WHAT IS CLAIMED IS:

1. A handover method, comprising:

receiving, by a user equipment (UE), a radio resource control (RRC) message, wherein the RRC message implies a handover with a primary secondary cell (PSCell); and

transmitting a new physical random access channel (PRACH) on a PSCell;

wherein a handover delay of the UE comprises one or more of:

a primary cell (PCell) handover delay and/or a PSCell addition delay;

a sum of a PCell search time and a PSCell search time;

a sum of a PCell search time, a PCell synchronization time, a PSCell search time, and a PSCell synchronization time; or

a delay starting from a moment of receiving the RRC message to a moment of ready to start a transmission of the new PRACH on the PSCell.

2. The method according to claim 1, wherein,

in a case that a first condition is satisfied, the handover delay of the UE comprises one or more of:

the sum of the PCell search time and the PSCell search time; or

the sum of the PCell search time, the PCell synchronization time, the PSCell search time, and the PSCell synchronization time,

wherein the first condition comprises that: a synchronization signal block based (SSB-based) measurement timing configuration (SMTC) of a target unknown PSCell is configured.

3. The method according to claim 1 or 2, further comprising:

obtaining first information by the UE,

wherein the first information comprises one or more of:

first indication information for indicating the UE to perform a PSCell addition after transmitting a physical random access channel (PRACH) preamble to a PCell;

°°

second indication information for indicating the UE to perform a PSCell addition after receiving a random access response (RAR) transmitted by a PCell;

third indication information for indicating the UE to perform a PSCell addition after receiving message 4 (MSG4) transmitted by a PCell;

fourth indication information for indicating the UE to perform a PSCell addition after transmitting message A (MSGA) to a PCell; or

fifth indication information for indicating the UE to perform a PSCell addition after receiving message B (MSGB) transmitted by a PCell.

4. The method according to any one of claims 1 to 3, further comprising:

obtaining second information by the UE,

wherein the second information comprises one or more of:

eighth indication information for indicating that the handover delay of the UE comprises the PCell handover delay and/or the PSCell addition delay;

ninth indication information for indicating that the handover delay of the UE comprises the sum of the PCell search time and the PSCell search time; or

tenth indication information for indicating that the handover delay of the UE comprises the sum of the PCell search time, the PCell synchronization time, the PSCell search time, and the PSCell synchronization time.

5. The method according to claim 3 or 4, wherein a length of the handover delay of the UE is a first time length;

in a case that the first information comprises the first indication information, the first time length is: a sum of a time length starting from a moment the UE receives a radio resource control (RRC) message implying the handover to a moment the UE transmits the preamble to the PCell, and a time length for the UE to perform the PSCell addition;

or,

in a case that the first information comprises the second indication information, the first time

length is: a sum of a time length starting from a moment the UE receives an RRC message implying the handover to a moment the UE receives the RAR transmitted by the PCell, and a time length for the UE to perform the PSCell addition;

or,

in a case that the first information comprises the third indication information, the first time length is: a sum of a time length starting from a moment the UE receives an RRC message implying the handover to a moment the UE receives the MSG4 transmitted by the PCell, and a time length for the UE to perform the PSCell addition;

or,

in a case that the first information comprises the fourth indication information, the first time length is: a sum of a time length starting from a moment the UE receives an RRC message implying the handover to a moment the UE transmits the MSGA to the PCell, and a time length for the UE to perform the PSCell addition;

or,

in a case that the first information comprises the fifth indication information, the first time length is: a sum of a time length starting from a moment the UE receives an RRC message implying the handover to a moment the UE receives the MSGB transmitted by the PCell, and a time length for the UE to perform the PSCell addition.

6. The method according to claim 5, wherein the time length for the UE to perform the PSCell addition comprises:

a time length starting from a moment the UE receives the MSGB transmitted by the PCell to a moment the UE transmits a preamble to the PSCell;

or,

a time length starting from a moment the UE receives the MSGB transmitted by the PCell to a moment the UE transmits MSGA to the PSCell;

or,

a time length starting from a moment the UE receives the RAR transmitted by the PCell to a

moment the UE transmits a preamble to the PSCell;

or,

a time length starting from a moment the UE receives the RAR transmitted by the PCell to a moment the UE transmits MSGA to the PSCell;

or,

a time length starting from a moment the UE receives the MSG4 transmitted by the PCell to a moment the UE transmits a preamble to the PSCell;

or,

a time length starting from a moment the UE receives the MSG4 transmitted by the PCell to a moment the UE transmits MSGA to the PSCell;

or,

a time length starting from a moment the UE transmits the MSGA on the PCell to a moment the UE transmits a preamble on the PSCell;

or,

a time length starting from a moment the UE transmits the MSGA on the PCell to a moment the UE transmits MSGA on the PSCell.

