

CLAIMS

What is claimed is:

1. A data processing method, comprising:
receiving, by a terminal device, first indication information used for performing
5 code block segmentation from a network device;
performing, by the terminal device, code block segmentation on data based on the first indication information, to obtain at least one code block, wherein the data is received by the terminal device from the network device, or the data is prepared by the terminal device so as to send to the network device; and
10 encoding or decoding, by the terminal device, the at least one code block.
2. The method according to claim 1, wherein the first indication information is used to instruct the terminal device to perform code block segmentation on the data by using a target code block segmentation manner in at least one preset code block segmentation manner.
- 15 3. The method according to claim 2, wherein the performing, by the terminal device, code block segmentation on data based on the first indication information comprises:
determining, by the terminal device, the value of the field used to carry the first indication information;
20 selecting, by the terminal device, a code block segmentation manner corresponding to the value of the field from the preset code block segmentation manners as the target code block segmentation manner; and
performing, by the terminal device, code block segmentation on the data based on the target code block segmentation manner.
- 25 4. The method according to any one of claims 1 to 3, wherein the code block segmentation manner used by the terminal device to perform code block segmentation on the data comprises at least one of the following code block segmentation manners:

$N_{CB} = \lceil L / L_{\max} \rceil$, wherein N_{CB} indicates a quantity of code blocks into which the

data needs to be segmented, L indicates a length of the data, $L_{\max}$ indicates a maximum code length of the code blocks segmented from the data, and N_{CB} , L , and $L_{\max}$ are all integers greater than or equal to 1;

$$N_{CB} = \begin{cases} 1, & L < L_{\min} \\ \lfloor L / L_{\min} \rfloor, & L \geq L_{\min} \end{cases}, \text{ wherein } N_{CB} \text{ indicates the quantity of code blocks}$$

5 into which the data needs to be segmented, L indicates the length of the data, $L_{\min}$ indicates a minimum code length of the code blocks segmented from the data, and N_{CB} , L , and $L_{\min}$ are all integers greater than or equal to 1;

$$N_{CB} = \begin{cases} 1, & L \leq L_{\min} \\ \max(\lceil L / L_{\max} \rceil, \min(\lfloor L / L_{\min} \rfloor, K)), & L_{\min} < L \leq K \cdot L_{\max} \\ \lceil L / L_{\max} \rceil, & L > K \cdot L_{\max} \end{cases}, \text{ wherein } N_{CB}$$

indicates the quantity of code blocks into which the data needs to be segmented, L indicates the length of the data, $L_{\max}$ indicates the maximum code length of the code blocks segmented from the data, $L_{\min}$ indicates the minimum code length of the code blocks segmented from the data, K is an integer greater than or equal to 1, K is less than or equal to a quantity of parallel encoders or parallel decoders supported by the terminal device, N_{CB} , L , $L_{\max}$, and $L_{\min}$ are all integers greater than or equal to 1, and $L_{\max}$ is greater than $L_{\min}$; and

$$N_{CB} = \begin{cases} \lceil L / L'_{\max} \rceil, & 0 < L \leq K \cdot L'_{\max} \\ \lceil L / L_{\max} \rceil, & L > K \cdot L'_{\max} \end{cases}, \text{ wherein } N_{CB} \text{ indicates the quantity of}$$

code blocks into which the data needs to be segmented, L indicates the length of the data, $L'_{\max}$ indicates a first value of the maximum code length of the code blocks segmented from the data, $L_{\max}$ indicates a second value of the maximum code length of the code blocks segmented from the data, N_{CB} , L , $L'_{\max}$, and $L_{\max}$ are all integers greater than or equal to 1, $L'_{\max}$ is less than $L_{\max}$, K is an integer greater than or

equal to 1, and K is less than or equal to the quantity of parallel encoders or parallel decoders supported by the terminal device.

5 5. The method according to any one of claims 1 to 4, wherein the receiving, by a terminal device, first indication information used for performing code block segmentation from a network device comprises:

receiving, by the terminal device, downlink control signaling sent by the network device, wherein the downlink control signaling comprises the first indication information.

10 6. A terminal device, wherein the terminal device comprises:
a receiving module, configured to receive first indication information used for performing code block segmentation from a network device;

a code block segmentation module, configured to perform code block segmentation on data based on the first indication information, to obtain at least one code block, wherein the data is received by the terminal device from the network device, or the data
15 is prepared by the terminal device so as to send to the network device; and

a processing module, configured to encode or decode the at least one code block.

7. The terminal device according to claim 6, wherein the first indication information is used to instruct the terminal device to divide the data into a target quantity of code blocks in at least one preset quantity of code blocks.

20 8. The terminal device according to claim 7, wherein the code block segmentation module (320) is specifically configured to: determine a value of a field used to carry the first indication information; select a quantity of code blocks that corresponds to the value of the field from the preset quantities of code blocks as the target quantity of code blocks; and perform code block segmentation on the data based on the target quantity of
25 code blocks.

9. The terminal device according to any one of claims 6 to 8, wherein the first indication information is used to instruct the terminal device to perform code block segmentation on the data by using a target code block segmentation manner in at least one preset code block segmentation manner.

