CLAIMS

1. An information reporting method, applied to a terminal, comprising:

determining related information of a random access initiated by the terminal; and

reporting the related information of the random access to a network device.

2. The method of claim 1, wherein the related information of the random access comprises at least one of:

a type of the random access initiated by the terminal;

a scenario of the random access initiated by the terminal;

a feedback message from the network device received by the terminal after sending a message A of 2-step random access, or indication information indicating whether the terminal receives a ~~random access fallback message~~fallback indication message after sending the message A of 2-step random access or whether the terminal performs fallback according to the received ~~random access fallback message~~fallback indication message;

time difference between a time when the terminal sends the message A of 2-step random access and a time when the terminal receives the feedback message from the network device;

whether contention is detected in a case where the terminal initiates 2-step random access;

whether configuration of the network device allows the terminal to switch or fall back to Contention-Based Random Access (CBRA);

whether the configuration of the network device allows the terminal to switch or fall back to 4-step random access;

a number of times configured by the network device that the terminal attempts the 2-step random access before switching or falling back to the 4-step random access;

a number of messages A sent when the terminal switches or falls back to another type of random access from the 2-step random access;

a type of a carrier in which the random access initiated by the terminal is located;

a reason why the terminal selects the carrier where the random access is located;

whether a bandwidth part (BWP) where a current random access is located is the same as that where a last random access is located;

information of the BWP where the random access selected by the terminal is located; or

a type of random access supported by the BWP where the random access selected by the terminal is located.

3. The method of claim 2, wherein the type of the random access comprises at least one of:

2-step CBRA;

2-step Contention-Free Random Access (2-step CFRA);

4-step CBRA; or

4-step CFRA.

4. The method of claim 2, wherein the scenario of the random access comprises at least one of:

an initial access scenario;

a handover scenario;

a reconfiguration scenario with synchronization;

a beam fault recovery (BFR) scenario; or

a random access scenario fallen back or switched from another random access type.

5. The method of claim 2, wherein the feedback message from the network device received by the terminal after sending the message A of 2-step random access comprises one of the following:

a random access response message;

a ~~random access fallback message~~fallback indication message; and

a backoff indication message.

6. The method of claim 2, wherein the information of the BWP where the random access selected by the terminal is located comprises at least one of:

location and bandwidth of the BWP;

a subcarrier spacing of the BWP; or

whether the BWP uses an extended cyclic prefix (CP).

7. The method of claim 2, wherein the reason why the terminal selects the carrier where the random access is located comprises one of:

the carrier is configured by the network device; and

the carrier is selected by the terminal according to selection conditions for different types of carriers configured by the network device.

8. The method of claim 1, wherein determining the related information of the random access initiated by the terminal comprises:

recording, by the terminal, the related information of the random access according to configuration of network management or configuration of a tracking collection entity (TCE) or configuration of a base station or pre-definition.

9. The method of claim 1, wherein reporting the related information of the random access to the network device comprises:

receiving a request message sent by the network device for requesting the terminal to report the related information of the random access; and

reporting, according to the request message, the related information of the random access to the network device.

10. The method of claim 9, before receiving the request message sent by the network device for requesting the terminal to report the related information of the random access, further comprising:

sending indication information to the network device, the indication information being used for indicating that the terminal records the related information of the random access.

11. The method of claim 1, wherein reporting the related information of the random access to the network device comprises:

reporting, by the terminal in an RRC connected state, the related information of the random access to the network device;

or,

reporting, in the process of the terminal entering the RRC connected state, the related information of the random access to the network device;

or,

reporting, in an idle state or inactive state, the related information of the random access to the network device.

12. The method of claim 1, wherein the related information of the random access is carried by at least one of:

a target message; or

a random access report.

13. An information receiving method, applied to a network device, comprising:

receiving related information of a random access reported by a terminal.

