

CLAIMS

1. A communication apparatus comprising:
 - 5 receiving means for receiving a signal transmitted from a base station constructing a wireless network conforming to IEEE802.11 series of standards, the signal including information on an AIFSN value, and
 - control means for performing control so that, in a case where the AIFSN value included in the signal received by the receiving means is zero, data of an access category for which Enhanced Distributed Channel Access (EDCA)-access to the wireless network is gained are not transmitted over the wireless network.
- 10 2. The communication apparatus of Claim 1, wherein the control means are configured to switch the access category from a legacy contention mode to an MU contention mode not transmitting data of the access category upon EDCA-access to the wireless network, upon transmitting data of the access category in an accessed uplink OFDMA resource unit provided by the base station.
3. The communication apparatus of Claim 2, wherein the control means are configured to switch to the MU contention mode only if AIFSN value is zero.
4. The communication apparatus of Claim 2, wherein the control means are
20 configured to decide, based on a current contention mode of the access category, between transmitting data of the access category upon gaining EDCA access to the wireless network and drawing a new EDCA backoff for the access category without transmitting data of the access category.
5. The communication apparatus of Claim 4, wherein the control means are
25 configured to perform the deciding step further based on the data of the access category.
6. The communication apparatus of Claim 5, wherein the control means are configured to perform the deciding step further based on whether data of the access category are to be addressed to the base station or not.
7. The communication apparatus of Claim 2, wherein the control means are
30 configured to perform EDCA access to the wireless network in both legacy contention mode and MU contention mode using the same arbitration interframe space durations, and/or the same lower boundary CW_{min} and/or same higher boundary CW_{max} , both defining a selection range from which a size of an EDCA-based contention window for the access category.
8. The communication apparatus of Claim 2, wherein the control means are
35 configured to switch back the access category to the legacy contention mode upon expiry of an MU mode timer initialized when the access category switched to the MU contention mode.

9. The communication apparatus of Claim 2, wherein the control means are configured to share the same MU mode timer between multiple access categories and to reinitialize the MU mode timer to a predetermined duration each time data of any of the multiple access categories are transmitted in an accessed uplink OFDMA resource unit provided by the
5 base station.

10. The communication apparatus of Claim 1, wherein the control means are configured to enable a reset flag associated with the access category each time an EDCA-access to the wireless network is gained without transmitting data of the access category over the wireless network and to disable the reset flag each time data of the access category are
10 transmitted.

11. The communication apparatus of Claim 1, wherein the control means are configured to select data to be sent over an accessed uplink OFDMA resource unit provided by the base station, based on the enabled/disabled status of the reset flag.

12. The communication apparatus of Claim 2, wherein the control means are
15 configured to reset EDCA contention parameters associated with the access category as soon as the access category remains in the MU contention mode during at least a parameter lifespan duration.

13. The method of Claim 2, wherein the control means are configured to switch the access category to the MU contention mode only upon successfully transmitting the data of
20 the access category in the accessed uplink OFDMA resource unit.

14. A communication method comprising, at a station:
receiving a signal transmitted from a base station constructing a wireless network conforming to IEEE802.11 series of standards, the signal including information on an AIFSN value, and
25 performing control so that, in a case where the AIFSN value included in the signal received by the receiving means is zero, data of an access category for which Enhanced Distributed Channel Access (EDCA)-access to the wireless network is gained are not transmitted over the wireless network.

15. A non-transitory computer-readable medium storing a program which, when
30 executed by a microprocessor or computer system in a device, causes the device to perform the method of Claim 14.