Claims

What is claimed is:

1. A packet forwarding method, which is applied to a first network device, comprising:

receiving a traffic packet sent by a user-side device;

buffering the traffic packet into a scheduling queue corresponding to a deterministic flow to which the traffic packet belongs;

when a scheduling cycle of the scheduling queue is reached, sending a combined packet to a second network device, wherein the combined packet comprises an IPv6 header, a segment routing header SRH and multiple traffic packets in the scheduling queue.

2. The method according to claim 1, wherein the combined packet further comprises an extension header, and the extension header comprises a packet length of each traffic packet in the combined packet.

3. The method according to claim 2, wherein the SRH comprises a next header field indicating that a next header after the SRH is the extension header.

4. The method according to any one of claims 1 to 3, wherein a size of the combined packet is less than or equal to a maximum transmission unit MTU.

5. The method according to claim 2, wherein the extension header further comprises a next header field and an extension header length field;

the next header field and the extension header length field each occupy 8 bits;

each packet length comprised in the extension header occupies 16 bits;

in a case where a total number of bits occupied by the next header field, the extension header length field and individual packet lengths comprised in the extension header is not an integral multiple of 32 bits, the extension header further comprises an end field, wherein the end field occupies 16 bits and has a value of 0.

6. A packet forwarding method, which is applied to a third network device, comprising:

receiving a combined packet, wherein the combined packet comprises an IPv6 header, a segment routing header SRH, and multiple traffic packets which belong to a same deterministic flow;

forwarding the multiple traffic packets to a user-side device.

7. The method according to claim 6, wherein the combined packet further comprises an extension header, and the extension header comprises a packet length of each traffic packet in the combined packet; after receiving the combined packet, the method further comprises:

acquiring the multiple traffic packets from the combined packet based on the packet length of each traffic packet comprised in the extension header.

8. The method according to claim 7, wherein the SRH comprises a next header field indicating that a next header after the SRH is the extension header.

9. The method according to any one of claims 6 to 8, wherein a size of the combined packet is less than or equal to a maximum transmission unit MTU.

10. The method according to claim 7, wherein the extension header further comprises a next header field and an extension header length field;

the next header field and the extension header length field each occupy 8 bits;

each packet length comprised in the extension header occupies 16 bits;

in a case where a total number of bits occupied by the next header field, the extension header length field and individual packet lengths comprised in the extension header is not an integral multiple of 32 bits, the extension header further comprises an end field, wherein the end field occupies 16 bits and has a value of 0.

11. A network device, comprising:

a processor;

a transceiver;

a machine-readable storage medium having stored therein machine-executable instructions that can be executed by the processor, wherein the machine-executable instructions cause the processor to carry out the method according to any one of claims 1-5.

12. A network device, comprising:

a processor;

a transceiver;

a machine-readable storage medium having stored therein machine-executable instructions that can be executed by the processor, wherein the machine-executable instructions cause the processor to carry out the method according to any one of claims 6-10.

13. A machine-readable storage medium having stored therein machine-executable instructions that, when called and executed by a processor, cause the processor to carry out the method according to any one of claims 1 to 5 or claims 6 to 10.

14. A computer program product, which causes a processor to carry out the method according to any one of claims 1 to 5 or claims 6 to 10.