CLAIMS

WHAT IS CLAIMED IS:

1. A data transmission control method, ~~applied to~~ performed by a first device, wherein the first device receives a data packet transmitted by a second device, and the method comprises:

receiving a first data packet transmitted by the second device, and determining first time information corresponding to the first data packet;

determining a network jitter degree value based on the first time information and second time information, wherein the second time information is time information corresponding to a second data packet, and the second data packet is a data packet transmitted by the second device to the first device before transmitting the first data packet; and

determining a retransmission timestamp based on the network jitter degree value, and sending the retransmission timestamp to the second device.

2. The method of claim 1, wherein determining the first time information corresponding to the first data packet, comprises:

determining a first reception time at which the first data packet is received;

parsing a first timestamp corresponding to the first data packet;

wherein the first timestamp is a timestamp when the second device transmits the first data packet, and the first reception time and the first timestamp are jointly configured as the first time information.

3. The method of claim 2, wherein the second time information comprises: a second reception time and a second timestamp, the second reception time is a time when the first device receives the second data packet, and the second timestamp is a timestamp when the second device transmits the second data packet; and

determining the network jitter degree value based on the first time information and the second time information, comprises:

determining the network jitter degree value based on the first reception time, the first timestamp, the second reception time, and the second timestamp.

4. The method of claim 3, wherein determining the network jitter degree value based on the first reception time, the first timestamp, the second reception time, and the second timestamp, comprises:

determining a first difference between the first timestamp and the first reception time;

determining a second difference between the second timestamp and the second reception time; and

determining a difference between the second difference and the first difference as the network jitter degree value.

5. The method of any one of claims 1-4, wherein determining the retransmission timestamp based on the network jitter degree value, comprises:

determining a target timestamp, wherein the target timestamp is a timestamp having a maximum value in a plurality of timestamps, and the plurality of timestamps comprise timestamps corresponding respectively to a plurality of data packets received within a historical time period; and

determining a target reception time corresponding to the target timestamp, determining a time sum of the target timestamp and the target reception time, and determining a difference between the time sum and the network jitter degree value as the retransmission timestamp.

6. The method of any one of claims 1-5, wherein sending the retransmission timestamp to the second device, comprises:

generating a packet loss retransmission Negative Acknowledgement (NACK) request message based on the retransmission timestamp; and

in response to a current time reaching a preset time, sending the packet loss retransmission NACK request message to the second device.

7. A data transmission control method, applied to a second device, wherein the second device transmits a data packet to a first device, and the method comprises:

receiving, after transmitting a first data packet to the first device, a retransmission timestamp sent by the first device, wherein the retransmission timestamp is determined by the first device based on a network jitter degree value; and

performing data transmission control based on the retransmission timestamp.

8. The method of claim 7, wherein receiving the retransmission timestamp sent by the first device, comprises:

receiving a packet loss retransmission Negative Acknowledgement (NACK) request message sent by the first device; and

obtaining the retransmission timestamp by parsing the packet loss retransmission NACK request message.

9. The method of claim 8, wherein performing the data transmission control based on the retransmission timestamp, comprises:

obtaining at least one data packet identification (ID) that has been lost by parsing the packet loss retransmission NACK request message;

determining at least one target data packet corresponding to the at least one data packet ID, wherein a timestamp corresponding to the at least one target data packet is prior to the retransmission timestamp; and

transmitting the at least one target data packet to the first device.

10. A data transmission control apparatus, ~~applied to~~ performed by a first device, wherein the first device receives a data packet transmitted by a second device, and the apparatus comprises:

a first receiving module, configured to receive a first data packet transmitted by the second device, and determine first time information corresponding to the first data packet;

a first determining module, configured to determine a network jitter degree value based on the first time information and second time information, wherein the second time information is time information corresponding to a second data packet, and the second data packet is a data packet transmitted by the second device to the first device before transmitting the first data packet; and

a second determining module, configured to determine a retransmission timestamp based on the network jitter degree value, and send the retransmission timestamp to the second device.

11. The apparatus of claim 10, wherein the first receiving module is further configured to:

determine a first reception time at which the first data packet is received; and

parse a first timestamp corresponding to the first data packet, wherein the first timestamp is a timestamp when the second device transmits the first data packet, and the first reception time and the first timestamp are jointly configured as the first time information.

12. The apparatus of claim 11, wherein the second time information comprises: a second reception time and a second timestamp, the second reception time is a time when the first device receives the second data packet, and the second timestamp is a timestamp when the second device transmits the second data packet; and

the first determining module is configured to determine the network jitter degree value based on the first reception time, the first timestamp, the second reception time, and the second timestamp.

13. The apparatus of claim 12, wherein the first determining module is further configured to:

determine a first difference between the first timestamp and the first reception time;

determine a second difference between the second timestamp and the second reception time; and

determine a difference between the second difference and the first difference as the network jitter degree value.

14. The apparatus of any one of claims 10-13, wherein the second determining module comprises:

a first determining sub-module, configured to determine a target timestamp, wherein the target timestamp is a timestamp having a maximum value in a plurality of timestamps, and the plurality of timestamps comprise timestamps corresponding respectively to a plurality of data packets received within a historical time period; and

a second determining sub-module, configured to determine a target reception time corresponding to the target timestamp, determine a time sum of the target timestamp and the target reception time, and determine a difference between the time sum and the network jitter degree value as the retransmission timestamp.

15. The apparatus of any one of claims 10-14, wherein the second determining module is further configured to:

generate a packet loss retransmission Negative Acknowledgement (NACK) request message based on the retransmission timestamp; and

in response to a current time reaching a preset time, send the packet loss retransmission NACK request message to the second device.

16. A data transmission control apparatus, applied to a second device, wherein the second device transmits a data packet to a first device, and the apparatus comprises:

a second receiving module, configured to receive, after transmitting a first data packet to the first device, a retransmission timestamp sent by the first device, wherein the retransmission timestamp is determined by the first device based on a network jitter degree value; and

a controlling module, configured to perform data transmission control based on the retransmission timestamp.

17. The apparatus of claim 16, wherein the second receiving module is further configured to:

receive a packet loss retransmission Negative Acknowledgement (NACK) request message

sent by the first device; and

obtain the retransmission timestamp by parsing the packet loss retransmission NACK request message.

18. The apparatus of claim 17, wherein the controlling module is further configured to:

obtain at least one data packet identification (ID) that has been lost by parsing the packet loss retransmission NACK request message;

determine at least one target data packet corresponding to the at least one data packet ID, wherein a timestamp corresponding to the target data packet is prior to the retransmission timestamp; and

transmit the at least one target data packet to the first device.

19. An electronic device, comprising:

at least one processor; and

a memory communicatively coupled to the at least one processor; wherein

the memory stores instructions executable by the at least one processor, when the instructions are executed by the at least one processor, the at least one processor is caused to implement the method of any one of claims 1-6, or the method of any one of claims 7-9.

20. A non-transitory computer readable storage medium having computer instructions stored thereon, wherein the computer instructions are used to cause a computer to implement the method of any one of claims 1-6, or the method of any one of claims 7-9.

~~21. A computer program product comprising computer programs, wherein when the computer programs are executed by a processor, the method of any one of claims 1-6, or the method of any one of claims 7-9 is implemented.~~

~~22. A computer program comprising computer program codes, wherein when the computer program codes are running on a computer, the computer is caused to implement the method of any one of claims 1-6, or the method of any one of claims 7-9.~~