Claims

[Claim 1] A hand-over method performed in a personal basic service set (PBSS) including a plurality of stations and one original coordinator, the method comprising:
receiving an association request frame comprising PBSS control point (PCP) capability information from each of the plurality of stations, the association request frame requesting to associate to the PBSS;
transmitting an association response frame to each of the stations indicating whether the association request received from each of the stations is approved;
determining a priority to be a new coordinator of the plurality of stations based on the PCP capability information and broadcasting the determined priority to the plurality of stations, wherein the priority is determined in order to appoint the new coordinator for the plurality of stations included in the PBSS; and
performing hand-over between the original coordinator and one of the plurality of stations according to the determined priority.

[Claim 2] The hand-over method of claim 1, wherein the PCP capability information comprises information regarding at least one of whether a station supports a power source capability, whether the station supports a channel time allocation function, and whether the station supports a network clustering function.

[Claim 3] The hand-over method of claim 2, further comprising:
receiving the PCP capability information from each of the stations; and
updating the priority of each of the stations based on the received PCP capability information, and
broadcasting the updated priority to each of the stations.

[Claim 4] The hand-over method of claim 2, wherein the PCP capability information further comprises information regarding a maximum number of stations that can be associated to each of the stations.

[Claim 5] The hand-over method of claim 2, wherein the information regarding whether each of the stations supports a power source comprises one of information about whether each of the stations supports a battery-based, non-continuous power source, a continuous power source that is not based on a battery, or both a continuous power source that is not based on a battery and a battery-based, non-continuous power source.

[Claim 6] The hand-over method of claim 2, wherein, in the determining of the

priority, the priority is determined so that a station supporting a power source capable of continuous power supply has a priority higher than a station supporting a power source capable of non-continuous power supply, and

a station supporting a channel time allocation function has a priority higher than a station that does not support a channel time allocation function, and

that a station supporting a network clustering function has a priority higher than a station that does not support a network clustering function.

[Claim 7] The hand-over method of claim 2, wherein the PCP capability information further comprises group information about a first station group supporting a power source capable of continuous power supply, a second station group supporting a power source capable of non-continuous power supply, and a third station group supporting power sources of both continuous and non-continuous power supply, and

the first station group comprises at least one of a portable device, a MP3 player, a portable multimedia player (PMP), a digital camera, and a digital camcorder,

the second station group comprises at least one of a television, a set top box, a DVD player, a desktop player, and a projector, and

the third station group comprises at least one of a laptop computer and a wireless docking device.

[Claim 8] An apparatus for performing hand-over in a personal basic service set (PBSS) including a plurality of stations and one original coordinator, and mounted in the coordinator, comprising:

a receiving unit which receives an association request frame which comprises PBSS control point (PCP) capability information from each of the plurality of stations, the association request frame requesting to associate to the PBSS; ,

a transmitting unit which transmits an association response frame to each of the stations which indicates whether the association request received from each of the stations is approved;

a priority determining unit which determines a priority to be a new coordinator of the plurality of stations included in the PBSS based on the PCP capability information received from the receiving unit, and broadcasts the determined priority to the plurality of stations, wherein the priority is determined in order to appoint the new coordinator for

the plurality of stations included in the PBSS; and

a hand-over performing unit which performs hand-over between the original coordinator and one of the plurality of stations according to the determined priority after the transmitting unit has broadcast the determined priority to the plurality of stations.

[Claim 9] The apparatus of claim 8, wherein the PCP capability information comprises information regarding at least one of whether a station supports a power source capability, whether the station supports a channel time allocation function, and whether the station supports a network clustering function.

[Claim 10] The apparatus of claim 9, wherein, when the receiving unit receives the PCP capability information from each of the stations, the priority determining unit updates the priority of each of the stations based on the received PCP capability information, and

the transmitting unit broadcasts the priority to the each of the stations, and

the hand-over performing unit performs hand-over with one of the plurality of stations according to the updated priority.

