CLAIMS

What is claimed is:

1. A communication method, comprising:

receiving, by a first device, first indication information and a service flow identifier of a protocol data unit (PDU) session from a session management network element, wherein the first indication information indicates the first device to autonomously determine a transmission link for a service flow of the PDU session; and

selecting, by the first device, the transmission link for the service flow of the PDU session based on the service flow identifier and the first indication information.

2. The method according to claim 1, wherein the selecting, by the first device, the transmission link for the service flow of the PDU session based on the service flow identifier and the first indication information comprises:

identifying, by the first device, the service flow of the PDU session based on the service flow identifier; and

selecting, by the first device based on the first indication information, one or more transmission links for the service flow corresponding to the service flow identifier.

3. The method according to claim 2, wherein the selecting, by the first device based on the first indication information, one or more transmission links for the service flow corresponding to the service flow identifier comprises:

selecting, by the first device based on at least one of a user preference, an application preference, or a local policy, the one or more transmission links for the service flow corresponding to the service flow identifier;

selecting, by the first device based on at least two of a link status, a transmission condition threshold, a service type, or an application type, the one or more transmission links for the service flow corresponding to the service flow identifier; or

selecting, by the first device based on one or more of a user preference, an application preference, a local policy, a link status or a transmission condition threshold, the one or more transmission links for the service flow corresponding to the service flow identifier.

4. The method according to any one of claims 1 to 3, wherein the first indication information

is information indicating a first steering mode, and the first steering mode comprises: a steering mode in which the first device autonomously selects a transmission link for the service flow; a steering mode in which the first device selects, for the service flow, a transmission link that meets a transmission quality of service QoS requirement of the service flow; a steering mode in which the first device selects, for the service flow, a transmission link that meets a transmission bandwidth requirement of the service flow; a redundant transmission mode in which the first device selects two links for the service flow to simultaneously transmit the service flow; or a load-balancing steering mode in which the first device determines split percentages of two links for the service flow.

5. The method according to any one of claims 1 to 3, wherein the first indication information is steering indication information, and the method further comprises:

receiving, by the first device, a second steering mode from the session management network element, wherein the second steering mode is one of the following: a smallest delay steering mode, a load-balancing steering mode, a priority-based steering mode, or an active-standby steering mode; and the steering indication information indicates the first device to select one or more other transmission links for the service flow of the PDU session when a link selected based on the second steering mode does not meet a transmission requirement of the service flow of the PDU session; or

the steering indication information indicates the first device to select the one or more transmission links for the service flow of the PDU session based on the second steering mode and the steering indication information.

6. The method according to claim 5, wherein

when the second steering mode received by the first device is the load-balancing steering mode, the steering indication information is a specific split percentage of at least one link, wherein the specific split percentage indicates the first device to determine the split percentage of the at least one transmission link.

7. The method according to any one of claims 1 to 6, wherein the service flow identifier comprises one or more of the following:

a PDU session identifier or an N4 session identifier, service flow description information, an application identifier, a QoS flow identifier, a service type identifier, an application type identifier, or a terminal external identifier.

8. The method according to any one of claims 1 to 7, wherein the first device is a terminal device, and the method further comprises:

sending, by the first device to the session management network element, a message requesting to establish or update the PDU session.

9. The method according to any one of claims 1 to 7, wherein the first device is a user plane network element.

10. A communication apparatus, comprising a communication unit and a processing unit, wherein

the communication unit is configured to receive first indication information and a service flow identifier of a protocol data unit (PDU) session from a session management network element, wherein the first indication information indicates the first device to autonomously determine a transmission link for a service flow of the PDU session; and

the processing unit is configured to select the transmission link for the service flow of the PDU session based on the service flow identifier and the first indication information.

11. The apparatus according to claim 10, wherein the processing unit is specifically configured to: identify the service flow of the PDU session based on the service flow identifier; and select, based on the first indication information, one or more transmission links for the service flow corresponding to the service flow identifier.

12. The apparatus according to claim 11, wherein the processing unit is specifically configured to:

select, based on at least one of a user preference, an application preference, or a local policy, the one or more transmission links for the service flow corresponding to the service flow identifier;

select, based on at least two of a link status, a transmission condition threshold, a service type, or an application type, the one or more transmission links for the service flow corresponding to the service flow identifier; or

select, based on one or more of a user preference, an application preference, a local policy, a link status, or a transmission condition threshold, the one or more transmission links for the service flow corresponding to the service flow identifier.

13. The apparatus according to any one of claims 10 to 12, wherein the first indication information is information indicating a first steering mode, and the first steering mode comprises: a steering mode in which the first device autonomously selects a transmission link for the service

flow; a steering mode in which the first device selects, for the service flow, a transmission link that meets a transmission quality of service QoS requirement of the service flow; a steering mode in which the first device selects, for the service flow, a transmission link that meets a transmission bandwidth requirement of the service flow; a redundant transmission mode in which the first device selects two links for the service flow to simultaneously transmit the service flow; or a load-balancing steering mode in which the first device determines split percentages of two links for the service flow.

14. The apparatus according to any one of claims 10 to 12, wherein the first indication information is steering indication information, and the communication unit is further configured to receive a second steering mode from the session management network element, wherein the second steering mode is one of the following: a smallest delay steering mode, a load-balancing steering mode, a priority-based steering mode, or an active-standby steering mode; and the steering indication information indicates the first device to select one or more other transmission links for the service flow of the PDU session when a link selected based on the second steering mode does not meet a transmission requirement of the service flow of the PDU session; or the steering indication information indicates the first device to select the one or more transmission links for the service flow of the PDU session based on the second steering mode and the steering indication information.

15. The apparatus according to claim 14, wherein when the second steering mode received by the first device is the load-balancing steering mode, the steering indication information is a specific split percentage of at least one link, wherein the specific split percentage indicates the first device to determine the split percentage of the at least one transmission link.

16. The apparatus according to any one of claims 10 to 15, wherein the service flow identifier comprises one or more of the following:

a PDU session identifier or an N4 session identifier, service flow description information, an application identifier, a QoS flow identifier, a service type identifier, an application type identifier, or a terminal external identifier.

17. The apparatus according to any one of claims 10 to 16, wherein the communication apparatus is a terminal device, and the communication unit is further configured to send, to the session management network element, a message requesting to establish or update a PDU session.

18. The apparatus according to any one of claims 10 to 16, wherein the communication

apparatus is a user plane network element.

19. A communication apparatus, comprising a processor and a communication interface, wherein

the communication interface is configured to perform message receiving and sending operations in the communication method according to any one of claims 1 to 9, and the processor runs instructions to perform a processing or control operation in the communication method according to any one of claims 1 to 9.

20. A chip, wherein the chip comprises at least one processor and a communication interface, the communication interface is coupled to the at least one processor, the at least one processor is configured to run a computer program or instructions, to implement the communication method according to any one of claims 1 to 9, and the communication interface is configured to communicate with another module outside the chip.

21. A computer-readable storage medium, wherein the computer-readable storage medium stores instructions, and when the instructions are run, the communication method according to any one of claims 1 to 9 is implemented.

22. A computer program product, comprising a computer program, wherein when the computer program is executed by a processor, the communication method according to any one of claims 1 to 9 is implemented.

23. A communication system, comprising:

a first device, configured to perform the communication method according to any one of claims 1 to 9; and

a session management network element, configured to send first indication information and a service flow identifier of a protocol data unit PDU session to the first device, wherein the first indication information indicates the first device to determine a transmission link for a service flow of the PDU session.