

scheduling flexibility may be improved.

The time-domain resource unit may be a scheduling unit in a time domain, and for example, may be a subframe or slot in LTE, and may also be a mini-slot or a time-domain scheduling unit consisting of a specific number of symbols in a new system
5 such as 5th-Generation (5G). The frequency-domain resource unit may be a scheduling unit in a frequency domain, may be a physical resource block (PRB) and resource block group (RBG) in LTE or a frequency-domain scheduling unit consisting of a specific number of resource blocks in the new system, and may also be a sub-band.

In a possible implementation, each bit in the first bitmap may correspond to at
10 least one time-domain resource unit in the first frequency-domain resource unit, and a value of each bit in the first bitmap may be used to indicate whether the corresponding at least one time-domain resource unit is used for data transmission.

In a possible implementation, each of bits in the first bitmap may correspond to a respective one of time-domain resource units in the first frequency-domain resource
15 unit.

Optionally, different mapping relationships between bits in the first bitmap and time-domain resource units in the first frequency-domain resource unit may represent whether the resource units are used for data transmission of the terminal device.

In a possible implementation, a left-to-right sequence of the bits in the first
20 bitmap may be consistent with a sequence of the time-domain resource units in the first frequency-domain resource unit.

Optionally, the left-to-right sequence of the bits in the first bitmap may be inconsistent with the sequence of the time-domain resource units in the first frequency-domain resource unit.

25 In a possible implementation, the time-domain resource unit may be at least one of a symbol, a symbol group, a slot, or a mini-slot.

In a possible implementation, after the operation that the terminal device receives the first bitmap from the network device, the method may further include that: the terminal device receives first indication information from the network device. The
30 first indication information is to indicate a time-domain resource not available for data transmission of the terminal device in the first frequency-domain resource unit. The

to the bit is used for data transmission of the terminal device.

In a possible implementation, the second indication information may specifically be used to indicate at least two of a starting position of the at least one frequency-domain resource unit in a system bandwidth, an ending position of the at least one frequency-domain resource unit in the system bandwidth, or a frequency-domain length of the at least one frequency-domain resource unit.

In a possible implementation, the frequency-domain resource unit may be a PRB, an RBG, or a sub-band.

A third aspect provides a terminal device, which is configured to execute the method in the first aspect or any possible implementation of the first aspect. Specifically, the terminal device includes units configured to execute the method in the first aspect or any possible implementation of the first aspect.

A fourth aspect provides a network device, which is configured to execute the method in the second aspect or any possible implementation of the second aspect. Specifically, the network device includes units configured to execute the method in the second aspect or any possible implementation of the second aspect.

A fifth aspect provides a terminal device, which includes a memory, a processor, an input interface, and an output interface. The memory, the processor, the input interface, and the output interface are connected through a bus system. The memory is configured to store instructions. The processor is configured to execute the instructions stored in the memory to execute the method in the first aspect or any possible implementation of the first aspect.

A sixth aspect provides a network device, which includes a memory, a processor, an input interface, and an output interface. The memory, the processor, the input interface, and the output interface are connected through a bus system. The memory is configured to store instructions. The processor is configured to execute the instructions stored in the memory to execute the method in the second aspect or any possible implementation of the second aspect.

A seventh aspect provides a computer storage medium, which is configured to store computer software instructions for executing the method in the first aspect or any possible implementation of the first aspect or the method in the second aspect or any possible implementation of the second aspect, including a program designed to execute the method in each aspect.

includes the following operations.

In S210, a terminal device receives a first bitmap from a network device. The first bitmap is to indicate a time-domain resource allocated for the terminal device by the network device in a first frequency-domain resource unit.

5 In S220, the terminal device performs data transmission with the network device on the time-domain resource indicated by the first bitmap.

