IEEE P802.11  
Wireless LANs

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| LB 271 Resolution for 35.3.8 | | | | |
| Date: June 29, 2023 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Abhishek Patil | Qualcomm Technologies Inc. |  |  |  |
| Alfred Asterjadhi |  |  |  |
| George Cherian |  |  |  |

Abstract

This submission proposes resolutions for following CID received for TGbe LB271:

18028 18029 18030 18031 18032 18033 18034 18035 18036 18037

**Revisions:**

* Rev 0: Initial version of the document.
* Rev 1: Updated baseline to D3.2.
  + Based on offline feedback, updated NOTE 5 to clarify that the affiliated STA of the originator needs to perform the action.

***TGbe editor: Baseline for this document is 11be D3.2***

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. This introduction is not part of the adopted material.

***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** | **Comment** | **Proposed Change** | **Resolution** |
| 18028 | Joseph Levy | 35.8 | 525.16 | There is no need for the word "performing" in this requirement. | Delete: "performing". | **Accepted**  ***Note to editor: subclause number should be 35.3.8.*** |
| 18029 | Joseph Levy | 35.8 | 525.21 | Incorrect use of which, should be a that. See 802.11 Style Guide. | Replace "to which" with "that" | **Accepted**  ***Note to editor: subclause number should be 35.3.8.*** |
| 18030 | Joseph Levy | 35.8 | 523.25 | Why are originator and recipient in italics? | Remove italics | **Revised**  TGbe Editor: Please convert all italics instances of “originator” and “recipient” throughout the draft to non-italics.  ***Note to editor: subclause number should be 35.3.8.*** |
| 18031 | Joseph Levy | 35.8 | 523.29 | Is there another way to send an ADDBA Request be sides though an affiliated STA? This text is unnecessary.. | Delete: "through an affiliated STA" Note the phase is used through out this clause and should be deleted at all locations. | **Rejected**  ***Note: subclause number should be 35.3.8 and page/number should be 525/29.***  The comment fails to identify a technical issue and is asking a question. The answer is that there is no other way to send that frame besides via an affiliated STA (operating on an enabled link). The existing text simply states this fact. Also note, the existing text is the resultant of inputs from several members in the previous round. |
| 18032 | Joseph Levy | 35.8 | 525.32 | Why is it necessary to state that the response frame link choice is restricted by the power states of the STAs? Isn't this always true - the recipient MLD always has control on the link it chooses to respond on and that choice is always constrained by the power state of the affiliated STAs. | Delete: "subject to the power states of the STAs operating on the link" | **Rejected**  The comment fails to identify a technical issue and is asking a question. The answer is that it is necessary to state so that if the recipient happens to a non-AP MLD, then it can send the response on a link that is in awake state (which might not be the one where the request was received). If the recipient happens to be an AP MLD, then it can transmit the response on a link where a STA affiliated with the non-AP MLD is in awake state. Also note, the existing text is the resultant of inputs from several members in the previous round. |
| 18033 | Joseph Levy | 35.8 | 525.43 | Incorrect use of which, should be a that. See 802.11 Style Guide. | Replace "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 by following the procedure described in 35.3.7.1 (TID-to-link mapping) and 35.3.12 (Multi-link power management)." With "If an MLD has established a block ack agreement with another MLD, the QoS Data frames for the TID associated with the block ack agreement may be exchanged on any link that the TID is mapped to, following the procedure described in 35.3.7.1 (TID-to-link mapping) and 35.3.12 (Multi-link power management)." | **Revised**  Agree with the comment. The contents of the paragraph were updated to convey the intentions in a more clearly. The changes also account for the proposed change suggested by the comment. Additionally replaced “procedure” with “procedures” since calling out two different subclauses.  **TGbe editor: please implement changes as shown in 11-23/644r1 tagged 18033.** |
| 18034 | Joseph Levy | 35.8 | 525.48 | It would probably be helpful to provide a reference for WinStart0 and WinSize0 - | Insert "(see 10.25.6.7)" after WinSize0 | **Accepted** |
| 18035 | Joseph Levy | 35.8 | 525.50 | The requirement for the release of the transmit buffer is written awkwardly, suggest using the wording from the baseline specification: "releases transmit buffers upon reception of BlockAck frames from the recipient" | Replace: "An originator MLD shall release the transmit buffer associated with a successfully received MPDU upon receiving BlockAck frame containing the reception status for that MPDU." With: "An originator MLD releases transmit buffers upon reception of BlockAck frames from the recipient MLD." | **Revised**  The current sentence is more specific and hence technically correct. Hence proposed resolution is to keep the current normative behavior, although replacing “receiving” with “reception” to be more aligned with baseline on this terminology.  The resolution also updated NOTE 5 to clarify that the action needs to be performed by a STA affiliated with the originator MLD. The resolution further fixes the text in the last paragraph of this subclause to align with the latest procedure (frame) defined in baseline spec.  **TGbe editor: please implement changes as shown in 11-23/644r1 tagged 18035** |
| 18036 | Joseph Levy | 35.8 | 526.09 | The requirement begins with a block ack agreement between two MLDs, it unnecessary to restate that condition in the second condition. | delete "if the sender and the receiver of the ADDBA Response frame are MLDs" | **Accepted** |
| 18037 | Joseph Levy | 35.8 | 526.21 | These paragraphs seem to provide an other method of a recipient affiliated STA letting a originator affiliated STA know that an MPDU has been received apart from the BA messaging. This is very strange and should be removed. | delete "A STA affiliated with a recipient MLD shall provide, to the STA affiliated with the originator MLD that is operating on the same link, the reception status for any MPDU, with ACK policy other than No Ack, that is received on the link on which the STA affiliated with the recipient MLD is operating on. When a TID is mapped to more than one link, a STA affiliated with a recipient MLD may provide (if available), to the STA affiliated with the originator MLD that is operating on the same link, reception status indicating successful reception of any MPDU, which belongs to that TID and has an ACK policy other than No Ack, that is received by a STA affiliated with the recipient MLD that is operating on a different link. An originator MLD shall update the reception status of an MPDU in its transmit buffer corresponding to a block ack agreement if the received status indicates successful reception. An originator MLD shall not update the reception status of an MPDU in its transmit buffer corresponding to a block ack agreement that has already been acknowledged as successful." | **Rejected**  The comment fails to identify a technical issue. The paragraphs do not provide additional methods but rather add rules that are needed once BA maintenance transitions from STA to MLD level. The first sentence clarifies that each STA affiliated with an MLD provides the reception status of the MPDUs received on the link it is operating on. The second sentence clarifies that a STA may provide (if available) the status of a successful reception of an MPDU by another STA affiliated with the same MLD. Also note, the existing text is the resultant of inputs from several members in the previous round. |