7. The method according to any one of claims 1 to 6, further comprising:

obtaining a first threshold by the UE, wherein the first threshold is related to a channel quality;

in response to the channel quality being higher than and/or equal to a first value of the first threshold, determining to perform a PSCell addition after transmitting message 1 (MSG1) to a PCell;

or,

in response to the channel quality being higher than and/or equal to a second value of the first threshold, determining to perform a PSCell addition after receiving message 2 (MSG2) transmitted by a PCell;

or,

in response to the channel quality being higher than and/or equal to a third value of the first

threshold, determining to perform a PSCell addition after receiving message 4 (MSG4) transmitted by a PCell;

or,

in response to the channel quality being lower than and/or equal to a first value of the first threshold, and the channel quality being higher than and/or equal to a second value of the first threshold, determining to perform a PSCell addition after receiving MSG2 transmitted by a PCell;

or,

in response to the channel quality being lower than and/or equal to a second value of the first threshold, and the channel quality being higher than and/or equal to a third value of the first threshold, determining to perform a PSCell addition after receiving MSG4 transmitted by a PCell;

or,

in response to the channel quality being higher than and/or equal to a fourth value of the first threshold, determining to perform a PSCell addition after transmitting message A (MSGA) to a PCell;

or,

in response to the channel quality being higher than and/or equal to a fifth value of the first threshold, determining to perform a PSCell addition after receiving message B (MSGB) transmitted by a PCell;

or,

in response to the channel quality being lower than and/or equal to a fourth value of the first threshold, and the channel quality being higher than and/or equal to a fifth value of the first threshold, determining to perform a PSCell addition after receiving MSGB transmitted by a PCell.

8. The method according to any one of claims 1 to 7, further comprising:

obtaining a second threshold by the UE, wherein the second threshold is related to a channel quality;

wherein in response to the channel quality being higher than and/or equal to a first value of the second threshold, the handover delay of the UE comprises the sum of the PCell handover delay

°°

and the PSCell addition delay;

in response to the channel quality being higher than and/or equal to a second value of the second threshold, the handover delay of the UE comprises the maximum value of the PCell handover delay and the PSCell addition delay;

in response to the channel quality being higher than and/or equal to a third value of the second threshold, the handover delay of the UE comprises the PCell handover delay and/or the PSCell addition delay;

in response to the channel quality being higher than and/or equal to a fourth value of the second threshold, the handover delay of the UE comprises the sum of the PCell search time and the PSCell search time; or

in response to the channel quality being higher than and/or equal to a fifth value of the second threshold, the handover delay of the UE comprises the sum of the PCell search time, the PCell synchronization time, the PSCell search time, and the PSCell synchronization time.

9. The method according to any one of claims 1 to 8, further comprising:

transmitting third information by the UE to a network side device;

wherein the third information comprises one or more of:

whether the UE supports performing a PCell handover and a PSCell addition based on a parallel processing;

whether the UE supports performing a PCell handover and a PSCell addition based on a serial processing;

whether the UE supports that the handover delay comprises the sum of the PCell handover delay and the PSCell addition delay;

whether the UE supports that the handover delay comprises the maximum value of the PCell handover delay and the PSCell addition delay;

whether the UE supports that the handover delay comprises the PCell handover delay and/or the PSCell addition delay;

whether the UE supports that the handover delay comprises the sum of the PCell search time

°°

and the PSCell search time;

whether the UE supports that the handover delay comprises the sum of the PCell search time, the PCell synchronization time, the PSCell search time, and the PSCell synchronization time;

eleventh indication information for indicating to perform a PSCell addition after a second operation;

twelfth indication information for indicating that the UE supports a parallel processing of a third operation; or

thirteenth indication information for indicating that the UE supports a serial processing of a fourth operation.

10. The method according to claim 9, wherein the second operation comprises one of:

transmitting message 1 (MSG1) to a PCell;

receiving message 2 (MSG2) transmitted by a PCell;

transmitting message 3 (MSG3) to a PCell;

receiving message 4 (MSG4) transmitted by a PCell;

transmitting message A (MSGA) to the PSCell; or

receiving message B (MSGB) transmitted by a PCell.

11. The method according to any one of claims 1 to 10, further comprising:

receiving fourth information by the UE from a network side device;

wherein the fourth information comprises one or more of:

fourteenth indication information for indicating whether the UE performs a handover with a PSCell addition through a parallel processing;

fifteenth indication information for indicating whether the UE performs a handover with a PSCell addition through a serial processing;

sixteenth instruction information for indicating that a fifth operation is to be processed in parallel; or

seventeenth instruction information for indicating that a sixth operation is to be processed in

°°

serial.

12. The method according to claim 9 or 11, wherein the third operation or the fourth operation or the fifth operation or the sixth operation comprises one or more of:

a cell detection;

a time domain synchronization;

a frequency domain synchronization;

an automatic gain control; or

a random access.

13. A communication device, comprising: a processor, a memory, and a program stored on the memory and operable on the processor, when the program is executed by the processor, steps of the method according to any one of claims 1-12 are realized.

14. A readable storage medium, wherein the readable storage medium stores a program, and when the program is executed by a processor, steps of the method according to any one of claims 1-12 are realized.