

CLAIMS

What is claimed is:

1. A random access method, applied to a terminal device, wherein the random access method comprises:

transmitting a data payload in Msg1 of a two-step random access procedure to a network-side device based on transmission configuration information of the Msg1;

~~2. The method according to claim 1, wherein the transmitting a data payload in Msg1 to a network-side device based on transmission configuration information of the Msg1 comprises:~~

when the transmission configuration information indicates transmitting the data payload in the Msg1 via the HARQ manner, transmitting the data payload in the Msg1 to the network-side device via the HARQ manner;

~~3. The method according to claim 2, wherein HARQ configuration information used for transmitting the data payload in the Msg1 comprises at least one of the following:~~

a HARQ process identifier; and

a HARQ redundancy version identifier;

~~4. The method according to claim 1, wherein the transmitting a data payload in Msg1 to a network-side device is retransmitting the data payload in the Msg1 to the network-side device;~~

~~5. The method according to claim 4, wherein the transmitting a data payload in Msg1 to a network-side device based on transmission configuration information of the Msg1 comprises:~~

when a condition of retransmission is satisfied, retransmitting the data payload in the Msg1 to the network-side device based on the transmission configuration information of the Msg1, wherein

the condition of retransmission comprises at least one of the following:

content of Msg2 corresponding to the data payload in the Msg1 is not received within the time duration of Msg2 reception; and

content of Msg2 corresponding to a control payload in the Msg1 is not received within the time duration of Msg2 reception;

2. The method according to claim 1, wherein the condition of retransmission further comprises at least one of the following:

the received Msg2 indicates that the Msg1 needs to be retransmitted.

~~36. The method according to claim 41, wherein the transmitting a data payload in Msg1 to a network-side device based on transmission configuration information of a data payload in the Msg1 comprises:~~

using first data to retransmit the data payload in the Msg1 to the network device, wherein the first data is the same as the data of the data payload in the Msg1, which is transmitted at the first or previous transmission;

or

using second data to retransmit the data payload in the Msg1 to the network-side device, wherein the second data is newly generated data.

74. The method according to claim 41, wherein the retransmitting the data payload in the Msg1 to the network-side device comprises:

retransmitting the data payload in the Msg1 to the network-side device based on a transmission resource indicated by first resource information, wherein the first resource information comprises at least one of resource information for Msg1 retransmission pre-configured by a network and resource information for Msg1 retransmission in Msg2; and

wherein the resource information for Msg1 retransmission comprises at least one of the following:

time domain resource information;

frequency domain resource information;

spatial domain resource information;

HARQ configuration information; and

modulation and coding scheme.

85. The method according to claim 1, further comprising:

receiving Msg2 sent by the network-side device, wherein

the Msg2 comprises at least one of the following:

Msg1 identification information;

resource information for Msg1 retransmission;

waiting time information for Msg1 retransmission;

an association of the resource information for Msg1 retransmission and the terminal device;

and

an association of the waiting time information for Msg1 retransmission and the terminal device;

wherein the Msg1 identification information comprises at least one of a preamble identifier and a terminal device identifier of a data channel.

96. A random access method, applied to a network-side device, wherein the random access

method comprises:

receiving a data payload of Msg1 of a two-step random access procedure sent in a HARQ manner by a terminal device; and

decoding the received data payload of the Msg1

wherein the receiving a data payload of Msg1 sent in a HARQ manner by a terminal device comprises:

receiving the data payload in the Msg1 retransmitted by the terminal device based on transmission configuration information of the Msg1 when a condition of retransmission is satisfied;

wherein the condition of retransmission comprises at least one of the following:

content of Msg2 corresponding to the data payload in the Msg1 is not received within the time duration of Msg2 reception; and

content of Msg2 corresponding to a control payload in the Msg1 is not received within the time duration of Msg2 reception.

407. The method according to claim 96, further comprising:

sending Msg2 to the terminal device, wherein

the Msg2 comprises at least one of the following:

Msg1 identification information;

resource information for Msg1 retransmission;

Msg1 retransmission waiting time information;

an association of the resource information for Msg1 retransmission and the terminal device;

and

an association of the waiting time information for Msg1 retransmission and the terminal device;

wherein the Msg1 identification information comprises at least one of a preamble identifier and a terminal device identifier of a data channel.

