

What is claimed is:

1. A communication method, performed by a Master Node (MN), comprising:
sending a Radio Resource Control (RRC) reconfiguration message to a User Equipment (UE), wherein the RRC reconfiguration message comprises at least one of the followings:
at least one Secondary Node (SN) counter value or at least one set of SN counter values configured for each candidate Primary Secondary Cell (PSCell) and/or each candidate Secondary Cell Group (SCG);
at least one SN counter value or at least one set of SN counter values configured for all candidate PSCells and/or all candidate SCGs of each SN; or
at least one SN counter value or at least one set of SN counter values configured for all candidate PSCells and/or all candidate SCGs.
2. The method according to claim 1, further comprising at least one of the followings:
the number or the cumulative number of SN counter values configured for each candidate PSCell and/or each candidate SCG is used to indicate the maximum number of times allowed to return to or access the same candidate PSCell and/or the same candidate SCG;
the number or the cumulative number of SN counter values configured for all candidate PSCells and/or all candidate SCGs of each SN is used to indicate the maximum number of times allowed to return to or access the same SN; or
the number or the cumulative number of SN counter values configured for all candidate PSCells and/or all candidate SCGs is used to indicate the maximum number of times allowed to selective activation of the PSCell and/or the SCG.
3. The method according to claim 1, wherein the configured at least one SN counter value or at least one set of SN counter values is indicated by at least one of the followings:
at least one SN counter value;
a range of SN counter values and one or more increments;
one SN counter value, one variation range, and one or more increments; or
one SN counter value and one or more increments;
wherein the increment is an increment of the SN counter value.
4. The method according to claim 3, wherein the multiple increments are used to indicate

at least one of the followings:

different increments are used when the UE returns to or accesses the same candidate PSCell and/or the same candidate SCG again or for two consecutive times;

different increments are used when the UE performs selective activation of the PSCell and/or the SCG again or for two consecutive times;

different increments are used when the UE accesses the candidate PSCell and/or the candidate SCG again or for two consecutive times; or

different increments are used when the UE returns to or accesses the same SN again or for two consecutive times.

5. The method according to claim 1, wherein the RRC reconfiguration message further comprises the first information, and the first information is used to indicate at least one of the followings:

whether the SN counter value is recyclable or reusable;

a validity duration of the SN counter value; or

the number of times for validity of the SN counter value.

6. The method according to claim 5, wherein

one piece of first information corresponds to one SN counter value; or

one piece of first information corresponds to the SN counter value of one candidate PSCell and/or one candidate SCG; or

one piece of first information corresponds to the SN counter values of all candidate PSCells and/or all candidate SCGs; or

one piece of first information corresponds to the SN counter value of one SN.

7. The method according to claim 5, further comprising at least one of the followings:

in the case that the first information indicates that the SN counter value is recyclable or reusable, only one SN counter value of one candidate PSCell and/or one candidate SCG is used to indicate that the same SN counter value is used when the UE returns to or accesses the same candidate PSCell and/or the same candidate SCG again or each time;

in the case that the first information indicates that the SN counter value is recyclable or reusable, only one SN counter value of all candidate PSCells and/or all candidate SCGs of one SN is used to indicate that the same SN counter value is used when the UE returns to or accesses

the same SN again or each time; or

in the case that the first information indicates that the SN counter value is recyclable or reusable, only one SN counter value of all candidate PSCells and/or all candidate SCGs is used to indicate at least one of the followings:

the same SN counter value is used when the UE performs selective activation of the PSCell and/or the SCG again or each time; or

the same SN counter value is used when the UE accesses the candidate PSCell and/or the candidate SCG again or each time.

8. The method according to any one of claims 1 to 6, further comprising at least one of the followings:

different SN counter values of one candidate PSCell and/or one candidate SCG are used to indicate that different SN counter values are used when the UE returns to or accesses that candidate PSCell and/or the same candidate SCG again or each time or for two consecutive times;

different SN counter values of all candidate PSCells and/or all candidate SCGs of one SN are used to indicate that different SN counter values are used when the UE returns to or accesses that SN again, each time, or for two consecutive times; or

different SN counter values of all candidate PSCells and/or all candidate SCGs are used to indicate at least one of the followings:

different SN counter values are used when the UE performs selective activation of the PSCell and/or the SCG again or each time or for two consecutive times; or

different SN counter values are used when the UE accesses the candidate PSCell and/or the candidate SCG again, each time, or for two consecutive times.

9. The method according to claim 1, wherein in the case that there is only one SN counter value of one candidate PSCell and/or one candidate SCG, or only one SN counter value of one SN, or only one SN counter value of all candidate PSCells and/or all candidate SCGs, the method further comprises:

indicating an updated SN counter value to the UE in the case that the SN counter value is invalid, or the UE fails to access the SN by using the SN counter value.