14. The method of claim 13, wherein the related information of the random access comprises at least one of:

a type of the random access initiated by the terminal;

a scenario of the random access initiated by the terminal;

a feedback message from the network device received by the terminal after sending a message A of 2-step random access, or indication information indicating whether the terminal receives a ~~random access fallback message~~fallback indication message after sending the message A of 2-step random access or whether the terminal performs fallback according to the received ~~random access fallback message~~fallback indication message;

time difference between a time when the terminal sends the message A of 2-step random access and a time when the terminal receives the feedback message from the network device;

whether contention is detected in a case where the terminal initiates 2-step random

access;

whether configuration of the network device allows the terminal to switch or fall back to Contention-Based Random Access (CBRA);

whether the configuration of the network device allows the terminal to switch or fall back to 4-step random access;

a number of times configured by the network device that the terminal attempts the 2-step random access before switching or falling back to the 4-step random access;

a number of messages A sent when the terminal switches or falls back to another type of random access from the 2-step random access;

a type of a carrier in which the random access initiated by the terminal is located;

a reason why the terminal selects the carrier where the random access is located;

whether a bandwidth part (BWP) where a current random access is located is the same as that where a last random access is located;

information of the BWP where the random access selected by the terminal is located; or

a type of random access supported by the BWP where the random access selected by the terminal is located.

15. The method of claim 14, wherein the type of the random access comprises at least one of:

2-step CBRA;

2-step Contention-Free Random Access (2-step CFRA);

4-step CBRA; or

4-step CFRA.

16. The method of claim 14, wherein the scenario of the random access comprises at least one of:

an initial access scenario;

a handover scenario;

a reconfiguration scenario with synchronization;

a beam fault recovery (BFR) scenario; or

a random access scenario fallen back or switched from another random access type.

~~17. The method of claim 14, wherein the feedback message from the network device received by the terminal after sending the message A of 2-step random access comprises one of the following:~~

~~a random access response message;~~

~~a random access fallback message; and~~

~~a backoff indication message.~~

~~18. The method of claim 14, wherein the information of the BWP where the random access selected by the terminal is located comprises at least one of:~~

~~location and bandwidth of the BWP;~~

~~a subcarrier spacing of the BWP; or~~

~~whether the BWP uses an extended cyclic prefix (CP).~~

~~19. The method of claim 14, wherein the reason why the terminal selects the carrier where the random access is located comprises one of:~~

~~the carrier is configured by the network device; and~~

~~the carrier is selected by the terminal according to selection conditions for different types of carriers configured by the network device.~~

~~20~~17. The method of claim 13, before receiving the related information of the random access reported by the terminal, further comprising:

configuring the terminal to record the related information of the random access.

~~21~~18. The method of claim 13, before receiving the related information of the random access reported by the terminal, further comprising:

sending a request message for requesting the terminal to report the related information of the random access to the terminal.

~~22~~19. The method of claim ~~21~~18, before sending the request message for requesting the terminal to report the related information of the random access to the terminal, further comprising:

receiving indication information sent by the terminal, the indication information being used for indicating that the terminal records the related information of the random access.

~~23. The method of claim 13, wherein the related information of the random access is carried by at least one of:~~

~~a target message; or~~

~~a random access report.~~

~~24. An information reporting apparatus, applied to a terminal, comprising:~~

~~an information determination module, configured to determine related information of a random access initiated by the terminal; and~~

~~an information reporting module, configured to report the related information of the random access to a network device.~~

~~25. A terminal, comprising a processor and a transceiver, wherein the transceiver receives and transmits data under the control of the processor, and the processor is configured to:~~

~~determine related information of a random access initiated by the terminal; and~~

~~report the related information of the random access to a network device.~~

~~26. An information receiving apparatus, applied to a network device, comprising:~~

~~a receiving module, configured to receive related information of a random access reported by a terminal.~~

~~27. A network device, comprising a processor and a transceiver, wherein the transceiver receives and transmits data under the control of the processor, and the processor is configured to:~~

~~receive related information of a random access reported by a terminal.~~

~~28~~20. A communication device, comprising a memory, a processor and a program stored on the memory and runnable on the processor, wherein when executing the program, the processor implements the information reporting method of any one of claims 1-12, or when executing the program, the processor implements the information receiving method of any one of claims ~~12-23~~13-19.

~~29. A computer readable storage medium, having stored a computer program thereon, wherein the program, when executed by a processor, implements operations of the information reporting method of any one of claims 1-12, or when executed by the processor, implements operations of the information receiving method of any one of claims 13-23.~~