The network device may indicate, through a bitmap, a time-domain resource allocated for the terminal device in a frequency-domain resource unit to the terminal device. The time-domain resource unit may be a scheduling unit in a time domain, and
10 for example, may be a subframe or slot in LTE, and may also be a mini-slot or a time-domain scheduling unit consisting of a specific number of symbols in a new system such as 5G. The frequency-domain resource unit may be a scheduling unit in a frequency domain, may be a PRB or an RBG in LTE, a frequency-domain scheduling unit consisting of a specific number of resource blocks in the new system, or a sub-
15 band or the like.

It is to be understood that, in the embodiment of the disclosure, the operation of performing data transmission on the time-domain resource indicated by the first bitmap includes that data, i.e., downlink data, sent by the network device is received on the time-domain resource indicated by the first bitmap and also includes that data, i.e.,
20 uplink data, is sent to the network device on the time-domain resource indicated by the first bitmap.

The bitmap marks a value corresponding to an element with a bit. That is, in the embodiment of the disclosure, each bit in the first bitmap corresponds to at least one time-domain resource unit in the first frequency-domain resource unit. A value of each
25 bit in the first bitmap is to indicate whether the at least one time-domain resource unit corresponding to the bit is used for data transmission or not.

Specifically, the network device may divide the time-domain resource units for a frequency-domain resource unit into multiple groups and represent each group with a bit in a bitmap. For example, 1 represents that the time-domain resource unit
30 corresponding to the bit may be configured for data transmission of the terminal device. The bit may also be valued to be 0 to represent that the corresponding time-domain resource unit may be configured for data transmission of the terminal device, and in other words, the bit is valued to be 1 to represent that the time-domain resource

the data thereof in the first frequency-domain resource unit. For example, the first bitmap sent to the terminal device is 11001100110011 and the first indication information sent by the network device indicates that symbol 5 and symbol 6 may not be available for transmission of the terminal device for some reasons. For example, the network device may allocate symbol 5 and symbol 6 for another terminal device. Then, the terminal device may acquire that the first bitmap may be updated to 11000000110011.

Optionally, in the embodiment of the disclosure, the first indication information is a second bitmap. Each bit in the second bitmap corresponds to at least one time-domain resource unit in the first frequency-domain resource unit, and a value of each bit in the second bitmap is to indicate whether the at least one time-domain resource unit corresponding to the bit is configured for data transmission of the terminal device or not.

A representation manner for the second bitmap may refer to a representation manner for the first bitmap and, for simplicity, will not be elaborated herein.

Optionally, a solution in a conventional art may also be adopted for the first indication information. That is, the first indication information indicates at least two of starting positions, time-domain lengths, or ending positions of some time-domain resource units in the first frequency-domain resource unit. The terminal device may determine the specific time-domain resource units indicated by the first indication information in the first frequency-domain resource unit based on the starting positions and the time-domain lengths, or the starting positions and the ending positions, or the time-domain lengths and the ending positions, etc.

Optionally, in the embodiment of the disclosure, the method further includes that: the terminal device receives second indication information from the network device. The second indication information is to indicate at least one frequency-domain resource unit allocated for the terminal device by the network device. The at least one frequency-domain resource unit includes the first frequency-domain resource unit.

Optionally, the second indication information is a third bitmap. Each of the bits in the third bitmap corresponds to a responsive one of frequency-domain resource units in a system bandwidth. A value of each bit in the third bitmap is to indicate whether the frequency-domain resource unit corresponding to the bit is configured for data transmission of the terminal device or not.

one time-domain resource unit corresponding to the bit is used for data transmission of the terminal device or not.

Optionally, in the embodiment of the disclosure, each of the bits in the first bitmap corresponds to a respective one of the time-domain resource units in the first frequency-domain resource unit.

Optionally, in the embodiment of the disclosure, a left-to-right sequence of the bits in the first bitmap is consistent with a sequence of the time-domain resource units in the first frequency-domain resource unit.

Optionally, in the embodiment of the disclosure, the time-domain resource unit may be at least one of a symbol, a symbol group, a slot, or a mini-slot.

Optionally, in the embodiment of the disclosure, after the operation that the network device sends the first bitmap to the terminal device, the method further includes that: the network device sends first indication information to the terminal device. The first indication information is to indicate a time-domain resource not available for data transmission of the terminal device in the first frequency-domain resource unit.