10. A communication method, performed by a User Equipment (UE), comprising:

receiving a Radio Resource Control (RRC) reconfiguration message sent by a Master Node (MN), wherein the RRC reconfiguration message comprises at least one of the followings:

at least one Secondary Node (SN) counter value or at least one set of SN counter values configured for each candidate Primary Secondary Cell (PSCell) and/or each candidate Secondary Cell Group (SCG);

at least one SN counter value or at least one set of SN counter values configured for all candidate PSCells and/or all candidate SCGs of each SN; or

at least one SN counter value or at least one set of SN counter values configured for all candidate PSCells and/or all candidate SCGs.

11. The method according to claim 10, further comprising at least one of the followings:

the number or the cumulative number of SN counter values configured for each candidate PSCell and/or each candidate SCG is used to indicate the maximum number of times allowed to return to or access the same candidate PSCell and/or the same candidate SCG;

the number or the cumulative number of SN counter values configured for all candidate PSCells and/or all candidate SCGs of each SN is used to indicate the maximum number of times allowed to return to or access the same SN; or

the number or the cumulative number of SN counter values configured for all candidate PSCells and/or all candidate SCGs is used to indicate the maximum number of times allowed to selective activation of the PSCell and/or the SCG.

12. The method according to claim 10, wherein the configured at least one SN counter value or at least one set of SN counter values is indicated by at least one of the followings:

at least one SN counter value;

a range of SN counter values and one or more increments;

one SN counter value, one variation range, and one or more increments; or

one SN counter value and one or more increments;

wherein the increment is an increment of the SN counter value.

13. The method according to claim 12, wherein the multiple increments are used to indicate at least one of the followings:

different increments are used when the UE returns to or accesses the same candidate PSCell and/or the same candidate SCG again or for two consecutive times;

different increments are used when the UE performs consecutive selective activation of the SCG again or for two consecutive times;

different increments are used when the UE accesses the candidate PSCell or the candidate SCG again or for two consecutive times; or

different increments are used when the UE returns to or accesses the same SN again or for two consecutive times.

14. The method according to any one of claims 10 to 13, wherein in the case that there is no available SN counter value, the method further comprises at least one of the followings:

no longer returning to, or accessing, or evaluating the candidate PSCell and/or the candidate SCG corresponding to the SN counter value;

no longer returning to, or accessing, or evaluating the SN corresponding to the SN counter value;

no longer returning to, or accessing, or evaluating all candidate PSCells and/or all candidate SCGs of the SN corresponding to the SN counter value;

deleting the configuration of the corresponding candidate PSCell and/or the corresponding candidate SCG;

deleting the configuration of all candidate PSCells and/or all candidate SCGs of the corresponding SN;

no longer returning to, or accessing, or evaluating all candidate PSCells and/or all candidate SCGs;

deleting the configuration of all candidate PSCells and/or all candidate SCGs;

stopping the procedure of selective activation of the PSCell and/or the SCG.

15. The method according to claim 10, wherein the RRC reconfiguration message further comprises the first information, and the first information is used to indicate at least one of the followings:

whether the SN counter value is recyclable or reusable;

a validity duration of the SN counter value; or

the number of times for validity of the SN counter value.

16. The method according to any one of claims 10 to 15, further comprising at least one of the followings:

in the case that one candidate PSCell and/or one candidate SCG has different SN counter values, the different SN counter values are used in sequence when returning to or accessing that candidate PSCell or that candidate SCG again or each time or for two consecutive times;

in the case that all candidate PSCells and/or SCGs have different SN counter values, the different SN counter values are used in sequence when performing selective activation of the PSCell or the SCG again or each time or for two consecutive times, or the different SN counter values are used in sequence when accessing the candidate PSCell or the candidate SCG again or each time or for two consecutive times; or

in the case that one SN has different SN counter values, the different SN counter values are used in sequence when returning to or accessing that SN again or each time or for two consecutive times.

17. The method according to claim 10, in the case that there is only one SN counter value of one candidate PSCell and/or one candidate SCG, or only one SN counter value of one SN, or only one SN counter value of all candidate PSCells and/or all candidate SCGs, the method further comprises:

receiving an updated SN counter value indicated by the MN in the case that the SN counter value is invalid, or the UE fails to access the SN by using the SN counter value.

18. The method according to any one of claims 10 to 15, further comprising:

using the second SN counter value to access the first SN in the case that at least one of the followings is met:

the first SN counter value is invalid;

accessing to the first SN by using the first SN counter value fails; or

the first SN rejects to be accessed;

wherein the first SN counter value and the second SN counter value are both SN counter values for the first SN in the RRC reconfiguration message.

19. A network device, comprising a first processor and a first memory configured to store a computer program executable on the first processor,

wherein the first processor is configured to execute the computer program, to implement the steps of the method according to any one of claims 1 to 9.

20. A UE, comprising a second processor and a second memory configured to store a

computer program executable on the second processor,

wherein the second processor is configured to execute the computer program, to implement the steps of the method according to any one of claims 10 to 18.