IEEE P802.11
Wireless LANs

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| LB 188 Comments Resolutions for Sub-Clause 9.19 (Part 3) |
| Date: 2012-09-20 |
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This document provides resolutions for comments in sub-clause 9.19 of draft spec D3.0 (LB188). All CIDs are for MAC ad hoc.

* Sub-clause 9.19.2.5: 6705, 6371
* Sub-clause 9.19.2.6: 6047

**Sub-clause 9.19.2.5:**

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| **CID** | **Page** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| **6705**Simone Merlin | 130.62 | 9.19.2.5 | This paragraph that provides piggybacked ACs with unfair statistical advantage:"In event d) above, if the EDCAD(s) of the lower priority AC(s) can share the TXOP with the winning AC, the one or more secondary ACs shall keep their CW[AC]s and backoff timer values unchanged before trans- mitting in a TXOP."An internal collision provides feedback to the internally colliding secondary AC that the medium is busy and that the average backoff should increase (which is good, because it reduces subsequent collisions). The secondary AC is allowed to transmit anyway, because this is the intent of TXOP piggybacking and I agree with it, but the feedback into the backoff mechanism should not be affected by the piggybacking. If this were the case, the secondary AC would gain statistical advantage of piggybacking, which is not the intent of piggybacking, and which provides the secondary AC with unfair gain relative to the same AC at a different STA that does not have a stream on which to piggyback. EDCA was designed to (as much as possible) provide fair access to ACs irrespective of traffic from other ACs at a STA. In other words, traffic at a specific AC at a STA should not "help" other ACs at that STA, at least not in a statistical sense. Therefore, this item should be removed.Related insertions on P131L14 and P131L16 must be deleted as well. | Delete paragraph on P130L62 and related insertions on P131L14 and P131L16. | **Revised**.See document 12/1167r<RevisionNumber> for the resolution.  |
| **6371**Wei Shi | 130.64 | 9.19.2.5 | What happens if these secondary AC backoff counters are already at zero? | If these already at zero then backoff shall be invoked. | **Revised**.This won’t be an issue since the corresponding text has been deleted per the resolution of CID 6705. No changes are necessary. |

**Discussion on CID 6705:**

Although we still believe in principle that a secondary AC’s backoff timer and CW size should not be affected solely because it is able to share the same TXOP for transmission, we are willing to accept the proposed changes for Event *d)*, for this task group to move forward. However, the insertions between P131L14 and P131L16 are for Event *b)* and we don’t see it is closely related to the backoff behaviour of Event *d).* In addition, the proposed deletion is on the text for a primary AC or the SU case, which does not make sense to us.

**Editorial Instrution:**

Delete the following:

1. Paragraph between P130L62 and P130L65 (the entire paragraph).
2. The insertion of P130L54-P130L55

**Sub-clause 9.19.2.6:**

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| **CID** | **Page** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| **6047**Adrian Stephens | 132.08 | 9.19.2.6.1 | "of the colliding ACs that did not contribute an MPDU to a TXOP"What does this mean? How are MPDUs contributed to a TXOP? If contribution = transmission, then this "contribution" may take place after the internal collision - which requires that the EDCAF has a time travel machine.One could just about argue that if the TXOP starts with an MU-PPDU then contributions from other ACs are known at the time of the channel access, but if the TXOP starts with anything else (RTS/CTS, NDPA), then we're definitely talking about knowledge of the future. | Either write an annex on time travel for use by the EDCAF, or reword to relate to state known at the time of the channel access attempt. | **Revised**See document 12/1167r<RevisionNumber> for the resolution. |

**The text:**

For internal collisions occurring with the EDCA access method, the appropriate retry counters of the colliding ACs that did not contribute an MPDU to a TXOP (short retry counter for MSDU, A-MSDU, or MMPDU and QSRC[AC] or long retry counter for MSDU, AMSDU, or MMPDU and QLRC[AC]) are incremented. For internal collisions occurring with the EDCA access method where dot11RobustAVStreamingImplemented is true, the appropriate drop-eligible retry counters (QSDRC[AC], and QLDRC[AC]) are incremented when the collision occurs for MSDU, A-MSDU or MMPDU that has drop eligibility equal to one. For transmissions that use Block Ack, the rules in 9.21.3 (Data and acknowledgment transfer using immediate Block Ack policy and delayed Block Ack policy) also apply. STAs shall retry failed transmissions until the transmission is successful or until the relevant retry limit is reached.

**Discussion:**

This won’t be an issue since the text between P130L62 and P130L65 has been deleted per the resolution of CID 6705. The result is any colliding lower-priority AC will have to invoke backoff no matter whether it can share the TXOP for transmission. Therefore the inserted text by TGac is no longer meaningful.

**Editorial Instrution:**

Delete the phrase inserted by TGac between P132L08 and P132L09 as below.

For internal collisions occurring with the EDCA access method, the appropriate retry counters (short retry counter for MSDU, A-MSDU, or MMPDU and QSRC[AC] or long retry counter for MSDU, AMSDU, or MMPDU and QLRC[AC]) are incremented. For internal collisions occurring with the EDCA access method where dot11RobustAVStreamingImplemented is true, the appropriate drop-eligible retry counters (QSDRC[AC], and QLDRC[AC]) are incremented when the collision occurs for MSDU, A-MSDU or MMPDU that has drop eligibility equal to one. For transmissions that use Block Ack, the rules in 9.21.3 (Data and acknowledgment transfer using immediate Block Ack policy and delayed Block Ack policy) also apply. STAs shall retry failed transmissions until the transmission is successful or until the relevant retry limit is reached.