute of

the terminal device, or a Media Access Control MAC address, an Internet Protocol IP address, and signal strength that are of an AP found by the terminal device; and the first current information further comprises at least one type of the following information: radio interference information of the terminal device, temperature and humidity at a current location of the terminal device, or power supply information of the terminal device.

18. The platform device according to any one of claims 12 to 17, wherein the current location information of the AP comprises at least one type of the following information: GPS coordinates of the AP, a serving cell identifier of the AP, an indoor/outdoor attribute of the AP, or a MAC address, an IP address, and signal strength that are of the AP; and the second current information further comprises at least one type of the following information: radio interference information of the AP, temperature and humidity at a current location of the AP, or power supply information of the AP.

19. A terminal device, comprising:

a sending module, configured to send first current information to a platform device, wherein the first current information comprises an access point query request and current location information of the terminal device;

a receiving module, configured to receive information that is about at least one available access point AP and that is sent by the platform device, wherein the information about the available AP comprises a hidden service set identifier SSID of the available AP; and

an access module, configured to access a wireless local area network WLAN according to the information about the at least one available AP.

20. The terminal device according to claim 19, the information about the available AP is information about an available AP that is determined by the platform device according to the first current information and at least one piece of second current information, and the second current information comprises current location information of the AP and the hidden SSID of the AP.

21. The terminal device according to claim 19 or 20, wherein the information about the available AP further comprises signal strength of the available AP; and

if there are more than two pieces of information about the available AP, the access module is specifically configured to: sort priorities of more than two available APs according to the signal strength of the available APs, and attempt to access the

WLAN starting from the available AP with the highest priority by using the available APs one by one until the access is successful.

22. The terminal device according to any one of claims 19 to 21, wherein the current location information of the terminal device comprises at least one type of the following information: Global Positioning System GPS coordinates, a serving cell identifier, an indoor/outdoor attribute, or a Media Access Control MAC address, an Internet Protocol IP address, and signal strength that are of a found AP; and the first current information further comprises at least one type of the following information: radio interference information, temperature and humidity at a current location, or power supply information.

23. A platform device, comprising:

a receiver, configured to receive first current information sent by a terminal device, wherein the first current information comprises an access point query request and current location information of the terminal device;

15 a processor, configured to determine, according to the first current information and at least one piece of second current information, an access point AP available to the terminal device, wherein the second current information comprises current location information of the AP and a hidden service set identifier SSID of the AP; and

20 a transmitter, configured to send, to the terminal device, information about the AP available to the terminal device, wherein the information about the available AP comprises the hidden SSID of the AP.

24. The platform device according to claim 23, wherein the processor is specifically configured to: match at least one type of information in the first current information with information that is in the at least one piece of second current information and that is corresponding to the at least one type of information, and determine an AP corresponding to the second current information as the AP available to the terminal device, wherein a matching result of the AP meets a preset available condition.

25. The platform device according to claim 23 or 24 wherein the receiver is further configured to receive the second current information sent by the AP, and the processor is further configured to: if it is determined, according to the second current information sent by the AP, that the AP is an unregistered access point, register the AP and save the second current information sent by the AP; or if it is determined, according to the second current information sent by the AP, that the AP is a registered

access point, update locally saved second current information according to the second current information sent by the AP.

26. The platform device according to claim 25, wherein the receiver is specifically configured to: receive the second current information periodically sent by the AP; or receive the second current information sent by the AP when second current information changes; or periodically send a second current information obtaining request to the AP, and receive the second current information sent by the AP.

27. The platform device according to any one of claims 23 to 26, wherein the receiver is specifically configured to: receive the first current information sent by the terminal device, and if the terminal device is an unregistered terminal device, register the terminal device according to the first current information.

28. The platform device according to any one of claims 23 to 27, wherein the current location information of the terminal device comprises at least one type of the following information: Global Positioning System GPS coordinates of the terminal device, a serving cell identifier of the terminal device, an indoor/outdoor attribute of the terminal device, or a Media Access Control MAC address, an Internet Protocol IP address, and signal strength that are of an AP found by the terminal device; and the first current information further comprises at least one type of the following information: radio interference information of the terminal device, temperature and humidity at a current location of the terminal device, or power supply information of the terminal device.

29. The platform device according to any one of claims 23 to 28, wherein the current location information of the AP comprises at least one type of the following information: GPS coordinates of the AP, a serving cell identifier of the AP, an indoor/outdoor attribute of the AP, or a MAC address, an IP address, and signal strength that are of the AP; and the second current information further comprises at least one type of the following information: radio interference information of the AP, temperature and humidity at a current location of the AP, or power supply information of the AP.

30. A terminal device, comprising:

a transmitter, configured to send first current information to a platform device, wherein the first current information comprises an access point query request and current location information of the terminal device;

a receiver, configured to receive information that is about at least one available

access point AP and that is sent by the platform device, wherein the information about the available AP comprises a hidden service set identifier SSID of the available AP; and

5 a processor, configured to access a wireless local area network WLAN according to the information about the at least one available AP.

31. The terminal device according to claim 30, wherein the information about the available AP is information about an available AP that is determined by the platform device according to the first current information and at least one piece of second current information, and the second current information comprises current location
10 information of the AP and the hidden SSID of the AP

32. The terminal device according to claim 30 or 31, wherein the information about the available AP further comprises signal strength of the available AP; and

if there are more than two pieces of information about the available AP, the processor is specifically configured to: sort priorities of more than two available APs
15 according to the signal strength of the available APs, and attempt to access the WLAN starting from the available AP with the highest priority by using the available APs one by one until the access is successful.

33. The terminal device according to anyone of claims 30 to 32, wherein the current location information of the terminal device comprises at least one type of the
20 following information: Global Positioning System GPS coordinates, a serving cell identifier, an indoor/outdoor attribute, or a Media Access Control MAC address, an Internet Protocol IP address, and signal strength that are of a found AP; and the first current information further comprises at least one type of the following information: radio interference information, temperature and humidity at a current location, or
25 power supply information.

34. A computer-readable storage medium having a program recorded thereon; wherein the program makes a computer execute the steps of any of claims 1 to 7.

35. A computer-readable storage medium having a program recorded thereon; wherein the program makes a computer execute the steps of any of claims 8 to 11.

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