IEEE P802.11
Wireless LANs

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| Comment Resolutions for 11be D0.3 ML retransmission CIDs |
| Date: 2021-02-22 |
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Abstract

This submission proposes resolutions of comments received from TGbe comment collection (TGbe Draft 0.3).

* CIDs: 1064, 1687, , 2598, 2714, , 2761, 2909, 3338, 3381, 3382 (9 CIDs)

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: Amended the resolutions for CID 2714 and made other changes based on feedback from Alfred, Tomo, Arik, Yongho. CID 2503 is deferred based on Po-kai’s request.
* Rev 2: Added editorial CIDs 2761, 2909 upon TGbe editor’s request
1. **Introduction**

Interpretation of a Motion to Adopt

A motion to approve this submission means that the editing instructions and any changed or added material are actioned in the TGbe Draft. The introduction and the explanation of the proposed changes are not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGbe Draft (i.e. they are instructions to the 802.11be editor on how to merge the text with the baseline documents).***

***TGbe Editor: Editing instructions preceded by “TGbe Editor” are instructions to the TGbe editor to modify existing material in the TGbe draft. As a result of adopting the changes, the TGbe editor will execute the instructions rather than copy them to the TGbe Draft.***

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| CID | Commenter | Clause  | Page | Line | Comment | Proposed Change | Resolution |
| 1064 | Abhishek Patil | 35.3.6.3 | 135 | 6 | Subclause on retransmission procedure is a misfit under Link Mgmt topic. | Move the contents of this subclause as the last paragraph of 35.3.7.1.1 and delete subclause 35.3.6.3. Also delete NOTE 2 at P135L42. | **Revised.**Agree with the comment that subcalsue for ML retransmission is is a misfit under Link Management but 35.3.7.1 ML BlockAck Procedure is also not the right subclause to move to since ML retransmission is not directly related to ML BlockAck procedure. The ML retransmission subclause is moved under 35.3.13 (Multi-link channel access) following the style of baseline where 10.23.2.12 (Retransmit procedures) is under 10.23.2 (EDCA). Also agree that the NOTE 2 is not required since the NOTE 2 is captured in the normative text. TGbe editor to make the changes shown in 11-21/0302r2 under all headings that include CID 1064. |
| 1687 | GEORGE CHERIAN | 35.3.7.1.1 | 135 | 42 | "NOTE 2--QoS Data frames that are not fragments might be (re)transmitted on any link(s) where the corresponding TID is mapped to.".Modify as follows:NOTE 2--QoS Data frames can be (re)transmitted on any link(s) where the corresponding TID is mapped to. | As in the comment | **Revised.**While we agree with the comment, the referred NOTE 2 has been deleted as part of resolution of CID 1064, solving the issue identified by the comment.TGbe editor to make the changes shown in 11-21/0302r2 under all headings that include CID 1064. |
|  |  |  |  |  |  |  | 0302r2 |
| 2598 | Rojan Chitrakar | 35.3.6.3 | 135 | 8 | The PN used to protect a frame should not be incremented when the frame is re-transmitted by the MLD on another link to prevent the frame being dropped as replayed frame by the receiving MLD. | Clarify that the PN used to protect a frame shall not be incremented when the frame is re-transmitted by the MLD on another link. | **Revised.**Agree with the comment that the PN used to protect a frame should not be incremented when the frame is re-transmitted by the MLD on another link (or on the same link). A NOTE is added to explain this. TGbe editor to make the changes shown in 11-21/0302r2 under all headings that include CID 2598. |
| 2714 | Ryuichi Hirata | 35.3.6.3 | 135 | 8 | An MLD may be unable to attempt retransmission on other link if other link entered doze state. | Solve this issue. This could be solved by defining indication of pending retransmission of the frame transmitted on other link. | **Revised.**Agree with the comment that retransmissions of a frame on a link is subject to the power state of the STA operating on the link. However, existing power save mechanisms can already cover such cases. The text is modified to capture such restrictions. We note that similar expression is also used in 35.3.6.1 TID-to-link mapping. TGbe editor to make the changes shown in 11-21/0302r2 under all headings that include CID 2714. |
| 3338 | Yusuke Tanaka | 35.3.6.3 | 135 | 10 | The spec texts allow retransmission on any links, but the receiver doesn't know whether and in which link retransmission will be attempted, so the receiver can't put any link into sleep state. | Allow a receiver to know whether retransmission will be attempted by for example a frame exchange prior to the retransmission or indication in the transmitted frame. | **Rejected.**There is no difference between a retransmission and the original transmission in terms of a receiver STA’s power state. If a receiving STA is operating in power save mode, the rules that apply to the initial transmission also apply for the retransmitted frame (e.g., buffering of BUs at the AP etc.).  |
| 3381 | Zhou Lan | 35.3.6.3 | 135 | 6 | A MPDU that doesn't belong to any bloack ack agreement can not be retrasmitted? Please clarify. | As stated in the comment | **Revised.**Agree with the comment that MPDus that do not have block ack agreements may also be retransmitted on other links. However, this case is already described in 35.3.11 (Multi-link device individually addressed data delivery without block ack negotiation). Text is added to refer the readers to 35.3.11 for retransmissions in the case without block ack agreement.TGbe editor to make the changes shown in 11-21/0302r2 under all headings that include CID 3381. |
| 3382 | Zhou Lan | 35.3.7.1.1 | 135 | 42 | Turn this Note to formative text | As stated in the comment | **Revised.**Agree with the comment, the referred NOTE 2 has been deleted as part of resolution of CID 1064. The content of the NOTE 2 is already captured as normative text in 35.3.7.1.2 (Multi-link retransmit procedures)TGbe editor to make the changes shown in 11-21/302r2 under all headings that include CID 1064. |
| 2761 | Sharan Naribole | 35.3.6.3 | 135 | 08 | If an MLD has established block ack agreement with another MLD for a TID, and the transmission of a QoS Data frame of the TID in a link is unsuccessful, and if the frame is not a fragment, the MLD may attempt retransmissions of the frame on any link that has the TID mapped to it. "in a link" seems incorrect usage. | If an MLD has established block ack agreement with another MLD for a TID, and the transmission of a QoS Data frame of the TID using a link is unsuccessful, and if the frame is not a fragment, the MLD may attempt retransmissions of the frame on any link that has the TID mapped to it. | **Revised.**The comment is suggesting using the phrase “transmission … using a link” instead of “transmission … in a link”. The cited phrase is modified to “transmission … on a link” instead following similar expressions elsewhere in D0.4.TGbe editor to make the changes shown in 11-21/302r2 under all headings that include CID 2761. |
| 2909 | SunHee Baek | 35.3.6.3 | 135 | 08 | There is needed to add "a" in front of "block ack agreement". | change "If an MLD has established block ack agreement" to "If an MLD has established a block ack agreement". | **Accepted.** |

