
CLAIMS

1. An individually addressed traffic indication method applicable to multiple links, comprising:
generating, by a first access point (AP) of a first access point multi-link device (AP MLD), individually addressed traffic indication information, wherein the individually addressed traffic indication information is used to indicate whether a first non-access-point multi-link device (non-AP MLD) associated with the first AP MLD has a downlink individually addressed traffic and whether a second non-AP MLD associated with a second AP MLD has a downlink individually addressed traffic, and the second AP MLD is an AP MLD to which a non-transmitted AP belongs, and the non-transmitted AP is in a multiple basic service set identifier (BSSID) set in which the first AP is located;
wherein one bit of the individually addressed traffic indication information corresponds to one association identifier (AID), the bit of the individually addressed traffic indication information indicates whether a non-AP MLD identified by a corresponding AID has a downlink individually addressed traffic; and

sending, by the first AP of the first AP MLD, the individually addressed traffic indication information.

2. An individually addressed traffic indication method applicable to multiple links, comprising:
receiving, by a first station (STA) of a non-access-point multi-link device (non-AP MLD), individually addressed traffic indication information, and the non-AP MLD is a first non-AP MLD associated with a first AP MLD or a second non-AP MLD associated with a second AP MLD; and

wherein the individually addressed traffic indication information is used to indicate whether the first non-AP MLD associated with the first AP MLD has a downlink individually addressed traffic and whether the non-AP MLD associated with the second AP MLD has a downlink individually addressed traffic, and the second AP MLD is an AP MLD to which a non-transmitted AP in a multiple BSSID set in which a first AP of the first AP MLD is located belongs; and

determining, by the first STA of the non-AP MLD according to the individually addressed traffic indication information, whether the non-AP MLD has a downlink individually addressed traffic,

wherein one bit of the individually addressed traffic indication information corresponds to one association identifier (AID), the bit of the individually addressed traffic indication information indicates whether a non-AP MLD identified by a corresponding AID has a downlink individually addressed traffic.

4. The method according to any one of claims 1 to 3, wherein association identifiers (AIDs) corresponding to bits of the individually addressed traffic indication information are different from each other.

5. The method according to any one of claims 1 to 4, wherein the individually addressed traffic indication information is carried in a partial virtual bitmap field of a traffic indication map (TIM) element.

6. The method according to any one of claims 1 to 4, wherein the individually addressed traffic indication information is located in a beacon frame or a TIM frame.

7. The method according to claim 6, wherein the beacon frame comprises special fields, and one of the special fields corresponds to one non-AP MLD that has a downlink individually addressed traffic, and is used to indicate one or more links on which the non-AP MLD receives the downlink individually addressed traffic.

8. The method according to any one of claims 1 to 7, wherein an AID space used by the first AP MLD to allocate an AID to the non-AP MLD associated with the first AP MLD and an AID space used by the second AP MLD to allocate an AID to the non-AP MLD associated with the second AP MLD are the same.

9. The method according to claim 1 or 2, wherein the individually addressed traffic indication information comprises a traffic indication map (TIM) block corresponding to the first AP MLD and a TIM block corresponding to one second AP MLD, a TIM block corresponding to the first AP MLD is used to indicate whether the non-AP MLD associated with the first AP MLD has a downlink individually addressed traffic, and a TIM block corresponding to one second AP MLD is used to indicate whether a non-AP MLD associated with the second AP MLD has a downlink individually addressed traffic.

10. The method according to claim 9, wherein the individually addressed traffic indication information further comprises an index of the second AP MLD, and indexes of the second AP MLD are in a one-to-one correspondence with corresponding TIM blocks of the second AP MLD.

11. The method according to claim 9 or 10, wherein one non-AP MLD corresponds to one bit of one of the TIM blocks, and the bit of the TIM block is used to indicate whether the non-AP MLD has a downlink individually addressed traffic.

12. The method according to any one of claims 9 to 11, wherein an AID space used by the first AP MLD to allocate an AID to the non-AP MLD associated with the first AP MLD and an AID space used by the second AP MLD to allocate an AID to the non-AP MLD associated with the second AP MLD are independent of each other.

