CLAIMS

What is claimed is:

1. A link processing method, wherein the method comprises:

receiving, by a first multi-link device (MLD), first information of a second link on a first link, wherein

a plurality of links between the first MLD and a second MLD comprise the first link and the second link; and

the first information is used by the first MLD to determine whether a basic service set (BSS) configuration of the second link is updated; and

if the BSS configuration of the second link is not updated, transmitting, by the first MLD, a data frame on the switched-to second link or the second link whose link status is transited.

2. The method according to claim 1, wherein the data frame comprises an uplink data frame, a quality of service null (QoS NULL) frame, or a link status notification frame, and the link status notification frame indicates that the second link is in an awake or enable state.

3. The method according to claim 1 or 2, wherein

the first information of the second link is a sequence number of the BSS configuration, or an access point configuration sequence number (AP-CSN), or a check beacon (check beacon) value that is in the second MLD and that identifies the second link.

4. The method according to any one of claims 1 to 3, wherein

the first information of the second link is carried in a link switching response message, or a cross-link information report message, or a medium access control frame, or a response frame for negotiating a mapping relationship between a traffic identifier and a link, or a beacon frame, or a control field of the data frame, or a request frame for negotiating a mapping relationship between a traffic identifier and a link that is received on the first link.

5. The method according to claim 4, wherein if the first information of the second link is carried in the request frame for negotiating the mapping relationship between the traffic identifier and the link that is received on the first link, before the transmitting, by the first MLD, a data frame on the second link, the method further comprises:

sending, by the first MLD, the response frame for negotiating the mapping relationship between the traffic identifier and the link on the first link, wherein

the response frame for negotiating the mapping relationship between the traffic identifier and the link indicates whether the first MLD accepts a mapping configuration request between the traffic identifier and the link.

6. The method according to any one of claims 1 to 5, wherein if the BSS configuration of the second link is updated, the method further comprises:

sending, by the first MLD, second information on the second link, wherein the second information is a sequence number of the BSS configuration, an access point configuration sequence number (AP-CSN), or a check beacon (check beacon) value that is stored in the first MLD and that identifies the second link; and

receiving, by the first MLD on the second link, an updated parameter of the BSS configuration of the second link, wherein the updated parameter of the BSS configuration of the second link is determined based on the second information.

7. The method according to claim 6, wherein

the second information of the second link is carried, for sending, in a unicast probe request frame on the second link; and

the updated parameter of the BSS configuration of the second link is carried in a probe response frame that is received on the second link, and the probe response frame is returned based on the unicast probe request frame.

8. The method according to claim 6 or 7, wherein before the receiving, by a first multi-link device (MLD), first information of a second link on a first link, the method further comprises:

obtaining, by the first MLD, the second information of the second link from a beacon (beacon) frame, a multi-link probe response frame, or a multi-link association response frame of the first link, and storing the second information of the second link, wherein

the second information is the sequence number of the BSS configuration, the access point configuration sequence number (AP-CSN), or the check beacon (check beacon) value that is stored in the first MLD and that identifies the second link.

9. The method according to claim 8, wherein

the beacon (beacon) frame, the multi-link probe response frame, or the multi-link association response frame of the first link further carries the link status and channel utilization of the second link.

10. A link processing method, wherein the method comprises:

determining, by a second multi-link device (MLD), first information of a second link, wherein the first information is used by a first MLD to determine whether a basic service set (BSS) configuration of the second link is updated;

sending, by the second MLD, the first information of the second link on a first link, wherein a plurality of links between the second MLD and the first MLD comprise the first link and the second link; and

the second link is a link that is switched from the first link or a link whose link status is transited.

11. The method according to claim 10, wherein the method further comprises:

receiving, by the second MLD, a data frame on the second link, wherein the data frame comprises an uplink data frame, a quality of service null (QoS NULL) frame, or a link status notification frame, and the link status notification frame indicates that the second link is in an awake or enable state.

12. The method according to claim 10 or 11, wherein

the first information of the second link is a sequence number of the BSS configuration, or an access point configuration sequence number (AP-CSN), or a check beacon (check beacon) value that is in the second MLD and that identifies the second link.

13. The method according to any one of claims 10 to 12, wherein

the first information of the second link is carried, for sending, in a link switching response message, or a cross-link information report message, or a medium access control frame, or a response frame for negotiating a mapping relationship between a traffic identifier and a link, or a beacon frame, or a control field of the data frame, or a request frame for negotiating a mapping relationship between a traffic identifier and a link that is on the first link.

14. The method according to claim 13, wherein if the first information of the second link is carried, for sending, in the request frame for negotiating the mapping relationship between the traffic identifier and the link that is received on the first link, before transmitting, by the second MLD, the data frame on the second link, the method further comprises:

receiving, by the second MLD, the response frame for negotiating the mapping relationship between the traffic identifier and the link on the first link, wherein

the response frame for negotiating the mapping relationship between the traffic identifier and the link indicates whether the first MLD accepts a mapping configuration request between the

traffic identifier and the link.

15. The method according to any one of claims 10 to 14, wherein the method further comprises:

receiving, by the second MLD, second information on the second link, wherein the second information is a sequence number of the BSS configuration, an access point configuration sequence number (AP-CSN), or a check beacon (check beacon) value that is stored in the first MLD and that identifies the second link; and

sending, by the second MLD on the second link, an updated parameter of the BSS configuration of the second link based on the second information.

16. The method according to claim 15, wherein

the second information of the second link is carried in a unicast probe request frame that is received on the second link; and

the updated parameter of the BSS configuration of the second link is carried, for sending, in a probe response frame on the second link, and the probe response frame is sent based on the unicast probe request frame.

17. The method according to claim 12 to 16, wherein before the sending, by the second multi-link device (MLD), the first information of the second link on a first link, the method further comprises:

sending, by the second MLD on the first link, a beacon (beacon) frame, a multi-link probe response frame, or a multi-link association response frame of the first link; and the beacon frame, the multi-link probe response frame, or the multi-link association response frame comprises the second information of the second link.

18. The method according to claim 17, wherein

the beacon (beacon) frame, the multi-link probe response frame, or the multi-link association response frame of the first link further carries the link status and channel utilization of the second link.

19. A multi-link device, comprising:

an interface and a processing circuit, wherein the interface is coupled to the processing circuit, the interface is configured to communicate with another communications apparatus, and the processing circuit is configured to run a program, so that the multi-link device implements the method according to any one of claims 1 to 9.

20. A multi-link device, comprising:

an interface and a processing circuit, wherein the interface is coupled to the processing circuit, the interface is configured to communicate with another communications apparatus, and the processing circuit is configured to run a program, so that the multi-link device implements the method according to any one of claims 10 to 18.

21. A computer-readable storage medium, wherein the computer-readable storage medium stores a computer program, and the computer program may be executed by a computer to control the computer to perform the method according to any one of claims 1 to 9 or the method according to any one of claims 10 to 18.

22. A computer program product, comprising a computer program, wherein when the computer program runs on a computer, the computer is enabled to perform the method according to any one of claims 1 to 9, or the computer is enabled to perform the method according to any one of claims 10 to 18.

23. A multi-link device, configured to perform the method according to any one of claims 1 to 9, or configured to perform the method according to any one of claims 10 to 18.

24. A communication system, comprising:

the multi-link device according to claim 19, and/or, the multi-link device according to claim 20.