

CLAIMS

What is claimed is:

1. A communication apparatus, used in a station STA multi-link device, and comprising:

a processing unit, configured to generate a probe request frame, wherein the probe request
5 frame carries first indication information, the first indication information is used to indicate a first
access point AP working on a first link in an AP multi-link device to feed back communication
information of an AP that works on a second link and that is in the AP multi-link device, the
communication information is used by the STA multi-link device to perform multi-link
communication with the AP multi-link device, the second link is different from the first link,
10 wherein the first indication information further comprises a second field, the second field carries
a feedback type, and when the feedback type is a first value, the feedback type is used to indicate
the AP multi-link device to feed back communication information of APs that work on all links
and that are in the AP multi-link device; and

a communication unit, configured to send the probe request frame on the first link.

2. The communication apparatus according to claim 1, wherein

the communication unit is further configured to receive, on the first link, a probe response
frame sent by the first AP, wherein the probe response frame carries the communication
information of the AP that works on the second link and that is in the AP multi-link device.

3. A communication apparatus, used in an access point AP multi-link device, and comprising:

a communication unit, configured to receive, on a first link, a probe request frame sent by a
station STA multi-link device, wherein the probe request frame carries first indication information,
the first indication information is used to indicate a first AP working on the first link in the AP
multi-link device to feed back communication information of an AP that works on a second link
and that is in the AP multi-link device, the communication information is used by the STA multi-
25 link device to perform multi-link communication with the AP multi-link device, the second link is
different from the first link, wherein

the communication unit is further configured to send a probe response frame to the STA multi-
link device on the first link, wherein the probe response frame carries the communication
information of the AP that works on the second link and that is in the AP multi-link device;

wherein the first indication information further comprises a second field, the second field

carries a feedback type, and when the feedback type is a first value, the feedback type is used to indicate the AP multi-link device to feed back communication information of APs that work on all links and that are in the AP multi-link device.

4. The communication apparatus according to any one of claims 1 to 3, wherein the first indication information comprises a first field; and

the first field carries an address of the AP multi-link device;

the first field carries an identifier of the AP multi-link device;

the first field carries a service set identifier SSID of the AP multi-link device;

the first field carries an SSID of the AP multi-link device on the first link; or

a value of the first field is a preset value, and the first field is specifically used to indicate the AP multi-link device that receives the probe request frame to feed back the communication information.

5. The communication apparatus according to claim 4, wherein the first field is in a multi-link element (multi-link element) of the probe request frame.

6. The communication apparatus according to claim 5, wherein the multi-link element further carries second indication information, and the second indication information indicates that the first AP needs to feed back the communication information.

7. A multi-link device probing method, wherein the method comprises:

generating a probe request frame, wherein the probe request frame carries first indication information, the first indication information is used to indicate a first access point AP working on a first link in an AP multi-link device to feed back communication information of an AP that works on a second link and that is in the AP multi-link device, the communication information is used by the STA multi-link device to perform multi-link communication with the AP multi-link device, the second link is different from the first link, wherein the first indication information further comprises a second field, the second field carries a feedback type, and when the feedback type is a first value, the feedback type is used to indicate the AP multi-link device to feed back communication information of APs that work on all links and that are in the AP multi-link device; and

sending the probe request frame on the first link.

8. The method according to claim 7, wherein the method further comprises:

receiving, on the first link, a probe response frame sent by the first AP, wherein the probe

response frame carries the communication information of the AP that works on the second link and that is in the AP multi-link device.

9. A multi-link device probing method, wherein the method comprises:

receiving, by a first access point AP working on a first link in an AP multi-link device, a
5 probe request frame sent by a station STA multi-link device, wherein the probe request frame
carries first indication information, the first indication information is used to indicate the first AP
to feed back communication information of an AP that works on a second link and that is in the
AP multi-link device, the communication information is used by the STA multi-link device to
perform multi-link communication with the AP multi-link device, the second link is different from
10 the first link; and

sending, by the first AP, a probe response frame to the STA multi-link device on the first link,
wherein the probe response frame carries the communication information of the AP that works on
the second link and that is in the AP multi-link device;

wherein the first indication information further comprises a second field, the second field
15 carries a feedback type, and when the feedback type is a first value, the feedback type is used to
indicate the AP multi-link device to feed back communication information of APs that work on all
links and that are in the AP multi-link device.

10. The method according to any one of claims 7 to 9, wherein the first indication information
comprises a first field; and

20 the first field carries an address of the AP multi-link device;

the first field carries an identifier of the AP multi-link device;

the first field carries a service set identifier SSID of the AP multi-link device;

the first field carries an SSID of the AP multi-link device on the first link; or

a value of the first field is a preset value, and the first field is specifically used to indicate the
25 AP multi-link device that receives the probe request frame to feed back the communication
information.

11. The method according to claim 10, wherein the first field is in a multi-link element (multi-
link element) of the probe request frame.

12. The method according to claim 11, wherein the multi-link element further carries second
30 indication information, and the second indication information indicates that the first AP needs to
feed back the communication information.

13. A communication apparatus, wherein the communication apparatus comprises a processor and a memory, the memory is configured to store a computer program, and the processor is configured to execute the computer program stored in the memory, to enable the communication apparatus to perform the method according to any one of claims 7 to 12.

5 14. A communication apparatus, wherein the communication apparatus comprises a processor, a memory, and a transceiver, the transceiver is configured to receive a signal or send a signal, the memory is configured to store a computer program, and the processor runs the computer program to perform the method according to any one of claims 7 to 12.

10 15. A chip, wherein the chip comprises at least one processor and a communication interface, the communication interface is configured to input or output a signal, and the processor runs a computer program to perform the method according to any one of claims 7 to 12.

16. A computer-readable storage medium, wherein the computer-readable storage medium is configured to store instructions, and when the instructions are executed, the method according to any one of claims 7 to 12 is implemented.

15 17. A computer program product comprising instructions, wherein when the instructions are executed, the method according to any one of claims 7 to 12 is implemented.

18. A communication system, wherein the communication system comprises a station STA multi-link device and an access point AP multi-link device, the station STA multi-link device is configured to perform the method according to any one of claims 7, 8, and 10 to 12, and the access
20 point AP multi-link device is configured to perform the method according to any one of claims 9 to 12.