the assumption that one communication channel is configured with one component carrier. When the carrier aggregation technique is introduced, since component carriers are assumed to differ in the channel quality from each other, it is desirable to execute a handover for each component carrier. However, under the circumstances in which the cross scheduling method is employed, a data channel used to perform data transmission and a control channel used to transmit scheduling information related to data transmission can be located in different component carriers. For this reason, when a handover procedure of each component carrier is not appropriately controlled, data loss may occur due to loss or mismatching of scheduling information or the like.

[0010]

In this regard, embodiments of the present invention aims to provide a method for controlling a handover, a user equipment, a base station, and a radio communication system, which are novel and improved and are capable of performing a handover with no data loss even under the circumstances in which the cross scheduling method is employed.

Solution to Problem

[0011]

According to an aspect of the present invention, there is provided a method for controlling a handover from a first base station to a second base station by a user equipment that performs radio communication over a communication channel formed by aggregating a plurality of component carriers, wherein scheduling information on each component carrier is transmitted to the user equipment according to either of a straight scheduling method and a cross scheduling method, and the method includes, at the first base station, commanding first the user equipment to perform a handover from the first base station to the second base station on a second component carrier to be operated according to the straight scheduling method in the second base station, when it is determined that a handover on a first component carrier following the cross scheduling method is to be executed.

[0012]

user equipment with a service over the communication channel, and a second base station that is a target of a handover from the first base station by the user equipment, wherein scheduling information on each component carrier is transmitted according to either of a straight scheduling method and a cross scheduling method, and when it is determined that a handover on a first component carrier following the cross scheduling method is to be executed, the first base station commands first the user equipment to perform a handover on a second component carrier to be operated according to the straight scheduling method in the second base station.

Advantageous Effects of Invention

[0021]

As described above, a method for controlling a handover, a user equipment, a base station, and a radio communication system according to embodiments of the present invention can perform a handover with no data loss even under the circumstances in which cross scheduling can be performed.

Brief Description of Drawings

[0022]

[Fig. 1] Fig. 1 is a sequence chart to describe a flow of a typical handover procedure.

[Fig. 2] Fig. 2 is an explanatory view to describe an example of a structure of communication resources.

[Fig. 3] Fig. 3 is an explanatory view to describe an example of an arrangement of a control channel included in communication resources.

[Fig. 4] Fig. 4 is an explanatory view to describe two kinds of scheduling information transmission methods.

[Fig. 5] Fig. 5 is a schematic view showing an outline of a radio communication system according to an embodiment of the present invention.

[Fig. 6] Fig. 6 is a block diagram showing an exemplary configuration of a user equipment according to a first embodiment.

[Fig. 7] Fig. 7 is a block diagram showing an example of a more detailed configuration of a radio communication unit according to the first embodiment.