RESOURCE ALLOCATION METHOD, APPARATUS AND SYSTEM

TECHNICAL FIELD

[0001] The present disclosure relates to the communication technology field, and more particularly, to a resource allocation method, apparatus and system.

BACKGROUND

[0002] In a wireless communication system adopting a base station for centralized scheduling control, the allocation of all available resources of the system is performed by the base station. For example, when a User Equipment (UE) performs an Ultra-Reliable Low Latency Communication (URLLC) service, the base station needs to allocate a resource for transmitting service data to the UE. Generally, the base station uses a Physical Resource Block (PRB) as a basic unit to allocate resource (that is, frequency domain resource) to a UE. The base station carries configuration information required for transmitting the service data in Downlink Control Information (DCI) of a control channel, and sends the DCI to the UE. The configuration information includes information of the PRB allocated by the base station for the UE, the granularity is fine, and the data amount of the DCI is large. In order to ensure the reliability of the control channel, the data amount of the DCI needs to be small.

[0003] In related art, in order to reduce the data amount of the DCI, the base station uses a resource block including a plurality of PRBs as the basic unit to allocate resource for the UE, therefore, the configuration information carried by the DCI sent by the base station to the UE includes the information of the resource block, and the granularity is relatively coarse.

[0004] In the process of implementing the present disclosure, at least following problems have been found in the related art.

[0005] In the above process, the information of the resource block is directly obtained by the base station from the protocol, and the content of the configuration information carried by the DCI sent by the base station to the UE is fixed, so flexibility of resource allocation is poor.

SUMMARY

[00410] The embodiments of the present disclosure further provide another resource allocation system, and the system includes an access network device and a target UE.

[00411] The access network device includes the resource allocation apparatus shown in Fig 10.

[00412] The target UE includes the resource allocation apparatus shown in Fig. 11.

[00413] It may be clearly understood by those skilled in the art that, for the purpose of convenient and brief description, for a detailed working process of the foregoing system, apparatus, and unit, reference may be made to a corresponding process in the foregoing method embodiments, and details are not described herein again.

[00414] It should be understood that the term "and/or" herein is merely an association relationship describing associated objects, indicating that there may be three relationships, for example, A and/or B, may represent three situations: A exists alone, A and B coexist, or B exists alone. In addition, the character "/" herein generally indicates that the contextual objects is of an "or" relationship.

[00415] Those skilled in the art may understand that all or part of the steps of implementing the above embodiments may be completed by hardware, or may be instructed by a program to execute related hardware, and the program may be stored in a computer readable storage medium. The storage medium mentioned may be a read only memory, a magnetic disk, an optical disk or the like.

CLAIMS:

1. A resource allocation method, applied to an access network device, comprising:

obtaining J types of configuration information, each type of the configuration information comprising information of a resource block to be allocated, $J \geq 1$; and

notifying the J types of configuration information.

2. The method according to claim 1, wherein, after the notifying the J types of configuration information, the method further comprises:

selecting first target configuration information from the J types of configuration information, the first target configuration information comprising information of a resource block allocated for a target User Equipment (UE) for transmitting service data; and

sending notification information comprising the first target configuration information to the target UE.

3. The method according to claim 2, wherein, after the notifying the J types of configuration information, the method further comprises:

receiving indication information sent by the target UE, the indication information being used to indicate at least one of a device type of the target UE, a service type of a service performed by the target UE, and a service level of a service performed by the target UE; and

the selecting the first target configuration information from the J types of configuration information comprises:

selecting the first target configuration information from the J types of configuration information according to the indication information.

4. The method according to claim 1, wherein each type of the configuration information comprises first sub-information or second sub-information,

the first sub-information comprises an identifier of a resource block allocated for a target User Equipment (UE) and a number K of Physical Resource Blocks (PRB) comprised in the resource block, $K \geq 1$, and

the second sub-information comprises a number N of the resource block allocated for the target UE, the identifier of the resource block, and information of the PRB comprised in the resource block, $N \geq 1$.

5. The method according to claim 4, wherein each type of the configuration information comprises the first sub-information, and after the notifying the J types of configuration information, the method further comprises:

selecting one of a plurality of preset mapping manners as a target mapping manner, each of the mapping manners being used to indicate a grouping manner of the PRB; and

sending information comprising the target mapping manner to the target UE.

6. The method according to claim 2, wherein, $J \geq 2$,

after the selecting first target configuration information from the J types of configuration information, the method further comprises:

selecting second target configuration information from the J types of configuration information, the second target configuration information being different from the first target configuration information; and

sending notification information comprising the second target configuration information to the target UE.

7. The method according to claim 6, wherein before the selecting the second target configuration information from the J types of configuration information, the method further comprises:

receiving configuration request information sent by the target UE, the configuration request information being used to request the access network device to select the second target configuration information from the J types of configuration information.

8. The method according to claim 2 or 6, wherein the notification information comprises x-bit binary data and y-bit binary data located after the x-bit binary data, $x \geq 1$, $y \geq 1$,

wherein, the x-bit binary data is used to indicate an identifier of the first target configuration information or second target configuration information, the y-bit binary data is used to indicate an identifier of a resource block allocated for the target UE, the second target configuration information is selected by the access network device from the J types of configuration information, and the second target configuration information is different from the first target configuration information.

9. The method according to claim 1, wherein the notifying the J types of configuration

information comprises:

notifying the J types of configuration information by at least one of System Information (SI), a Radio Resource Control (RRC) protocol, a Medium Access Control (MAC) Channel Element (CE), Downlink Control Information (DCI), and a Physical Broadcast Channel (PBCH).

10. The method according to claim 2, 6 or 8, wherein the sending the notification information comprising the first target configuration information to the target UE comprises:

sending the notification information comprising the target configuration information to the target UE by using at least one of an RRC protocol, a MAC CE and DCI, the target configuration information comprising the first target configuration information or second target configuration information, the second target configuration information being selected by the access network device from the J types of configuration information, and the second target configuration information being different from the first target configuration information.

11. The method according to claim 4, wherein,

the information of the PRB comprises an identifier of the PRB.

12. The method according to claim 1, 2, 6, 9, or 10, wherein after the notifying the J types of configuration information, the method further comprises:

allocating a resource block used for transmitting service data to a target User Equipment (UE) according to information of a resource block comprised in target configuration information, the target configuration information being configuration information required by the target UE and screened from the J types of configuration information.

13. A resource allocation method, applied to a target User Equipment (UE), comprising:

receiving J types of configuration information notified by an access network device, the J types of configuration information being acquired by the access network device in advance, and each of the configuration information comprising information of a resource block to be allocated, $J \geq 1$.

14. A resource allocation apparatus, applied to an access network device, comprising: a processor and a memory, the memory storing one or more computer programs, wherein the

processor, when executing the computer program, performs the resource allocation method according to any one of claims 1-12.

15. A resource allocation apparatus, applied to a target User Equipment (UE), comprising: a processor and a memory, the memory storing one or more computer programs, wherein the processor, when executing the computer program, performs the resource allocation method according to claim 13.