Optionally, in the embodiment of the disclosure, the first indication information is a second bitmap. Each bit in the second bitmap corresponds to at least one time-domain resource unit in the first frequency-domain resource unit. A value of each bit in the second bitmap is to indicate whether the at least one time-domain resource unit corresponding to the bit is used for data transmission of the terminal device or not.

Optionally, in the embodiment of the disclosure, the method further includes that: the network device sends second indication information to the terminal device. The second indication information is to indicate at least one frequency-domain resource unit allocated for the terminal device by the network device. The at least one frequency-domain resource unit includes the first frequency-domain resource unit.

Optionally, in the embodiment of the disclosure, the second indication information is a third bitmap. Each of the bits in the third bitmap corresponds to a respective one of the frequency-domain resource units in a system bandwidth. A value of each bit in the third bitmap is to indicate whether the frequency-domain resource unit corresponding to the bit is used for data transmission of the terminal device or not.

Optionally, in the embodiment of the disclosure, the second indication

frequency-domain resource unit.

Optionally, in the embodiment of the disclosure, a left-to-right sequence of the bits in the first bitmap is consistent with a sequence of the time-domain resource units in the first frequency-domain resource unit.

5 Optionally, in the embodiment of the disclosure, the time-domain resource unit is at least one of a symbol, a symbol group, a slot, or a mini-slot.

 Optionally, in the embodiment of the disclosure, the network device 400 further includes a second sending unit 420, configured to send first indication information to the first terminal device. The first indication information is to indicate a time-domain
10 resource not available for data transmission of the terminal device in the first frequency-domain resource unit.

 Optionally, in the embodiment of the disclosure, the first indication information is a second bitmap. Each bit in the second bitmap corresponds to at least one time-domain resource unit in the first frequency-domain resource unit. A value of each bit in
15 the second bitmap is to indicate whether the at least one time-domain resource unit corresponding to the bit is configured for data transmission of the terminal device or not.

 Optionally, in the embodiment of the disclosure, the network device 400 includes a third sending unit 430, configured to send second indication information to
20 the terminal device. The second indication information is to indicate at least one frequency-domain resource unit allocated for the first terminal device by the network device. The at least one frequency-domain resource unit includes the first frequency-domain resource unit.

 Optionally, in the embodiment of the disclosure, the second indication
25 information is a third bitmap. Each of the bits in the third bitmap corresponds to a respective one of the frequency-domain resource units in a system bandwidth. A value of each bit in the third bitmap is to indicate whether the frequency-domain resource unit corresponding to the bit is configured for data transmission of the terminal device.

 Optionally, in the embodiment of the disclosure, the second indication
30 information is specifically used to indicate at least two of a starting position of the at least one frequency-domain resource unit in a system bandwidth, an ending position of the at least one frequency-domain resource unit in the system bandwidth, or a frequency-domain length of the at least one frequency-domain resource unit.

CLAIMS

- 5 1. A method for wireless communication, comprising:
receiving, by a terminal device, a first bitmap from a network device, wherein
the first bitmap is to indicate a time-domain resource allocated for the terminal device
by the network device in a first frequency-domain resource unit; and
performing, by the terminal device, data transmission with the network device
10 on the time-domain resource indicated by the first bitmap.
2. The method of claim 1, wherein each bit in the first bitmap corresponds to at least
one time-domain resource unit in the first frequency-domain resource unit, and a value
of each bit in the first bitmap is to indicate whether the at least one time-domain
15 resource unit corresponding to the bit is used for data transmission of the terminal
device.
3. The method of claim 2, wherein each of bits in the first bitmap corresponds to a
respective one of time-domain resource units in the first frequency-domain resource
20 unit.
4. The method of claim 2 or 3, wherein a left-to-right sequence of bits in the first bitmap
is consistent with a sequence of time-domain resource units in the first frequency-
domain resource unit.
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5. The method of any one of claims 2-4, wherein the time-domain resource unit
comprises at least one of a symbol, a symbol group, a slot, or a mini-slot.
6. The method of any one of claims 1-5, further comprising:
30 receiving, by the terminal device, second indication information from the
network device, wherein the second indication information is to indicate at least one
frequency-domain resource unit allocated for the terminal device by the network device,
and the at least one frequency-domain resource unit comprises the first frequency-

domain resource unit.