* + 1. **Block ack procedures in Multi-link operation**

***TGbe editor: Please update the following paragraphs in this subclause as shown below:***

An MLD shall follow the mechanisms defined in 11.5 (Block ack operation) and [35.4 (EHT](#bookmark117) [acknowledgment procedure)](#bookmark117) with additional rules as defined in this subclause for [18028] block ack operation.

For each TID, there shall not be more than one block ack agreement established between two MLDs and the agreement shall apply to all the links that[18029] the TID is mapped to (i.e., there are no independent block ack agreements for each TID on a per-link basis).

In this subclause, the MLD with data to send using the block ack mechanism is referred to as the originatorMLD, and the MLD that is the intended recipient of that data is referred to as the recipientMLD.[18030]

***TGbe editor: Please update the following paragraphs in this subclause as shown below:***

When two MLDs have established a block ack agreement between them for a certain TID, then QoS Data frames belonging to that TID may be exchanged between the two MLDs on any link that the TID is mapped to following the procedures described in [35.3.7.1 (TID-to-link mapping)](#bookmark51) and [35.3.12 (Multi-](#bookmark69) [link power management)](#bookmark69).[18033]

An originator MLD shall maintain a common transmit buffer control that uses *WinStartO* and *WinSizeO* (see 10.25.6.7)[18034] for each block ack agreement negotiated with the recipient MLD to submit MPDUs for transmission across links subject to TID-to-Link mapping restriction (see [35.3.7 (Link management)](#bookmark50)). An originator MLD shall release the transmit buffer associated with a successfully received MPDU upon reception of the a BlockAck frame containing the reception status for that MPDU.[18035]

***TGbe editor: Please update the following paragraph in this subclause as shown below:***

When a block ack agreement is established between two MLDs, the originator may change the size of its transmission window (*WinSizeO*) provided that the transmission window meets the following conditions:

* Is not greater than the buffer size indicated in the ADDBA Response frame.
* Is not greater than 1024.[18036]

***TGbe editor: Please update the following NOTE in this subclause as shown below:***

[18035]NOTE 5—A STA affiliated with the originator MLD is expected to solicit an immediate BA within the TXOP by following 10.25.6.9 (Originator’s support of recipient’s partial state) to reduce the probability that MPDUs are unnecessarily retransmitted.

***TGbe editor: Please update the following paragraph in this subclause as shown below:***

If two MLDs have successfully negotiated a protected block ack agreement, they shall follow the procedure described in 10.25.7 (Protected block ack agreement). In a protected block ack agreement between two MLDs, the originator MLD shall transmit a [18035]PBAC WinStart Updateframe, via its affiliated STA that is operating on an enabled link to which the TID belonging to the block ack agreement is mapped, to advance the *WinStartR* and *WinStartB* at the recipient MLD.