IEEE P802.11  
Wireless LANs

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| **Resolutions to CIDs 24093-24097** |
| **Date:** 2020-07-14 |

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Abstract

This submission proposes resolution for the following CID submitted to 1st SB for P802.11ax (**5 CIDs**):

* 24093, 24094, 24095, 24096, and 24097

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

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

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

# 26.4.4

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| **CID** | **PP.LL** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 24093 | 337.58 | 26.4.4.2 | It is as though the Multi-STA BlockAck frame case is only allowed for the all ack context. Even when there are errors in receiving some of the MPDUs, the Multi-STA BlockAck frame can be used. The condition to allow setting of the Ack Type field to 1 is described in 26.4.2 a) and it doesn't need to be repeated here. | Delete "with Ack Type field set to 1 and the TID field set to 14" and "if the recipient has indicated support for the all ack context by setting the All Ack Support subfield in the HE MAC Capabilities Information field to 1" from item 4). | Revised.  See the instructions to the TGax editor in doc. 11-20/1054r0 under the headings that include CID 24093. |
| 24094 | 338.42 | 26.4.4.3 | It is as though the Multi-STA BlockAck frame case is only allowed for the all ack context. Even when there are errors in receiving some of the MPDUs, the Multi-STA BlockAck frame can be used. The condition to allow setting of the Ack Type field to 1 is described in 26.4.2 a) and it doesn't need to be repeated here. | Delete "with the Ack Type set to 1 and the TID field set to 14" and "if the recipient has indicated support for the all ack context by setting the All Ack Support subfield in the HE MAC Capabilities Information field to 1" from item 3). | Revised.  See the instructions to the TGax editor in doc. 11-20/1054r0 under the headings that include CID 24094. |
| 24095 | 339.32 | 26.4.4.4 | It is as though the Multi-STA BlockAck frame case is only allowed for the all ack context. Even when there are errors in receiving some of the MPDUs, the Multi-STA BlockAck frame can be used. The condition to allow setting of the Ack Type field to 1 is described in 26.4.2 a) and it doesn't need to be repeated here. | Delete "with the Ack Type set to 1 and the TID field set to 14" and "if the recipient has indicated support for the all ack context by setting the All Ack Support subfield in the HE MAC Capabilities Information field to 1" from item 3). | Revised.  See the instructions to the TGax editor in doc. 11-20/1054r0 under the headings that include CID 24095. |
| 24096 | 340.12 | 26.4.4.5 | Do we need to explicitly state Ack Type field settings for Multi-STA Block here? When the Ack Type field can be set to 1 is described in 26.4.2 a). | Delete "with the Ack Type field set to 1 and the TID field set to 14 if the recipient has indicated support for the all ack context by setting the All Ack Support subfield in the HE MAC Capabilities Information field to 1 or a Multi-STA BlockAck frame with the Ack Type field set to 0" from item 3). | Revised.  See the instructions to the TGax editor in doc. 11-20/1054r0 under the headings that include CID 24096. |
| 24097 | 341.01 | 26.4.4.6 | Do we need to explicitly state Ack Type field settings for Multi-STA Block here? When the Ack Type field can be set to 1 is described in 26.4.2 a). | Delete "with the Ack Type field set to 1 and the TID field set to 14 or a Multi-STA BlockAck frame with the Ack Type field set to 0" from item 3). | Revised.  See the instructions to the TGax editor in doc. 11-20/1054r0 under the headings that include CID 24097. |
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**Discussion**

Comparing the sections 26.4.2 and 26.4.4, 26.4.4 adds some conditions when a Multi-STA BlockAck with the BlockAck context can be used when the eliciting MPDUs are all non-EOF MPDUs and belongs to the same block ack agreement. So, if it is only stating a Multi-STA BlockAck frame with Ack Type field set to 1 and the TID field set to 14, that is intentional and needs to be kept.

However, a Multi-STA BlockAck frame with the all ack context can be only transmitted when the received MPDUs are all received successfully. This condition is the same level of condition (or situation) with whether the EOF-MPDU is included and whether it is the same TID for block ack agreement, while it does not apply to a Compressed BlockAck. So this should be also included as a condition. Furthermore, even if the STA supports transmitting the all ack context, the transmission of a Multi-STA BlockAck with the all ack context is a “may” in 26.4.2.

On the other hand, the capability condition of supporting the all ack context is already explained in 26.4.2 a) to use such context and is supplementary information which can be omitted. It is repeatedly explained in 26.4.4.2, 26.4.4.3, 26.4.4.4, and 26.4.4.5, however, it is omitted in 26.4.4.6. It is better to unify the description level among the subclauses and shorten the sentences to be readable.

