

CLAIMS

What is claimed is:

1. A communication method, comprising:

selecting or re-selecting, by a terminal device, to a second cell from a first cell, through cell selection or re-selection, wherein radio access technologies of the first cell and the second cell are different, the terminal device is in inactive mode in the first cell; and

initiating, by the terminal device, a registration procedure.

2. The method according to claim 1, wherein

the initiating, by the terminal device, a registration procedure comprises: sending, by the terminal device, first indication information, wherein the first indication information is used to notify a network device to switch the terminal device to an idle mode; or

the method further comprises: switching, by the terminal device, to an idle mode; and

the initiating, by the terminal device, a registration procedure comprises: sending, by the terminal device, first indication information, wherein the first indication information is used to notify a network device that the terminal device is in idle mode.

3. The method according to claim 1 or 2, wherein

the initiating, by the terminal device, a registration procedure comprises: sending, by the terminal device, a registration request message, wherein the registration request message is used to initiate the registration procedure, and the registration request message comprises the first indication information.

4. The method according to claim 2 or 3, further comprising:

notifying, by an access stratum of the terminal device, a non-access stratum of the terminal device to send the first indication information.

5. The method according to claim 4, wherein

the notifying, by the access stratum of the terminal device, the non-access stratum of the terminal device to send the first indication information comprises: notifying, by the access stratum of the terminal device by using a cause value, the non-access stratum of the terminal device to send the first indication information, wherein the cause value is that the radio access technologies for the first cell and the second cell are different.

6. The method according to claim 2 or 3, further comprising:

sending, by a non-access stratum of the terminal device, the first indication information based on information about the second cell that is received by an access stratum of the terminal device, wherein the information about the

second cell comprises at least one of the following:

identification information of the second cell, identification information of a public land mobile network supported by the second cell, or information about the radio access technology for the second cell.

7. The method according to claim 6, further comprising:

receiving, by an access stratum, system information of the second cell, wherein the system information comprises the information about the second cell; and

notifying, by the access stratum, the non-access stratum of the received information about the second cell.

8. The method according to claim 2, wherein

the network device comprises an access network device or a core network device, and the core network device comprises an access and mobility management function entity.

9. The method according to claim 8, wherein

sending the first indication information in the registration procedure comprises: sending the first indication information to the access and mobility management function entity.

10. The method according to any one of claims 1 to 9, wherein

the radio access technology of the first cell comprises new radio or evolved universal terrestrial radio access.

11. The method according to any one of claims 1 to 10, wherein

a registration area is allocated to the terminal device, and the first cell and the second cell are in the registration area.

12. The method according to any one of claims 1 to 11, wherein

the registration procedure comprises an initial registration procedure or a mobility and periodic registration update procedure.

13. The method according to any one of claims 1 to 12, wherein

the first cell and the second cell are connected to a 5G core network device.

14. A communication method, comprising:

selecting or re-selecting, by a terminal device, to a second cell from a first cell, through cell selection or re-selection, wherein radio access technologies of the first cell and the second cell are different, and the terminal device is in inactive mode in the first cell; and

sending, by the terminal device, an access stratum message, wherein the access stratum message is used to request radio resource connection release.

15. The method according to claim 14, wherein

the access stratum message comprises a cause value, and the cause value refers to the terminal device requests

the radio resource connection release.

16. The method according to claim 14 or 15, wherein

the radio access technology of the first cell comprises new radio or evolved universal terrestrial radio access.

17. The method according to any one of claims 14 to 16, wherein

5 a registration area is allocated to the terminal device, and the first cell and the second cell are in the registration area.

18. The method according to any one of claims 14 to 17, wherein

the first cell and the second cell are connected to a 5G core network device.

19. A communications apparatus, comprising:

10 a processing module, configured to enable the communications apparatus to re-select to a second cell from a first cell, through cell re-selection, wherein radio access technologies of the first cell and the second cell are different, and the communications apparatus is in radio resource control inactive mode in the first cell; and

a transceiver module, configured to send a registration request message to initiate a registration procedure.

20. The apparatus according to claim 19, wherein

15 the transceiver module is configured to send first indication information in the registration procedure, wherein the first indication information is used to notify a network device that the communications apparatus is in idle mode; or

the processing module is configured to switch the communications apparatus to an idle mode, wherein the first indication information is used to notify a network device to switch the communications apparatus to the idle mode.

21. The apparatus according to claim 20, wherein

the registration request message comprises the first indication information.

