IEEE P802.11
Wireless LANs

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| Resolution for CID 3014 |
| Date: December 16, 2022 |
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 Abstract

This submission proposes resolution for CID 3014 received against REVme D2.0 during LB270.

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: Minor updates to the proposed changes in 9.6.4.1

***TGbe editor: Please note baseline is REVme D2.0***

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 TGm Draft. This introduction is not part of the adopted material.

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

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

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| **CID** | **Commenter** | **Pg/Ln** | **Section** | **Comment** | **Proposed Change** | **Resolution** |
| 3014 | Abhishek Patil | 1967.15 | 10.25.7 | An originator can send an ADDBA Request frame to modify/renegotiate the parameters for a BA session. In a protected BA setup, it is not clear how to distinguish an ADDBA sent to update WinStartR vs an ADDBA sent to update the parameters of the BA session. | Provide a mechanism (possibly define a new frame) to differentiate between the two cases. | **Revised**Agree with the comment. The resolution defines a new action frame which is exclusively meant for advancing the scoreboard window at the recipient when the negotiated block ack agreement is a protected BA. The new frame replaces the usage of ADDBA Request frame for this purpose. Other portions of the spec are updated accordingly.TGm editor, please implement changes as shown in 11-22/2206r1 |

* Block Ack Action frame details
* General

***TGbe editor: Please add a row to Table 9-442 in this subclause as shown below:***

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| * Block Ack Action field values
 |
| **Block Ack Action****field values** | **Meaning** |
| <ANA> | PBAC WinStart Update |

***TGbe editor: Please add the following new subclause after 9.6.4.4 as shown below:***

* + - 1. **PBAC WinStart Update frame format**

The PBAC WinStart Update frame is sent by an originator to advance the scoreboard window at the recipient when the negotiated block ack agreement is a protected block ack agreement. The Action field of a PBAC WinStart Update frame contains the information shown in Table 9-<xxx> (PBAC WinStart Update frame Action field format).

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| **Table 9-<xxx> - PBAC WinStart Update frame Action field format** |
| **Order** | **Information** |
| 1 | Category |
| 2 | Block Ack Action |
| 3 | Block Ack Parameter Set |
| 4 | Block Ack Starting Sequence Control |

The Category field is defined in 9.4.1.11 (Action field).

The Block Ack Action field is set to 135 (representing PBAC WinStart Update).

The Block Ack Parameter Set field is defined in 9.4.1.13 (Block Ack Parameter Set field).

The Starting Sequence Number subfield of the Block Ack Starting Sequence Control field (see Figure 9-48 (Block Ack Starting Sequence Control subfield format)) contains the sequence number of the next MSDU to be sent under this block ack agreement. The Fragment Number subfield is set to 0.

**10.25.6.7 Originator’s behavior**

**10.25.6.7.1 General**

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

The originator may send a BlockAckReq frame for block ack agreement that is not a protected block ack agreement or a robust PBAC WinStart Update frame for protected block ack agreement when a QoS Data frame that was previously transmitted within an A-MPDU that had Normal Ack ack policy is discarded due to exhausted MSDU lifetime. The purpose of this BlockAckReq or robust PBAC WinStart Update frame is to shift the recipient’s WinStartB value past the hole in the sequence number space that is created by the discarded Data frame and thereby to allow the earliest possible passing of buffered frames up to the next MAC process. Under a block ack agreement with segmentation and reassembly, the BlockAckReq frame shall contain only MPDU\_SSN and the robust PBAC WinStart Update frame shall contain only MPDU\_SSN and MSDU\_SSN fields of an MPDU that has the value of the Start of MSDU subfield equal to 1.

* Protected block ack agreement

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

A STA that has successfully negotiated a protected block ack agreement shall obey the following rule as a block ack originator in addition to rules specified in 10.25.6.7 (Originator’s behavior) and 10.25.6.8 (Maintaining block ack state at the originator):

* To change the value of *WinStartB* at the receiver, the STA shall use a robust PBAC WinStart Updateframe.

A STA that has successfully negotiated a protected block ack agreement shall obey the following rules for that agreement as a block ack recipient in addition to rules specified from 10.25.6.3 (Scoreboard context control during full-state operation) to 10.25.6.6 (Receive reordering buffer control operation):

* The STA shall not use the Block Ack Starting Sequence Control subfield value in the BlockAckReq frame for the purposes of updating the value of *WinStartB* and *WinStartR*. If the Block Ack Starting Sequence Control subfield value is greater than *WinEndB* or less than *WinStartB*, dot11PBACErrors shall be incremented by 1. If, for a block ack agreement with segmentation and reassembly, the MPDU Starting Sequence subfield value is greater than WinEndB or less than WinStartB, dot11PBACErrors shall be incremented by 1.
* Upon receipt of a valid robust PBAC WinStart Updateframe for an established protected block ack agreement whose TID and transmitter address are the same as those of the block ack agreement, the STA shall update its *WinStartR* and *WinStartB* values based on the starting sequence number in the robust PBAC WinStart Update frame according to the procedures outlined for reception of BlockAckReq frames in 10.25.6.3 (Scoreboard context control during full-state operation), 10.25.6.4 (Scoreboard context control during partial-state operation), 10.25.6.6.1 (General), and 10.25.6.6.3 (Operation for each received BlockAckReq), while treating the starting sequence number as though it were the *SSN* of a received BlockAckReq frame or, in case of a block ack agreement with segmentation and reassembly, treating the MPDU starting sequence number as though it were the MPDU SSN of a received BlockAckReq frame. Values in other fields of the ADDBA Request frame shall be ignored.
* Block Ack Parameter Set field

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

The Block Ack Parameter Set field is used in ADDBA Request and ADDBA Response frames to signal the parameters for setting up a block ack agreement and is used in a PBAC WinStart Update frame, under a protected block ack agreement, to identify the TID for which the scoreboard window at the recipient is to be advanced. The length of the Block Ack Parameter Set field is 2 octets. The Block Ack Parameter Set field is shown in Figure 9-143 (Block Ack Parameter Set field format). When carried in a PBAC WinStart Update frame all subfields except the TID subfield are reserved.

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

The TID subfield contains the TC or TS for which the BlockAck frame is being requested when carried in ADDBA Request and ADDBA Response frame and is used to identify the TID for which the scoreboard window is being advanced when carried in a PBAC WinStart Update frame.