TGax Editor: Change the last paragraph in 26.4.4 of P802.11ax D6.1 as follows:

##### 26.4.4 Per-PPDU acknowledgment selection rules

##### 26.4.4.2 Responding to an HE SU PPDU or HE ER SU PPDU with an SU PPDU

…

4) If the A-MPDU does not include an EOF MPDU but does include one or more non-EOF MPDUs that are QoS Data frames belonging to the same block ack agreement and with the Ack Policy Indication subfield equal to Implicit BAR for at least one MPDU, then the STA shall respond with a Compressed BlockAck frame as defined in 10.25.6.5 (Generation and transmission of BlockAck frames by an HT STA, DMG STA, or S1G STA) or, if all the MPDUs carried in the eliciting A-MPDU were received, the STA may respond with a Multi-STA BlockAck frame with Ack Type field set to 1 and the TID field set to 14 as defined in 26.4.2 (Acknowledgment context in a Multi-STA BlockAck frame).(#24093)

…

##### 26.4.4.3 Responding to an HE MU PPDU with an SU PPDU

…

3) If the A-MPDU does not include an EOF MPDU but does include one or more non-EOF MPDUs that are QoS Data frame belonging to the same block ack agreement and with the Ack Policy Indication subfield equal to Implicit BAR for at least one MPDU, then the STA shall respond with a Compressed BlockAck frame as defined in 10.25.6.5 (Generation and transmission of BlockAck frames by an HT STA, DMG STA, or S1G STA) or, if all the MPDUs carried in the eliciting A-MPDU were received, the STA may respond with a Multi-STA BlockAck frame with the Ack Type set to 1 and the TID field set to 14 as defined in 26.4.2 (Acknowledgment context in a Multi-STA BlockAck frame).(#24094)

…

##### 26.4.4.4 Responding to an HE MU PPDU, HE SU PPDU or HE ER SU PPDU with an HE TB PPDU

…

3) If the A-MPDU does not include an EOF MPDU but does include one or more non-EOF MPDUs that are QoS Data frames belonging to the same block ack agreement and with the Ack Policy Indication subfield equal to HTP Ack for at least one MPDU, then the STA shall respond with a Compressed BlockAck frame as defined in 10.25.6.5 (Generation and transmission of BlockAck frames by an HT STA, DMG STA, or S1G STA) or, if all the MPDUs carried in the eliciting A-MPDU were received, the STA may respond with a Multi-STA BlockAck frame with the Ack Type set to 1 and the TID field set to 14 as defined in 26.4.2 (Acknowledgment context in a Multi-STA BlockAck frame).(#24095)

…

##### 26.4.4.5 Responding to an HE TB PPDU with an SU PPDU

…

3) If the A-MPDU does not include an EOF MPDU but does include one or more non-EOF MPDUs that are QoS Data frames belonging to the same block ack agreement and with Ack Policy Indication subfield equal to Implicit BAR for at least one MPDU, then the HE AP shall respond with a Compressed BlockAck frame as defined in 10.25.6.5 (Generation and transmission of BlockAck frames by an HT STA, DMG STA, or S1G STA) or a Multi-STA BlockAck frame with the Ack Type field set to 0, or, if all the MPDUs carried in the eliciting A-MPDU were received, the HE AP may respond with a Multi-STA BlockAck frame with the Ack Type field set to 1 and the TID field set to 14,(#24096) as defined in 26.4.2 (Acknowledgment context in a Multi-STA BlockAck frame).

…

##### 26.4.4.6 Responding to an HE TB PPDU with an HE MU PPDU

…

3) If the A-MPDU does not include an EOF MPDU but does include one or more non-EOF MPDUs that are QoS Data frames belonging to the same block ack agreement and with the Ack Policy Indication subfield equal to Implicit BAR for at least one MPDU, then the HE AP shall respond with a Compressed BlockAck frame as defined in 10.25.6.5 (Generation and transmission of BlockAck frames by an HT STA, DMG STA, or S1G STA) or a Multi-STA BlockAck frame with the Ack Type field set to 0, or, if all the MPDUs carried in the eliciting A-MPDU were received, the HE AP may respond with a Multi-STA BlockAck frame with the Ack Type field set to 1 and the TID field set to 14,(#24097) as defined in 26.4.2 (Acknowledgment context in a Multi-STA BlockAck frame) carried in the HE MU PPDU.

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