22. The apparatus according to claim 20 or 21, wherein

20 an access stratum of the communications apparatus is configured to notify a non-access stratum of the terminal device to send the first indication information.

23. The apparatus according to claim 22, wherein

25 that the access stratum of the communications apparatus is configured to notify a non-access stratum of the communications apparatus to send the first indication information comprises: the access stratum of the communications apparatus is configured to notify, by using a cause value, the non-access stratum of the communications apparatus to send the first indication information, wherein the cause value is that the radio access technologies for the first cell and the second cell are different.

30 24. The apparatus according to claim 20 or 21, wherein

that an access stratum of the communications apparatus is configured to notify a non access stratum of the communications apparatus to send the first indication information comprises: the non access stratum is configured to send the first indication information based on information about the second cell that is received by the access stratum, wherein the information about the second cell comprises at least one of the following:

5 identification information of the second cell, identification information of a public land mobile network supported by the second cell, or information about the radio access technology for the second cell.

25. The apparatus according to claim 24, wherein

the access stratum of the communications apparatus is configured to receive system information of the second cell, wherein the system information comprises the information about the second cell; and

10 the access stratum is configured to notify the non access stratum of the received information about the second cell.

26. The apparatus according to claim 20, wherein

the network device comprises an access network device or a core network device, and the core network device comprises an access and mobility management function entity.

15 27. The apparatus according to claim 26, wherein

that the transceiver module is configured to send first indication information in the registration procedure comprises: the transceiver module is configured to send the first indication information to the access and mobility management function entity.

28. The apparatus according to any one of claims 19 to 27, wherein

20 the radio access technology for the first cell comprises new radio or evolved universal terrestrial radio access.

29. The apparatus according to any one of claims 19 to 28, wherein

a registration area is allocated to the communications apparatus, and the first cell and the second cell are in the registration area.

30. The apparatus according to any one of claims 19 to 29, wherein

25 the registration procedure comprises an initial registration procedure or a mobility and periodic registration update procedure.

31. The apparatus according to any one of claims 19 to 30, wherein

the first cell and the second cell are connected to a 5G core network device.

32. A communications apparatus, comprising:

30 a processing module, configured to enable the communications apparatus to re-select to a second cell from a first cell, through cell re-selection, wherein radio access technologies of the first cell and the second cell are different, and

the communications apparatus is in radio resource control inactive mode in the first cell; and

a transceiver module, configured to send an access stratum message, wherein the access stratum message is used to request radio resource connection release.

33. The apparatus according to claim 32, wherein

the access stratum message comprises a cause value, and the cause value refers to the communications apparatus requests the radio resource connection release.

34. The apparatus according to claim 32 or 33, wherein

the radio access technology of the first cell comprises new radio or evolved universal terrestrial radio access.

35. The apparatus according to any one of claims 32 to 34, wherein

a registration area is allocated to the communications apparatus, and the first cell and the second cell are in the registration area.

36. The apparatus according to any one of claims 32 to 35, wherein

the first cell and the second cell are connected to a 5G core network device.

37. A communications apparatus, comprising:

a transceiver and a processor, wherein the transceiver is configured to execute instructions for receiving and sending information; and when the instructions are run by the processor, the communications apparatus is enabled to perform the method according to any one of claims 1 to 13.

38. A communications apparatus, comprising:

a transceiver and a processor, wherein the transceiver is configured to execute instructions for receiving and sending information; and when the instructions are run by the processor, the communications apparatus is enabled to perform the method according to any one of claims 14 to 18.

39. A computer readable storage medium, wherein

the computer readable storage medium stores a computer program, and the program is executed by a processor to perform the method according to any one of claims 1 to 13.

40. A computer readable storage medium, wherein

the computer readable storage medium stores a computer program, and the program is executed by a processor to perform the method according to any one of claims 14 to 18.

41. A communications apparatus, comprising a memory and a processor, wherein the memory is configured to store instructions, and the processor is configured to: execute the instructions stored in the memory, and perform the method according to any one of claims 1 to 13 based on the instructions stored in the memory.

42. A communications apparatus, comprising a memory and a processor, wherein the memory is configured to

store instructions, and the processor is configured to: execute the instructions stored in the memory, and perform the method according to any one of claims 14 to 18 based on the instructions stored in the memory.