[Claim 11] The apparatus of claim 9, wherein the PCP capability information further comprises information regarding a maximum number of stations that can be combined to each of the stations.

[Claim 12] The apparatus of claim 9, wherein the information regarding whether each of the stations supports a power source comprises one of information about whether each of the stations supports a battery-based, non-continuous power source; a continuous power source that is not based on a battery, or both a continuous power source that is not based on a battery and a battery-based, non-continuous power source.

[Claim 13] The apparatus of claim 9, wherein the priority determining unit determines the priority so that a station supporting a power source capable of continuous power supply has a priority higher than a station supporting a power source capable of non-continuous power supply, a station supporting a channel time allocation function has a priority higher than a station that does not support a channel time allocation function, and

a station supporting a network clustering function has a priority higher than a station that does not support a network clustering function.

[Claim 14] The apparatus of claim 9, wherein the PCP capability information further comprises group information about a first station group

supporting a power source capable of continuous power supply, a second station group supporting a power source capable of non-continuous power supply, and a third station group supporting power sources of both continuous and non-continuous power supply, and
the first station group comprises at least one of a portable device, a MP3 player, a portable multimedia player (PMP), a digital camera, and a digital camcorder,
the second station group comprises at least one of a television, a set top box, a DVD player, a desktop player, and a projector, and
the third station group comprises at least one of a laptop computer and a wireless docking device.

[Claim 15] A computer readable recording medium having embodied thereon instructions that, when executed by a computer causes the computer to perform a hand-over method performed in a personal basic service set (PBSS) including a plurality of stations and one original coordinator, the method comprising:
receiving an association request frame comprising PBSS control point (PCP) capability information from each of the plurality of stations, the association request frame requesting to associate to the PBSS;
transmitting an association response frame to each of the stations indicating whether the association request received from each of the stations is approved;
determining a priority to be a new coordinator of the plurality of stations based on the PCP capability information and broadcasting the determined priority to the plurality of stations, wherein the priority is determined in order to appoint the new coordinator for the plurality of stations included in the PBSS; and
performing hand-over between the original coordinator and one of the plurality of stations according to the determined priority.

Claims

1. A hand-over method performed in a personal basic service set (PBSS) including a plurality of stations and one original coordinator, the method comprising:

receiving an association request frame comprising PBSS control point (PCP) capability information from each of the plurality of stations, the association request frame requesting to associate to the PBSS;

transmitting an association response frame to each of the stations indicating whether the association request received from each of the stations is approved;

determining a priority to be a new coordinator of the plurality of stations based on the PCP capability information and broadcasting the determined priority to the plurality of stations, wherein the priority is determined in order to appoint the new coordinator for the plurality of stations included in the PBSS; and

performing hand-over between the original coordinator and one of the plurality of stations according to the determined priority,

wherein the PCP capability information comprises information regarding at least one of whether a station supports a power source capability, whether the station supports a channel time allocation function, and whether the station supports a network clustering function.

2. The hand-over method of claim 2, further comprising:

receiving the PCP capability information from each of the stations; and

updating the priority of each of the stations based on the received PCP capability information, and

broadcasting the updated priority to each of the stations.

3. The hand-over method of claim 1, wherein the PCP capability information further comprises information regarding a maximum number of stations that can be associated to each of the stations.

4. The hand-over method of claim 1, wherein the information regarding whether each of the stations supports a power source comprises one of information about whether each of the stations supports a battery-based, non-continuous power source, a continuous power source that is not based on a battery, or both a continuous power source that is not based on a battery and a battery-based, non-continuous power source.

5. The hand-over method of claim 1, wherein, in the determining of the priority, the priority is determined so that a station supporting a power source capable of continuous power supply has a priority higher than a station supporting a power source capable of non-continuous power supply, and
a station supporting a channel time allocation function has a priority higher than a station that does not support a channel time allocation function, and
that a station supporting a network clustering function has a priority higher than a station that does not support a network clustering function.