13. The method according to any one of claims 1, and 3 to 8, wherein the method further comprises:

generating, by the first AP of the first AP MLD, association identifier (AID) allocation information, wherein the AID allocation information carries an AID allocated to a respective non-AP

MLD, and the AID is different from another AID of the non-AP MLD; and

sending, by the first AP of the first AP MLD, the AID allocation information.

14. The method according to any one of claims 2 to 8, wherein the method further comprises:

receiving, by the first STA of the non-AP MLD, the AID allocation information; and

parsing, by the first STA of the non-AP MLD, the received AID allocation information, to learn that the AID allocation information carries the AID allocated to the non-AP MLD, wherein the AID is different from the AID of another non-AP MLD.

23. A communications apparatus, applied to an AP MLD and configured to perform the method according to any one of claims 1, 3 to 13, 15, 17 to 20, 21.

24. A communications apparatus, applied to a non-AP MLD and configured to perform the method according to any one of claims 2 to 14, 16 to 20, 22.

25. A first access point multi-link device (AP MLD) includes a first AP and a second AP, the first AP comprising a processor and a transceiver, wherein the processor is configured to generate individually addressed traffic indication information, wherein the individually addressed traffic indication information is used to indicate whether a first non-AP MLD associated with the first AP MLD has a downlink individually addressed traffic and whether a second non-AP MLD associated with a second AP MLD has a downlink individually addressed traffic, and the second AP MLD is an AP MLD to which a non-transmitted AP belongs, and the non-transmitted AP is in a multiple basic service set identifier (BSSID) set in which the first AP is located;

wherein one bit of the individually addressed traffic indication information corresponds to one association identifier (AID), the bit of the individually addressed traffic indication information indicates whether a non-AP MLD identified by a corresponding AID has a downlink individually addressed traffic; and

the transceiver is configured to send the individually addressed traffic indication information on a first link, wherein the first link is a working link of the first AP.

26. A non-access point multi-link device (non-AP MLD) includes a first station (STA) and a second STA, the non-AP MLD is the non-AP MLD associated with a first AP MLD or the non-AP MLD associated with a second AP MLD, and the first STA comprising a processor and a transceiver, wherein the transceiver is configured to receive individually addressed traffic indication information on a first link on which the first STA works, wherein the individually addressed traffic indication information is used to indicate whether a non-AP MLD associated with a first AP MLD has a downlink individually addressed traffic and whether a non-AP MLD associated with a second AP MLD has a downlink individually addressed traffic, and the second AP MLD is an AP MLD to which a non-transmitted AP belongs, and the non-transmitted AP is in a multiple BSSID set in which a first

AP of the first AP MLD is located; and the processor is configured to determine, according to the individually addressed traffic indication information, whether the non-AP MLD has a downlink individually addressed traffic, wherein one bit of the individually addressed traffic indication information corresponds to one association identifier (AID), the bit of the individually addressed traffic indication information indicates whether a non-AP MLD identified by a corresponding AID has a downlink individually addressed traffic;.

29. A computer-readable storage medium, wherein the computer-readable storage medium stores instructions, and when the instructions are run on a computer, the computer is enabled to perform the method according to any one of claims 1 to 22.

30. A computer program product comprising instructions, wherein when the instructions are run on a computer, the computer is enabled to perform the method according to any one of claims 1 to 22.

31. A chip or a chip system, comprising an input/output interface and a processing circuit, wherein the input/output interface is configured to receive code instructions and transmit the code instructions to the processing circuit, and the processing circuit is configured to run the code instructions to enable an access point or a station to perform the method according to any one of claims 1 to 22.

32. A system, comprising a first access point multi-link device (AP MLD), a second access point multi-link device (AP MLD), and a first non-access point multi-link device (non-AP MLD), a second non-access point multi-link device (non-AP MLD); and a first AP of the first AP MLD is configured to perform the method according to any one of claims 1, 3 to 13, 15, 17 to 20, 21; and a first station of the first non-AP MLD or the second non-AP MLD is configured to perform the method according to any one of claims 2 to 14, 16 to 20, 22.