

WHAT IS CLAIMED IS:

1. A method comprising:

receiving, at a first device and from a second device, information indicating a plurality of configured grant resources and a plurality of hybrid automatic repeat request, HARQ, processes, the plurality of HARQ processes shared by the plurality of configured grant resources;

in response to a determination that data needs to be transmitted on one of the plurality of configured grant resources, selecting a HARQ process from the plurality of HARQ processes; and

transmitting the data to the second device on the one of the plurality of configured grant resources using the selected HARQ process.

2. The method of claim 1, wherein selecting the HARQ process from the plurality of HARQ processes comprises:

extracting from the information criteria for selection of the HARQ processes; and selecting the HARQ process from the plurality of HARQ processes based on the criteria.

3. The method of claim 1, wherein selecting the HARQ process from the plurality of HARQ processes: comprises:

determining, from the plurality of HARQ processes, a set of available HARQ processes;

in response to the number of HARQ processes in the set of available HARQ process being below a threshold number, determining a priority of the data; and

in response to the priority exceeding a threshold priority, selecting the HARQ process from the set of available HARQ processes.

4. The method of claim 1, wherein selecting the HARQ process from the plurality of HARQ processes comprises:

determining a first set of HARQ processes from the plurality of HARQ processes based on the information, the first set of HARQ processes is used for data with priorities higher than a threshold priority;

determining a priority of the data; and

in response to the priority exceeding the threshold priority, selecting the HARQ process from the first set of HARQ processes.

5 5. The method of claim 1, wherein selecting the HARQ process from the plurality of HARQ processes comprises:

determining a second set of HARQ processes from the plurality of HARQ processes based on the information, data with priorities lower than a threshold priority being only allowed to using the second set of HARQ processes ;

10 determining a priority of the data; and
in response to the priority being below the threshold priority, selecting the HARQ process from the second set of HARQ processes.

15 6. The method of claim 4 or 5, wherein the second set of HARQ processes is a subset of the first set of HARQ processes.

7. The method of any one of claims 3 to 5, wherein determining the priority of the data comprises:

20 determining the priority of the data based on at least one of:
a priority of a logical channel/logical channel group to which the data belongs,
a buffered time of the data, or
a priority of a traffic to which medium access control (MAC) control element (CE) contained in the data relates.

25 8. The method of claim 1, wherein selecting the HARQ process from the plurality of HARQ processes comprises:

determining a third set of HARQ processes from the plurality of HARQ processes based on the information, the third set of HARQ processes being used for the one of the plurality of configured grant resources; and

30 selecting the HARQ from the third set of HARQ processes.

9. The method of claim 8, further comprising:

determining a fourth set of HARQ processes from the plurality of HARQ processes based on the information, the fourth set of HARQ processes being used for a further one of

the plurality of configured grant resources, the fourth set of HARQ processes being a subset of the third set of HARQ processes.

10. The method of claim 1, wherein selecting the HARQ process from the plurality
5 of HARQ processes comprises:

determining a logical channel to which the data belongs;

determining the number of HARQ processes currently used by the channel; and

in response to the number being below a threshold number, selecting the HARQ
process from the plurality of HARQ processes.

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11. The method of claim 1, wherein the first device comprises a terminal device and
the second device comprises a network device.

12. A method comprising:

15 generating, at a second device, information indicating a plurality of configured grant
resources and a plurality of hybrid automatic repeat request, HARQ, processes, the plurality
of HARQ processes shared by the plurality of configured grant resources;

transmitting the information to a first device; and

receiving data from the first device on one of the plurality of configured grant
20 resources using a HARQ process from the plurality of HARQ processes.

13. The method of claim 12, wherein generating the information comprises:

generating criteria for selection of the HARQ process; and

adding the criteria to the information.

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14. The method of claim 12, wherein generating the information comprises:

generating the information to indicate at least one of:

a first set of HARQ processes from the plurality of HARQ processes, the first
set of HARQ processes being used for data with priorities higher than a threshold priority;

30 a second set of HARQ processes from the plurality of HARQ processes, data
with priorities lower than a threshold priority being only allowed to use the second set of
HARQ processes;

a third set of HARQ processes from the plurality of HARQ processes based on the information, the third set of HARQ processes being used for one of the plurality of configured grant resources;

5 a threshold number of available HARQ processes in the plurality of HARQ processes; or .
the threshold priority.

15. The method of claim 12, wherein the first device comprises a terminal device and the second device comprises a network device.

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16. A first device comprising:
at least one processor; and
at least one memory including computer program codes;
the at least one memory and the computer program codes are configured to, with the
15 at least one processor, cause the first device to perform the method of any one of claims 1-9.

17. A second device comprising:
at least one processor; and
20 at least one memory including computer program codes;
the at least one memory and the computer program codes are configured to, with the at least one processor, cause the second device to perform the method of any one of claims 10-14.

25 18. An apparatus comprising:
means for receiving, at a first device and from a second device, information indicating a plurality of configured grant resources and a plurality of hybrid automatic repeat request, HARQ, processes, the plurality of HARQ processes shared by the plurality of configured grant resources;

30 means for in response to a determination that data needs to be transmitted on one of the plurality of configured grant resources, selecting a HARQ process from the plurality of HARQ processes; and

means for transmitting the data to the second device on the one of the plurality of configured grant resources using the selected HARQ process.

19. An apparatus comprising:

means for generating, at a second device, information indicating a plurality of configured grant resources and a plurality of hybrid automatic repeat request, HARQ, processes, the plurality of HARQ processes shared by the plurality of configured grant resources;

means for transmitting the information to a first device; and

means for receiving data from the first device on one of the plurality of configured grant resources using a HARQ process from the plurality of HARQ processes.

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20. A computer readable medium storing instructions thereon, the instructions, when executed by at least one processing unit of a machine, causing the machine to perform the method according to any one of claims 1-15.