6. The hand-over method of claim 1, wherein the PCP capability information further comprises group information about a first station group supporting a power source capable of continuous power supply, a second station group supporting a power source capable of non-continuous power supply, and a third station group supporting power sources of both continuous and non-continuous power supply, and
the first station group comprises at least one of a portable device, a MP3 player, a portable multimedia player (PMP), a digital camera, and a digital camcorder,
the second station group comprises at least one of a television, a set top box, a DVD player, a desktop player, and a projector, and

the third station group comprises at least one of a laptop computer and a wireless docking device.

7. An apparatus for performing hand-over in a personal basic service set (PBSS) including a plurality of stations and one original coordinator, and mounted in the coordinator, comprising:

a receiver which receives an association request frame which comprises PBSS control point (PCP) capability information from each of the plurality of stations, the association request frame requesting to associate to the PBSS; ,

a transmitter which transmits an association response frame to each of the stations which indicates whether the association request received from each of the stations is approved;

a priority determining device which determines a priority to be a new coordinator of the plurality of stations included in the PBSS based on the PCP capability information received from the receiving unit, and broadcasts the determined priority to the plurality of stations, wherein the priority is determined in order to appoint the new coordinator for the plurality of stations included in the PBSS; and

a hand-over performing device which performs hand-over between the original coordinator and one of the plurality of stations according to the determined priority after the transmitting unit has broadcast the determined priority to the plurality of stations,

wherein the PCP capability information comprises information regarding at least one of whether a station supports a power source capability, whether the station supports a channel time allocation function, and whether the station supports a network clustering function.

8. The apparatus of claim 7, wherein, when the receiving unit receives the PCP capability information from each of the stations, the priority determining unit updates the priority of each of the stations based on the received PCP capability information, and

the transmitting unit broadcasts the priority to the each of the stations, and

the hand-over performing unit performs hand-over with one of the plurality of stations according to the updated priority.

9. The apparatus of claim 7, wherein the PCP capability information further comprises information regarding a maximum number of stations that can be combined to each of the stations.

10. The apparatus of claim 7, wherein the information regarding whether each of the stations supports a power source comprises one of information about whether each of the stations supports a battery-based, non-continuous power source; a continuous power source that is not based on a battery, or both a continuous power source that is not based on a battery and a battery-based, non-continuous power source.

11. The apparatus of claim 7, wherein the priority determining unit determines the priority so that a station supporting a power source capable of continuous power supply has a priority higher than a station supporting a power source capable of non-continuous power supply,
a station supporting a channel time allocation function has a priority higher than a station that does not support a channel time allocation function, and
a station supporting a network clustering function has a priority higher than a station that does not support a network clustering function.

12. The apparatus of claim 7, wherein the PCP capability information further comprises group information about a first station group supporting a power source capable of continuous power supply, a second station group supporting a power source capable of non-continuous power supply, and a third

station group supporting power sources of both continuous and non-continuous power supply, and

the first station group comprises at least one of a portable device, a MP3 player, a portable multimedia player (PMP), a digital camera, and a digital camcorder,

the second station group comprises at least one of a television, a set top box, a DVD player, a desktop player, and a projector, and

the third station group comprises at least one of a laptop computer and a wireless docking device.

13. A computer readable recording medium having embodied thereon instructions that, when executed by a computer causes the computer to perform a hand-over method performed in a personal basic service set (PBSS) including a plurality of stations and one original coordinator, the method comprising:

receiving an association request frame comprising PBSS control point (PCP) capability information from each of the plurality of stations, the association request frame requesting to associate to the PBSS;

transmitting an association response frame to each of the stations indicating whether the association request received from each of the stations is approved;

determining a priority to be a new coordinator of the plurality of stations based on the PCP capability information and broadcasting the determined priority to the plurality of stations, wherein the priority is determined in order to appoint the new coordinator for the plurality of stations included in the PBSS; and

performing hand-over between the original coordinator and one of the plurality of stations according to the determined priority.