~~43. A communications system, comprising the communications apparatus according to any one of claims 19 to 31.~~

~~44. A communications system, comprising the communications apparatus according to any one of claims 32 to 36.~~

~~45. A computer program, wherein when the computer program is run on a computer, the computer is enabled to perform the communication method according to any one of claims 1 to 13.~~

~~46. A computer program, wherein when the computer program is run on a computer, the computer is enabled to perform the communication method according to any one of claims 14 to 18.~~

1. A communication method, comprising:

selecting or re-selecting, by a terminal device, to a second cell from a first cell, wherein the first cell and the second cell are in a tracking area ID list for the terminal device; and

initiating, by the terminal device, a registration procedure under conditions of: the terminal device selects or re-selects from the first cell to the second cell, the terminal device is in inactive mode in the first cell and radio access technologies of the first cell and the second cell are different.

2. The method according to claim 1, wherein

the initiating, by the terminal device, a registration procedure comprises: receiving, by a non-access stratum of the terminal device, indication information from an access stratum of the terminal device, wherein the indication information indicates that the terminal device has performed inter-radio access technology cell selection or re-selection; and initiating, by the terminal device, the registration procedure in response to the indication information.

3. The method according to claim 1 or 2, wherein

the registration procedure comprises an initial registration procedure or a mobility and periodic registration update procedure.

4. The method according to any one of claims 1 to 3, wherein

the radio access technology of the first cell comprises new radio or evolved universal terrestrial radio access.

5. The method according to any one of claims 1 to 4, wherein

the first cell and the second cell are connected to a same 5G core network device.

6. The method according to any one of claims 1 to 5, wherein

the initiating, by the terminal device, a registration procedure comprises: sending, by the terminal device, first indication information, wherein the first indication information is used to notify a network device to switch the

terminal device to an idle mode; or

the method further comprises: switching, by the terminal device, to an idle mode; and

the initiating, by the terminal device, a registration procedure comprises: sending, by the terminal device, first indication information, wherein the first indication information is used to notify a network device that the terminal device is in idle mode.

7. The method according to claim 6, wherein

the initiating, by the terminal device, a registration procedure comprises: sending, by the terminal device, a registration request message, wherein the registration request message is used to initiate the registration procedure, and the registration request message comprises the first indication information.

8. The method according to claim 6 or 7, further comprising:

notifying, by the access stratum of the terminal device, the non-access stratum of the terminal device to send the first indication information.

9. The method according to claim 8, wherein

the notifying, by the access stratum of the terminal device, the non-access stratum of the terminal device to send the first indication information comprises: notifying, by the access stratum of the terminal device by using a cause value, the non-access stratum of the terminal device to send the first indication information, wherein the cause value refers to the radio access technologies of the first cell and the second cell are different.

10. The method according to claim 6 or 7, wherein the sending, by the terminal device, first indication information comprises:

sending, by the non-access stratum of the terminal device, the first indication information based on information about the second cell that is received by the access stratum of the terminal device, wherein the information about the second cell comprises at least one of the following:

identification information of the second cell, identification information of a public land mobile network supported by the second cell, or information about the radio access technology of the second cell.

11. The method according to claim 10, further comprising:

receiving, by the access stratum, system information of the second cell, wherein the system information comprises the information about the second cell; and

notifying, by the access stratum, the non-access stratum of the received information about the second cell.

12. The method according to any one of claims 6 to 11, wherein

the network device comprises an access network device or a core network device, and the core network device comprises an access and mobility management function entity.

13. The method according to claim 11, wherein

sending the first indication information in the registration procedure comprises: sending the first indication information to the access and mobility management function entity.

14. A communication method, comprising:

selecting or re-selecting, by a terminal device, to a second cell from a first cell, through cell selection or re-selection, wherein radio access technologies of the first cell and the second cell are different, and the terminal device is in inactive mode in the first cell; and

sending, by the terminal device, an access stratum message, wherein the access stratum message is used to request radio resource connection release.

15. The method according to claim 14, wherein

the access stratum message comprises a cause value, and the cause value refers to the terminal device requests the radio resource connection release.

16. The method according to claim 14 or 15, wherein

the radio access technology of the first cell comprises new radio or evolved universal terrestrial radio access.

17. The method according to any one of claims 14 to 16, wherein

a registration area is allocated to the terminal device, and the first cell and the second cell are in the registration area.

18. The method according to any one of claims 14 to 17, wherein

the first cell and the second cell are connected to a same 5G core network device.

19. A communications apparatus, comprising:

a processing module, configured to enable the communications apparatus to select or re-select to a second cell from a first cell, wherein the first cell and the second cell are in a tracking area ID list for the communications apparatus; and

the processing module, configured to initiate a registration procedure under conditions of: the communications apparatus selects or re-selects from the first cell to the second cell, the communications apparatus is in inactive mode in the first cell and radio access technologies of the first cell and the second cell are different.

