

CLAIMS

What is claimed is:

1. A signaling information exchange method in a wireless local area network (WLAN), comprising:

5 generating, by an access point (AP), a management frame, wherein the AP belongs to a first AP multi-link device (MLD), the management frame comprises MLD information, the MLD information comprises a first MLD element, a subelement of the first MLD element is used to carry information about another AP in the first MLD; and
 sending, by the access point, the management frame.

10 2. A signaling information exchange method in a wireless local area network (WLAN), comprising:

 receiving, by a station, a management frame from an access point (AP), wherein the AP belongs to a first AP multilink device (MLD), the management frame comprises MLD information, the MLD information comprises a first MLD element, a subelement of the first MLD element
15 carries information about another AP in the first MLD; and
 obtaining, by the station based on the management frame, the information about the another AP in the first MLD.

3. The method according to claim 1 or 2, wherein the first MLD element comprises a common control field, and

20 the common control field comprises type information that indicates an element type of the first MLD element.

4. The method according to claim 3, wherein the first MLD element is a formal MLD element, and the type information in the first MLD element indicates that the first MLD element is the formal MLD element.

25 5. The method according to claim 3, wherein the element type comprises a formal MLD element and a virtual MLD element, and
 the type information comprises:

 a virtual MLD field that indicates whether the MLD element is a virtual MLD element.

6. The method according to claim 5, wherein the virtual MLD field comprises 1 bit; and

30 if the MLD element is the virtual MLD element, the virtual MLD field is set to a first value,

or

if the MLD element is a formal MLD element, the virtual MLD field is set to a second value.

7. The method according to any one of claims 1 to 6, wherein if a field or element about the another AP is different from a field or element about the AP, the same field or element about the another AP is carried in the subelement of the first MLD element.

8. The method according to any one of claims 1 to 6, wherein if a field or element about the another AP is different from a field or element about the AP, the same field or element about the another AP is carried in the subelement of the first MLD element.

9. The method according to any one of claims 1 to 8, wherein the management frame further comprises: reduced neighbor report (RNR) element.

10. The method according to claim 9, wherein in the RNR element, MLD identifiers of a plurality of reported APs are the same when the plurality of reported APs are from the same MLD.

11. The method according to any one of claims 1 to 10, wherein
if the another AP in the first MLD belongs to a second multiple basic service set identifier (BSSID) set, and another AP in the second multiple BSSID set belongs to a second MLD, the MLD information further comprises a second MLD element, wherein a subelement in the second MLD element carries information about an AP in the second MLD.

12. The method according to any one of claims 1 to 11, wherein
if the AP belongs to a first multiple BSSID set, the MLD information further comprises a first multiple BSSID element, wherein the first multiple BSSID element comprises information about a non-transmitted AP in the first multiple BSSID set.

13. The method according to claim 12, wherein
if the non-transmitted AP in the first multiple BSSID set belongs to a third MLD, the first multiple BSSID element further comprises a third MLD element, wherein a subelement of the third MLD element carries information about another AP in the third MLD.

14. The method according to any one of claims 1 to 13, wherein the management frame is a beacon frame, an association response frame, a probe response frame, an authentication frame, or a neighbor report.

15. A signaling information exchange method in a wireless local area network (WLAN),
comprising:
generating, by an access point (AP), a management frame, wherein the AP belongs to a first

AP multi-link device (MLD), the management frame comprises reduced neighbor report (RNR) element and a multiple basic service set identifier (BSSID) element, wherein the RNR element comprises simplified information about another AP that belongs to a same MLD as the AP, wherein the AP belongs to a multiple BSSID set and the multiple BSSID element comprises information about one or more non-transmitted APs in the multiple BSSID set;

sending, by the access point, the management frame.

16. A signaling information exchange method in a wireless local area network (WLAN), comprising:

receiving, by a station, a management frame from an access point (AP), wherein the AP belongs to a first AP multi-link device MLD, the management frame comprises reduced neighbor report (RNR) element and a multiple basic service set identifier (BSSID) element, wherein the RNR element comprises simplified information about another AP that belongs to the first MLD, wherein the AP belongs to a multiple BSSID set and the multiple BSSID element comprises information about one or more non-transmitted APs in the multiple BSSID set; and

obtaining, by the station based on the management frame, the information about the another AP in the first MLD.

17. The method according to claim 15 or 16, wherein the RNR element further comprises simplified information about another AP that belongs to a third MLD, wherein the one or more non-transmitted APs belong to the third MLD.

18. The method according to any one of claims 15 to 17, wherein the RNR element further comprises an MLD identifier of a reported AP, in the RNR element, MLD identifiers of a plurality of reported APs are the same when the plurality of reported APs are from the same MLD.

19. The method according to claim 15 or 16, wherein the RNR element further comprises link identifier of a reported AP.

20. The method according to claim 15 or 16, wherein the multiple BSSID element further comprises an MLD element, the MLD element comprises a common information field, the common information field comprises a link identifier of the one or more non-transmitted APs.

21. The method according to claim 15 or 16, wherein the multiple BSSID element further comprises an identifier of an MLD to which the one or more non-transmitted Aps belong.

22. The method according to claim 15 or 16, wherein simplified information about the one or more non-transmitted APs is not carried the RNR element.

23. An access point (AP), comprising a processor and a memory, wherein the memory is configured to store instructions, and when the instructions are run by the processor, the AP is enabled to perform the method according to any one of claims 1, 3 to 14, 15 and 17 to 22.

5 24. A station, comprising a processor and a memory, wherein the memory is configured to store instructions, and when the instructions are run by the processor, the station is enabled to perform the method according to any one of claims 2 to 14 and 16 to 22.

10 25. A chip, comprising an input/output interface circuit and a processing circuit, wherein the input/output interface circuit is configured to input/output data or signaling information, and the processing circuit is configured to process the data or signaling information provided by the input/output interface circuit, to enable a device comprising the chip to perform the method according to any one of claims 1 to 22.

15 26. A computer-readable storage medium, wherein the computer-readable storage medium stores computer program code or instructions, and when the computer program or the instructions is/are run on a processor, a device comprising the processor is enabled to perform the method according to any one of claims 1 to 22.

27. A computer program product, wherein the program product stores a computer program or instructions, and when the computer program or the instructions is/are run on a processor, a device comprising the processor is enabled to perform the method according to any one of claims 1 to 22.

20 28. A communication system, wherein the communication system comprises an access point according to claim 23 and a station according to claim 24.