CLAIMS

What is claimed is:

1. An association identifier (AID) allocation method for an access point multi-link device, comprising:

generating, a first frame; and

sending, the first frame to a non-access point multi-link device, wherein the first frame carries a value of an AID allocated to the non-access point multi-link device, the value of the AID is not a value of a basic service set identifier (BSSID) that can be supported by a first-type access point in the access point multi-link device,

wherein the first-type access point is an access point that has a link established between the non-access point multi-link device and the access point multi-link device, or the first-type access point is an access point for establishing a link between the non-access point multi-link device and the access point multi-link device.

2. An association identifier (AID) allocation method for a non-access point multi-link device, comprising:

receiving, a first frame from an access point multi-link device; and

parsing, the first frame to obtain a value of an AID that is allocated to the non-access point multi-link device and carried in the first frame, wherein the value of the AID is not a value of a basic service set identifier (BSSID) that can be supported by a first-type access point in the access point multi-link device,

wherein the first-type access point is an access point that has a link established between the non-access point multi-link device and the access point multi-link device, or the first-type access point is an access point for establishing a link between the non-access point multi-link device and the access point multi-link device.

3. The method according to claim 1 or 2, wherein the AID is not an identifier corresponding to the first-type access point in the access point multilink device indicated in a traffic indication map (TIM).

4. The method according to any one of claim 1 to 3, wherein the value of the BSSID that can be supported by the first-type access point in the access point multi-link device comprises:

$\left[1, \max(2^{n_1}, 2^{n_2}, ..., 2^{n_i}, ..., 2^{n_N}) - 1\right]$, wherein

N is a quantity of first-type access points, and 2^{n_i} represents a quantity of BSSIDs that can be

supported by an i^{th} access point in the first-type access points.

5. The method according to any one of claims 1 to 4, wherein the identifier of the access point in the access point multi-link device comprises M-1 consecutive values.

6. The method according to claim any one of claims 1 to 5, wherein the AID is not any value in the following range:

[1, $\max(2^{n_1}, 2^{n_2}, ..., 2^{n_N}) - 1 + M - 1$], wherein

N is the quantity of the first-type access points, 2^{n_i} represents a quantity of BSSIDs that can be supported by the first-type access point, and N is less than or equal to M.

7. The method according to claim 6, wherein M is a quantity of access points of the access point multi-link device.

8. A communication apparatus, applied for an access point multi-link device, comprising:

a processing unit, configured to generate a first frame; and

a transceiver unit, configured to send the first frame to a non-access point multi-link device, wherein the first frame carries a value of an AID allocated to the non-access point multi-link device, the value of the AID is not a value of a basic service set identifier (BSSID) that can be supported by a first-type access point in the access point multi-link device,

wherein the first-type access point is an access point that has a link established between the non-access point multi-link device and the access point multi-link device, or the first-type access point is an access point for establishing a link between the non-access point multi-link device and the access point multi-link device.

9. A communication apparatus, applied for a non-access point multi-link device, comprising:

a transceiver unit, configured to receive a first frame from an access point multi-link device; and

a processing unit, configured to parse the first frame to obtain a value of an AID that is allocated to the non-access point multi-link device and carried in the first frame, wherein the value of the AID is not a value of a basic service set identifier (BSSID) that can be supported by a first-type access point in the access point multi-link device,

wherein the first-type access point is an access point that has a link established between the non-access point multi-link device and the access point multi-link device, or the first-type access point is an access point for establishing a link between the non-access point multi-link device and the access point multi-link device.

10. The communication apparatus according to claim 8 or 9, wherein the AID is not an identifier corresponding to the first-type access point in the access point multilink device indicated in a traffic indication map (TIM).

11. The communication apparatus according to any one of claim 8 to 10, wherein the value of the BSSID that can be supported by the first-type access point in the access point multi-link device is:

$\left[1, \max(2^{n_1}, 2^{n_2}, ..., 2^{n_i}, ..., 2^{n_N}) - 1\right]$, wherein

N is a quantity of first-type access points, and 2^{n_i} represents a quantity of BSSIDs that can be supported by an i^{th} access point in the first-type access points.

12. The communication apparatus according to any one of claims 8 to 11, wherein the identifier of the access point in the access point multi-link device comprises M-1 consecutive values.

13. The communication apparatus according to any one of claims 8 to 12, wherein the AID is not any value in the following range:

$[1, \max(2^{n_1}, 2^{n_2}, ..., 2^{n_N}) - 1 + M - 1]$, wherein

N is the quantity of the first-type access points, 2^{n_i} represents a quantity of BSSIDs that can be supported by the first-type access point, and N is less than or equal to M.

14. The communication apparatus according to claim 13, wherein M is a quantity of access points of the access point multi-link device.

15. A communication apparatus, wherein the communication apparatus is an access point multi-link device, and comprises a processor and a transceiver, and the processor is configured to generate a first frame; and

the transceiver is configured to send the first frame to a non-access point multi-link device, wherein the first frame carries a value of an AID allocated to the non-access point multi-link device, the value of the AID is not a value of a basic service set identifier (BSSID) that can be supported by a first-type access point in the access point multi-link device,

wherein the first-type access point is an access point that has a link established between the non-access point multi-link device and the access point multi-link device, or the first-type access point is an access point for establishing a link between the non-access point multi-link device and the access point multi-link device.

16. A communication apparatus, wherein the communication apparatus is a non-access point multi-link device, and comprises a processor and a transceiver, and the transceiver receives a first frame from an access point multi-link device; and

the processor is configured to parse the first frame to obtain a value of an AID that is allocated to the non-access point multi-link device and carried in the first frame, wherein the value of the AID is not a value of a basic service set identifier (BSSID) that can be supported by a first-type access point in the access point multi-link device,

wherein the first-type access point is an access point that has a link established between the non-access point multi-link device and the access point multi-link device, or the first-type access point is an access point for establishing a link between the non-access point multi-link device and the access point multi-link device.

17. 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 7.

18. 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 7.

19. A chip or a chip system applied for an access point multi-link device, comprising an input/output interface and a processing circuit, wherein the processing circuit is configured to generate a first frame, the input/output interface is configured to send the first frame to a non-access point multi-link device, the first frame carries a value of an AID allocated to the non-access point multi-link device, the value of the AID is not a value of a basic service set identifier (BSSID) that can be supported by a first-type access point in the access point multi-link device,

wherein the first-type access point is an access point that has a link established between the non-access point multi-link device and the access point multi-link device, or the first-type access point is an access point for establishing a link between the non-access point multi-link device and the access point multi-link device.

20. A chip or a chip system applied for a non-access point multi-link device, comprising an input/output interface and a processing circuit, wherein the input/output interface is configured to receive a first frame from an access point multi-link device, the processing circuit is configured to parse the received first frame to obtain a value of an AID that is allocated to the non-access point multi-link device and carried in the first frame, the value of the AID is not a value of a basic service set identifier (BSSID) that can be supported by a first-type access point in the access point multi-link device,

wherein the first-type access point is an access point that has a link established between the non-access point multi-link device and the access point multi-link device, or the first-type access point is an access point for establishing a link between the non-access point multi-link device and the access point multi-link device.

21. The chip or chip system according to claims 19 or 20, wherein the processing circuit is configured to further perform the method according to any one of claims 3 to 7.

22. A communication system, comprising:

the communication apparatus according to any one of claims 8, 10-15; and/or,
the communication apparatus according to any one of claims 9-14, 16.