20. The communications apparatus according to claim 19, wherein

the processing module, configured to initiate a registration procedure comprises: a non-access stratum of the communications apparatus receives indication information from an access stratum of the communications apparatus, wherein the indication information indicates that the communications apparatus has performed inter-radio access technology cell selection or re-selection; and the processing module, configured to initiate the registration procedure

in response to the indication information.

21. The apparatus according to claim 19 or 20, wherein

the registration procedure comprises an initial registration procedure or a mobility and periodic registration update procedure.

5 22. The apparatus according to any one of claims 19 to 21, wherein the communications apparatus further comprising:

a transceiver module, the transceiver module is configured to send first indication information in the registration procedure, wherein the first indication information is used to notify a network device that the communications apparatus is in idle mode; or

10 the processing module is configured to switch the communications apparatus to an idle mode, and the transceiver module is configured to send first indication information in the registration procedure, wherein the first indication information is used to notify a network device to switch the communications apparatus to the idle mode.

23. The apparatus according to claim 22, wherein

15 the transceiver module is configured to send a registration request message, the registration request message is used to initiate the registration procedure, the registration request message comprises the first indication information.

24. The apparatus according to claim 22 or 23, wherein

the access stratum of the communications apparatus is configured to notify the non-access stratum of the communications apparatus to send the first indication information.

25. The apparatus according to claim 24, wherein

20 that the access stratum of the communications apparatus is configured to notify the non-access stratum of the communications apparatus to send the first indication information comprises: the access stratum of the communications apparatus is configured to notify, by using a cause value, the non-access stratum of the communications apparatus to send the first indication information, wherein the cause value refers to the radio access technologies of the first cell and the second cell are different.

25 26. The apparatus according to claim 24, wherein

that the access stratum of the communications apparatus is configured to notify the non-access stratum of the communications apparatus to send the first indication information comprises: the non-access stratum is configured to send the first indication information based on information about the second cell that is received by the access stratum, wherein the information about the second cell comprises at least one of the following:

30 identification information of the second cell, identification information of a public land mobile network supported by the second cell, or information about the radio access technology of the second cell.

27. The apparatus according to claim 26, wherein
the access stratum of the communications apparatus is configured to receive system information of the second
cell, wherein the system information comprises the information about the second cell; and

5 the access stratum is configured to notify the non-access stratum of the received information about the second
cell.

28. The apparatus according to claim 22, wherein
the network device comprises an access network device or a core network device, and the core network device
comprises an access and mobility management function entity.

29. The apparatus according to claim 28, wherein
10 that the transceiver module is configured to send first indication information in the registration procedure
comprises: the transceiver module is configured to send the first indication information to the access and mobility
management function entity.

30. The apparatus according to any one of claims 20 to 29, wherein
the radio access technology of the first cell comprises new radio or evolved universal terrestrial radio access.

15 31. The apparatus according to any one of claims 19 to 30, wherein
the first cell and the second cell are connected to a same 5G core network device.

32. A communications apparatus, comprising:
a processing module, configured to enable the communications apparatus to re-select to a second cell from a first
cell, through cell re-selection, wherein radio access technologies of the first cell and the second cell are different, and
20 the communications apparatus is in radio resource control inactive mode in the first cell; and

a transceiver module, configured to send an access stratum message, wherein the access stratum message is used
to request radio resource connection release.

33. The apparatus according to claim 32, wherein
the access stratum message comprises a cause value, and the cause value refers to the communications apparatus
25 requests the radio resource connection release.

34. The apparatus according to claim 32 or 33, wherein
the radio access technology of the first cell comprises new radio or evolved universal terrestrial radio access.

35. The apparatus according to any one of claims 32 to 34, wherein
a registration area is allocated to the communications apparatus, and the first cell and the second cell are in the
30 registration area.

36. The apparatus according to any one of claims 32 to 35, wherein

the first cell and the second cell are connected to a same 5G core network device.

37. A communications apparatus, comprising:

a transceiver and a processor, wherein the transceiver is configured to execute instructions for receiving and sending information; and when the instructions are run by the processor, the communications apparatus is enabled to perform the method according to any one of claims 1 to 13.

38. A communications apparatus, comprising:

a transceiver and a processor, wherein the transceiver is configured to execute instructions for receiving and sending information; and when the instructions are run by the processor, the communications apparatus is enabled to perform the method according to any one of claims 14 to 18.

