

CLAIMS

1. A random access method, comprising:
 - sending, by a first User Equipment (UE), a random access request to a network device;
 - receiving, by the first UE, a random access response sent by the network device;
 - and
 - sending, by the first UE, uplink synchronization information and/or an uplink resource to a second UE, the uplink synchronization information being used for the second UE to perform uplink synchronization with the network device, and the uplink resource being used for the first UE and/or the second UE to communicate with the network device;
 - wherein receiving, by the first UE, the random access response sent by the network device comprises:
 - receiving, by the first UE, the random access response sent by the network device, the random access response carrying first uplink synchronization information, and the first uplink synchronization information being used for the first UE to perform uplink synchronization with the network device; and
 - sending, by the first UE, the uplink synchronization information and/or the uplink resource to the second UE comprises:
 - determining, by the first UE, the uplink synchronization information according to the first uplink synchronization information based on a distance between the second UE and the first UE or signal strength for communication of the second UE and the first UE, and
 - sending, by the first UE, the uplink synchronization information to the second UE.
2. The method of claim 1, wherein sending, by the first UE, the random access request to the network device comprises:
 - sending, by the first UE, the random access request to the network device, the random access request being used to request for the uplink resource for the first UE and/or the second UE; and
 - receiving, by the first UE, the random access response sent by the network device comprises:
 - receiving, by the first UE, the random access response sent by the network device, the random access response being used to indicate the uplink resource adopted by the first UE and/or the second UE to communicate with the network device.
3. The method of claim 2, wherein sending, by the first UE, the random access request to the network device, the random access request being used to request for the uplink resource for the first UE and/or the second UE, comprises:
 - sending, by the first UE, the random access request to the network device through a first physical random access resource, the random access request sent through the first physical random access resource being used to request for the uplink resource for the first UE and/or the second UE.
4. The method of claim 1, further comprising:

sending, by the first UE, resource request information to the network device, the resource request information being used to request for the uplink resource for the first UE and/or the second UE,

wherein sending, by the first UE, the resource request information to the network device comprises: sending, by the first UE, a connection establishment request to the network device, the connection establishment request being used to request the network device to establish a connection with the first UE, and the connection establishment request carrying the resource request information,

or wherein sending, by the first UE, the resource request information to the network device comprises: sending, by the first UE, connection establishment completion to the network device, connection establishment completion being used to indicate that connection establishment between the first UE and the network device has been completed and connection establishment request carrying the resource request information,

or wherein sending, by the first UE, the resource request information to the network device comprises: sending, by the first UE, reconfiguration completion to the network device, reconfiguration completion being used to indicate that resource reconfiguration between the first UE and the network device has been completed and reconfiguration completion carrying the resource request information.

5. The method of any one of claims 1-4, further comprising:

sending, by the first UE, indication information to the second UE, the indication information being used to indicate the uplink resource adopted by the second UE to communicate with the network device.

6. The method of any one of claims 1-5, wherein the first UE is a relay UE and the second UE is a remote UE; or

the first UE is a remote UE and the second UE is a relay UE.

7. A random access method, comprising:

receiving, by a second User Equipment (UE), uplink synchronization information and/or uplink resource sent by a first UE, the uplink synchronization information being used for the second UE to perform uplink synchronization with a network device, and the uplink resource being used for the first UE and/or the second UE to communicate with the network device, wherein the uplink synchronization information is determined by the first UE according to first uplink synchronization information based on a distance between the second UE and the first UE or signal strength for communication of the second UE and the first UE, and the first uplink synchronization information is used for the first UE to perform uplink synchronization with the network device; and

performing, by the second UE, communication with the network device according to the uplink synchronization information and/or the uplink resource.

8. The method of claim 7, further comprising:

receiving, by the second UE, indication information sent by the first UE, the indication information being used to indicate the uplink resource adopted by the second UE to communicate with the network device, and the uplink resource indicated by the indication information being determined by the first UE through a random access

process.

9. The method of claim 7, further comprising:

receiving, by the second UE, resource indication information sent by the network device, the resource indication information being used to indicate the uplink resource adopted by the second UE to communicate with the network device, and the uplink resource indicated by the resource indication information being requested by the first UE through a random access process.

10. The method of any one of claims 7-9, wherein the first UE is a relay UE and the second UE is a remote UE; or

the first UE is a remote UE and the second UE is a relay UE.

11. The method of any one of claims 7-10, wherein the uplink synchronization information comprises a Timing Advance (TA) adopted by the first UE and/or the second UE to communicate with the network device.

12. A User Equipment, UE, comprising:

a processor and a transceiver,

the processor is configured to execute the method of any one of claims 1-6 through transceiver.

13. A User Equipment, UE, comprising:

a processor and a transceiver,

the processor is configured to execute the method of any one of claims 7-11 through transceiver.