7. The method of claim 6, wherein the second indication information is a third bitmap, each of bits in the third bitmap corresponds to a respective one of frequency-domain resource units in a system bandwidth, and a value of each bit in the third bitmap is to indicate whether the frequency-domain resource unit corresponding to the bit is used for data transmission of the terminal device.

8. The method of claim 6, wherein the second indication information is to indicate at least two of a starting position of the at least one frequency-domain resource unit in a system bandwidth, an ending position of the at least one frequency-domain resource unit in the system bandwidth, or a frequency-domain length of the at least one frequency-domain resource unit.

9. The method of any one of claims 1-8, wherein the frequency-domain resource unit comprises a physical resource block (PRB), a resource block group (RBG), or a sub-band.

10. A terminal device, comprising:

a first receiving unit, configured to receive a first bitmap from a network device, wherein the first bitmap is to indicate a time-domain resource allocated for the terminal device by the network device in a first frequency-domain resource unit; and

a transmission unit, configured to perform data transmission with the network device on the time-domain resource indicated by the first bitmap.

11. The terminal device of claim 10, wherein each bit in the first bitmap corresponds to at least one time-domain resource unit in the first frequency-domain resource unit, and a value of each bit in the first bitmap is to indicate whether the at least one time-domain resource unit corresponding to the bit is used for data transmission of the terminal device.

12. The terminal device of claim 11, wherein each of bits in the first bitmap corresponds

to a respective one of time-domain resource units in the first frequency-domain resource unit.

13. The terminal device of claim 11 or 12, wherein a left-to-right sequence of bits in the first bitmap is consistent with a sequence of time-domain resource units in the first frequency-domain resource unit.

14. The terminal device of any one of claims 11-13, wherein the time-domain resource unit comprises at least one of a symbol, a symbol group, a slot, or a mini-slot.

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15. The terminal device of any one of claims 10-14, comprising:

a second receiving unit, configured to receive first indication information from the network device, wherein the first indication information is to indicate a time-domain resource not available for data transmission of the terminal device in the first frequency-domain resource unit,

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wherein the transmission unit is specifically configured to:

perform data transmission with the network device on a time-domain resource, other than the time-domain resource indicated by the first indication information, in the time-domain resource indicated by the first bitmap.

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16. The terminal device of claim 15, wherein the first indication information is a second bitmap, each bit in the second bitmap corresponds to at least one time-domain resource unit in the first frequency-domain resource unit, and a value of each bit in the second bitmap is to indicate whether the at least one time-domain resource unit corresponding to the bit is used for data transmission of the terminal device.

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17. The terminal device of any one of claims 10-16, comprising:

a third receiving unit, configured to receive second indication information from the network device, wherein the second indication information is to indicate at least one frequency-domain resource unit allocated for the terminal device by the network device, and the at least one frequency-domain resource unit comprises the first frequency-domain resource unit.

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18. The terminal device of claim 17, wherein the second indication information is a third bitmap, each of bits in the third bitmap corresponds to a respective one of frequency-domain resource units in a system bandwidth, and a value of each bit in the
5 third bitmap is to indicate whether the frequency-domain resource unit corresponding to the bit is use for data transmission of the terminal device.

19. The terminal device of claim 18, wherein the second indication information is to indicate at least two of a starting position of the at least one frequency-domain resource
10 unit in a system bandwidth, an ending position of the at least one frequency-domain resource unit in the system bandwidth, or a frequency-domain length of the at least one frequency-domain resource unit.

20. The terminal device of any one of claims 10-19, wherein the frequency-domain
15 resource unit comprises a physical resource block (PRB), a resource block group (RBG), or a sub-band.