418. A terminal device, comprising:

a transmission module, configured to transmit a data payload in Msg1 of a two-step random access procedure to a network-side device based on transmission configuration information of the Msg1;-

~~12. The terminal device according to claim 11, wherein the transmission module is specifically configured to:~~

when the transmission configuration information indicates transmitting the data payload in the Msg1 via the HARQ manner, transmit the data payload in the Msg1 to the network-side

device via the HARQ manner;

~~13. The terminal device according to claim 12, wherein HARQ configuration information used for transmitting the data payload in the Msg1 comprises at least one of the following:~~

~~a HARQ process identifier; and~~

~~a HARQ redundancy version identifier;~~

~~the transmitting a data payload in Msg1 to a network-side device is retransmitting the data payload in the Msg1 to the network-side device;~~

~~wherein the transmission module is specifically configured to:~~

~~when a condition of retransmission is satisfied, retransmit the data payload in the Msg1 to the network-side device based on the transmission configuration information of the Msg1, wherein~~

~~the condition of retransmission comprises at least one of the following:~~

~~content of Msg2 corresponding to the data payload in the Msg1 is not received within the time duration of Msg2 reception; and~~

~~content of Msg2 corresponding to a control payload in the Msg1 is not received within the time duration of Msg2 reception.~~

9. The terminal device according to claim 8, wherein the condition of retransmission further comprises at least one of the following:

the received Msg2 indicates that the Msg1 needs to be retransmitted.

10. The terminal device according to claim 8, wherein the transmission module is specifically configured to:

use first data to retransmit the data payload in the Msg1 to the network device, wherein the first data is the same as the data of the data payload in the Msg1, which is transmitted at the first or previous transmission;

or

use second data to retransmit the data payload in the Msg1 to the network-side device, wherein the second data is newly generated data.

11. The terminal device according to claim 8, wherein the transmission module is specifically configured to:

retransmit the data payload in the Msg1 to the network-side device based on a transmission resource indicated by first resource information, wherein the first resource information comprises at least one of resource information for Msg1 retransmission pre-configured by a

network and resource information for Msg1 retransmission in Msg2; and

12. The terminal device according to claim 11, wherein the resource information for Msg1 retransmission comprises at least one of the following:

time domain resource information;

frequency domain resource information;

spatial domain resource information;

HARQ configuration information; and

modulation and coding scheme.

13. The terminal device according to claim 8, further comprising:

a receiving module, configured to receive Msg2 sent by the network-side device, wherein the Msg2 comprises at least one of the following:

Msg1 identification information;

resource information for Msg1 retransmission;

waiting time information for Msg1 retransmission;

an association of the resource information for Msg1 retransmission and the terminal device;

and

an association of the waiting time information for Msg1 retransmission and the terminal device;

wherein the Msg1 identification information comprises at least one of a preamble identifier and a terminal device identifier of a data channel.

14. The terminal device according to claim 11, wherein the transmission module is specifically configured to:

when the transmission configuration information indicates transmitting the data payload in the Msg1 without using the HARQ manner, transmit a data payload in the Msg1 to the network-side device without HARQ coding.

15. A network-side device, comprising:

a receiving module, configured to receive a data payload of Msg1 of a two-step random access procedure sent in a HARQ manner by a terminal device; and

a decoding module, configured to decode the received data payload of the Msg1;

wherein the receiving module is specifically configured to receive the data payload in the Msg1 retransmitted by the terminal device based on transmission configuration information of

the Msg1 when a condition of retransmission is satisfied;

wherein the condition of retransmission comprises at least one of the following:

content of Msg2 corresponding to the data payload in the Msg1 is not received within the time duration of Msg2 reception; and

content of Msg2 corresponding to a control payload in the Msg1 is not received within the time duration of Msg2 reception.

16. The network-side device according to claim 15, further comprising:

a sending module, configured to send Msg2 to the terminal device, wherein the Msg2 comprises at least one of the following:

Msg1 identification information;

resource information for Msg1 retransmission;

Msg1 retransmission waiting time information;

an association of the resource information for Msg1 retransmission and the terminal device;

and

an association of the waiting time information for Msg1 retransmission and the terminal device.

17. The network-side device according to claim 15, wherein the Msg1 identification information comprises at least one of a preamble identifier and a terminal device identifier of a data channel.

18. A terminal device, comprising a processor, a memory, and a computer program stored in the memory and capable of running on the processor, wherein when the computer program is executed by the processor, the steps of the random access method according to any one of claims 1 to ~~8~~5 are implemented.

19. A network-side device, comprising a processor, a memory, and a computer program stored in the memory and capable of running on the processor, wherein when the computer program is executed by the processor, the steps of the random access method according to claim ~~9~~6 or ~~7~~10 are implemented.

20. A computer-readable storage medium, wherein the computer-readable storage medium stores a computer program, and when the computer program is executed by a processor, the steps of the random access method according to any one of claims 1 to ~~8~~5 are implemented or the

steps of the random access method according to any one of claims ~~69~~ to ~~74~~⁷⁰ are implemented.