39. A computer-readable storage medium, wherein

the computer-readable storage medium stores instructions, and the instructions are executed by a processor to perform the method according to any one of claims 1 to 13.

40. A computer-readable storage medium, wherein

the computer-readable storage medium stores instructions, and the instructions are executed by a processor to perform the method according to any one of claims 14 to 18.

41. A communications apparatus, comprising a memory and a processor, wherein the memory is configured to store instructions, and the processor is configured to: execute the instructions stored in the memory, and perform the method according to any one of claims 1 to 13 based on the instructions stored in the memory.

42. A communications apparatus, comprising a memory and a processor, wherein the memory is configured to store instructions, and the processor is configured to: execute the instructions stored in the memory, and perform the method according to any one of claims 14 to 18 based on the instructions stored in the memory.

43. A communications system, comprising the communications apparatus according to any one of claims 19 to 31.

44. A communications system, comprising the communications apparatus according to any one of claims 32 to 36.

45. A computer program product, wherein storing instructions, wherein when the instructions are executed, the method according to any one of claims 1 to 13 is implemented.

46. A computer program product, storing instructions, wherein when the instructions are executed, the method according to any one of claims 14 to 18 is implemented.

ABSTRACT

A communication method and a communications apparatus are provided, and the method may be applied to the communications field. The method may include: selecting or re-selecting, by a terminal device, from a first cell to a second cell through cell selection or re-selection, where radio access technologies of the first cell and the second cell are different, and the terminal device is in inactive mode in the first cell, and re-selects to the second cell through cell re-selection; and initiating, by the terminal device, a registration procedure after completing the cell re-selection. When the terminal device in inactive mode performs cell re-selection based on different radio technologies, the terminal device initiates the registration procedure or a service request procedure, for NAS signaling connection recovery. When the terminal device changes a radio access technology, a network device can update information.

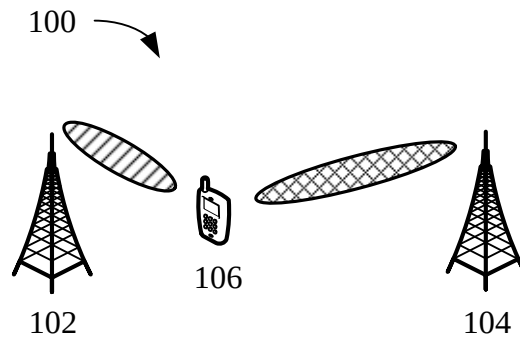


FIG. 1

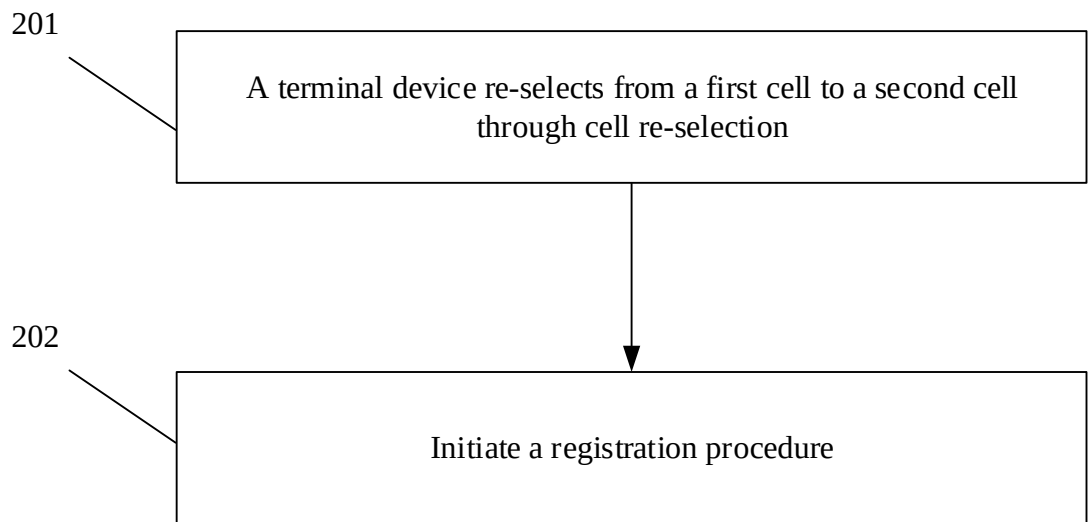


FIG. 2