**Discussion:** None.

**Propose:**

Revised for CIDs 1064, 2714, 2598, 2761, 3381 as per discussion and editing instructions in 11-21/0302r2.

**SP: Do you agree to incorporate the changes provided in doc 11-21/0302r2 for CIDs 1064, 1687, 2598, 2714, 2761, 2909, 3338, 3381, 3382 to the next revision of 802.11be draft?**

35.3.7 Multi-link block ack

35.3.7.1 Multi-link BlockAck procedure

35.3.7.1.1 General (CID 1064)

***TGbe editor: Delete NOTE 2 in the sub-clause as the following (Track Changes ON):***

If an MLD has established a block ack agreement with another MLD, then QoS Data frames for the TID associated with the block ack agreement may be exchanged between the two MLDs on any link to which the TID is mapped and subject to existing restrictions for transmissions of frames that apply to those enabled links, following the procedure described in 35.3.7.1 (Multi-link BlockAck procedure).

 (#1064)

***TGbe editor: Modify sub-clause 35.3.6.3 as the following and move subclause 35.3.6.3 to the end of subclause 35.3.13 (Track Changes ON):***

35.3.13 Multi-link channel access

35.3.13.8 Multi-link retransmit procedures (CIDs 1064, 2714, 2598, 2761, 3381)

If an MLD has established block ack agreement with another MLD for a TID, and the transmission of a QoS Data frame of the TID on a link is unsuccessful, and if the frame is not a fragment, the MLD may attempt retransmissions of the frame on any link that has the TID mapped to it, subject to the applicable lifetime limit for that frame and subject to any other restrictions that apply to the link where the retransmission is scheduled. (#2714, #2761)

If an MLD does not have a block ack agreement with another MLD for a TID, then the frames for that TID with failed transmission attempts are delivered following the rules defined in 35.3.11 (Multi-link device individually addressed data delivery without block ack negotiation). (#3381)

NOTE—A retransmitted frame is not encapsulated with a new PN when retransmitted on another link. (#2598)