10. The terminal device according to claim 9, wherein the code block segmentation module is specifically configured to: determine the value of the field used to carry the first indication information; select a code block segmentation manner corresponding to the value of the field from the preset code block segmentation manners as the target code block segmentation manner; and perform code block segmentation on the data based on the target code block segmentation manner.

11. The terminal device according to any one of claims 6 to 10, wherein the first indication information is used to indicate a value of a parameter of the target code block segmentation manner used by the terminal device when the terminal device performs code block segmentation on the data.

12. The terminal device according to claim 11, wherein the code block segmentation module is specifically configured to: determine the value of the field used to carry the first indication information; select a value corresponding to the value of the field from a plurality of values of the parameter of the target code block segmentation manner as the value of the parameter of the target code block segmentation manner; and perform code block segmentation on the data by using the target code block segmentation manner based on the value of the parameter of the target code block segmentation manner.

13. The terminal device according to any one of claims 6 to 12, wherein the first indication information instructs the terminal device to perform code block segmentation on the data by using the target code block segmentation manner in the preset code block segmentation manners, and the first indication information indicates the value of the parameter of the target code block segmentation manner.

14. The terminal device according to claim 13, wherein the code block segmentation module is specifically configured to: determine the value of the field used to carry the first indication information; select a code block segmentation manner corresponding to the value of the field from the preset code block segmentation manners as the target code block segmentation manner; select a value corresponding to the value of the field from the plurality of values of the parameter of the target code block segmentation manner as the value of the parameter of the target code block

segmentation manner; and perform code block segmentation on the data by using the target code block segmentation manner based on the value of the parameter of the target code block segmentation manner.

15. The terminal device according to any one of claims 6 to 14, wherein the code block segmentation manner used by the terminal device to perform code block segmentation on the data comprises at least one of the following code block segmentation manners:

$N_{CB} = \lceil L / L_{\max} \rceil$, wherein N_{CB} indicates a quantity of code blocks into which the data needs to be segmented, L indicates a length of the data, $L_{\max}$ indicates a maximum code length of the code blocks segmented from the data, and N_{CB} , L , and $L_{\max}$ are all integers greater than or equal to 1;

$N_{CB} = \begin{cases} 1, & L < L_{\min} \\ \lfloor L / L_{\min} \rfloor, & L \geq L_{\min} \end{cases}$, wherein N_{CB} indicates the quantity of code blocks into which the data needs to be segmented, L indicates the length of the data, $L_{\min}$ indicates a minimum code length of the code blocks segmented from the data, and N_{CB} , L , and $L_{\min}$ are all integers greater than or equal to 1;

$N_{CB} = \begin{cases} 1, & L \leq L_{\min} \\ \max(\lceil L / L_{\max} \rceil, \min(\lfloor L / L_{\min} \rfloor, K)), & L_{\min} < L \leq K \cdot L_{\max} \\ \lceil L / L_{\max} \rceil, & L > K \cdot L_{\max} \end{cases}$, wherein N_{CB} indicates the quantity of code blocks into which the data needs to be segmented, L indicates the length of the data, $L_{\max}$ indicates the maximum code length of the code blocks segmented from the data, $L_{\min}$ indicates the minimum code length of the code blocks segmented from the data, K is an integer greater than or equal to 1, K is less than or equal to a quantity of parallel encoders or parallel decoders supported by the terminal device, N_{CB} , L , $L_{\max}$, and $L_{\min}$ are all integers greater than or equal to 1, and $L_{\max}$ is greater than $L_{\min}$; and

$$N_{CB} = \begin{cases} \lceil L / L'_{\max} \rceil, & 0 < L \leq K \cdot L'_{\max} \\ \lceil L / L_{\max} \rceil, & L > K \cdot L'_{\max} \end{cases},$$
 wherein N_{CB} indicates the quantity of code blocks into which the data needs to be segmented, L indicates the length of the data, $L'_{\max}$ indicates a first value of the maximum code length of the code blocks segmented from the data, $L_{\max}$ indicates a second value of the maximum code length of the code blocks segmented from the data, N_{CB} , L , $L'_{\max}$, and $L_{\max}$ are all integers greater than or equal to 1, $L'_{\max}$ is less than $L_{\max}$, K is an integer greater than or equal to 1, and K is less than or equal to the quantity of parallel encoders or parallel decoders supported by the terminal device.

16. The terminal device according to any one of claims 6 to 15, wherein the terminal device further comprises:

a sending module, configured to send capability information to the network device, wherein the capability information is used to indicate the quantity of parallel encoders and/or parallel decoders supported by the terminal device.

17. The terminal device according to claim 16, wherein the first indication information is determined by the network device based on the quantity of parallel encoders and/or parallel decoders.

18. The terminal device according to any one of claims 6 to 17, wherein the receiving module is specifically configured to receive downlink control signaling sent by the network device, wherein the downlink control signaling comprises the first indication information.

19. The terminal device according to any one of claims 6 to 18, wherein the receiving module is specifically configured to receive higher layer signaling sent by the network device, wherein the higher layer signaling comprises the first indication information.

20. The terminal device according to any one of claims 6 to 19, wherein the receiving module is further configured to receive second indication information sent by the network device, wherein the second indication information is used to indicate a coding scheme of the code blocks segmented from the data; and the processing module

is specifically configured to encode or decode the at least one code block based on the coding scheme indicated in the second indication information.