IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 11ax D6.0 comment resolution of misc CIDs | | | | |
| Date: 2020-03-28 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Liwen Chu | NXP |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Abstract

This submission proposes resolutions for multiple comments related to TGax D6.0 with the following CIDs:

* 24432, 24345, 24353, 24136, 24378, 24379, 24380.

Revisions:

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.***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **PP** | **LL** | **Comment** | **Proposed Change** | **Resolution** |
| 24432 | 450 | 63 | "except for group addressed Data frames, which may also be sent within an A-MPDU subject to the rules in 10.12.4" is wrong, because "sent as an A-MPDU" is meaningless given that everything in HE is sent in an A-MPDU. CID 22146's resolution agreed, but the comment missed this instance | Change to "which are not required to be sent as an S-MPDU, but are required to follow 10.12.4 (A-MPDU aggregation  of group addressed Data frames)" | Revised  Discussion: 10.12.4 defines the rules about when an A-MPDU aggregated with multiple group-addressed MPDUs is allowed. Some clarification text about A-MPDU is added.  *TGax editor: change the last paragraph in 26.15.7 as follows:*  Group addressed frames transmitted in an HE MU PPDU shall be sent as an S-MPDU (see Table 9-532 (AMPDU contents in the S-MPDU context)) except that group addressed Data frames may be sent within an A-MPDU in an HE MU PPDU subject to the rules in 10.12.4 (A-MPDU aggregation of group addressed Data frames).(#24432) |
| 24345 | 43 | 1 | "ack-enabled single-traffic identifier (TID) aggregate medium access control (MAC) protocol data unit (ack-enabled single-TID A-MPDU): An A-MPDU that contains at least two A-MPDU subframes where more than one MPDU in the A-MPDU subframes from same traffic identified (TID) are not allowed and only one of the A-MPDU subframes includes an EOF MPDU that solicits an immediate acknowledgment. NOTE--The single Management frame that solicits the acknowledgment in an ack-enabled single-TID A-MPDU is treated as a frame from a TID, e.g. soliciting Ack of TID 15 in multi-STA BlockAck frame. ack-enabled multi-traffic identifier (TID) aggregate medium access control (MAC) protocol data unit (ack-enabled multi-TID A-MPDU): An A-MPDU where at least one EOF MPDU that solicits Ack acknowledgment is aggregated in the A-MPDU, and MPDUs from more than one TID that solicit Ack acknowledgment or Block Ack acknowledgment are aggregated in the A-MPDU. NOTE--The single Management frame that solicits the acknowledgment in an ack-enabled multi-TID A-MPDU is treated as a frame from a TID, e.g. soliciting Ack of TID 15 in multi-STA BlockAck frame." has various grammatical issues. Also, "solicits an acknowledgement" is not precise enough. Also "Ack acknowledgment" is not the wording used elsewhere. Also some abbreviations not expanded. Also "identified" typo. | Change to "ack-enabled single-traffic identifier (TID) aggregate medium access control (MAC) protocol data unit (MPDU) (ack-enabled single-TID A-MPDU): An A-MPDU that contains at least two A-MPDU subframes, where the traffic identifiers (TID) all differ, and where only one of the A-MPDU subframes includes an end of frame (EOF) MPDU that solicits the acknowledgment context. NOTE--A Management frame that solicits an acknowledgment in an ack-enabled single-TID A-MPDU is treated as if had had a TID of 15. ack-enabled multi-traffic identifier (TID) aggregate medium access control (MAC) protocol data unit (MPDU) (ack-enabled multi-TID A-MPDU): An A-MPDU where at least one end of frame (EOF) MPDU that solicits the acknowledgment context is aggregated in the A-MPDU, and MPDUs from more than one TID that solicit the acknowledgment or block ack acknowledgment context are aggregated in the A-MPDU. NOTE--A Management frame that solicits an acknowledgment in an ack-enabled multi-TID A-MPDU is treated as if it had a TID of 15." | Revised  *TG ax editor: change the definition of ack-enabled single-TID A-MPDU in subclause 3.2 as follows:*  ack-enabled single-traffic identifier (TID) aggregate medium access control (MAC) protocol data unit (ack-enabled single-TID A-MPDU): An A-MPDU that contains at least two A-MPDU subframes where  only one of the A-MPDU subframes includes an EOF MPDU that solicits an acknowledgment context. NOTE--A Management frame that solicits the acknowledgment in an ack-enabled single-TID A-MPDU is treated as if it had TID of 15. (#24345)  *TG ax editor: change the definition of ack-enabled multi-TID A-MPDU in subclause 3.2 as follows:*  ack-enabled multi-traffic identifier (TID) aggregate medium access control (MAC) protocol data unit (ack-enabled multi-TID A-MPDU): An A-MPDU where at least one EOF MPDU that solicits  acknowledgment onctext is aggregated in the A-MPDU, and MPDUs from more than one TID that solicit  acknowledgment or Block acknowledgment context are aggregated in the A-MPDU. NOTE--A Management frame that solicits the acknowledgment in an ack-enabled multi-TID A-MPDU is treated as if it had a TID of 15. |
| 24353 |  |  | Prior to 11ax, once you hit an MPDU delimiter with EOF=1 you knew that you didn't need to look for any more MPDU delimiters. However, with EOF MPDUs in 11ax, this is no longer the case. It is not clear at what point an 11ax device (especially one that supports ack-enabled A-MPDUs with lots of TIDs) can stop looking for more MPDU delimiters | Specify that (a) an EOF=1 Len=0 MPDU delimiter shall not appear before any Len != 0 MPDU delimiter (i.e. EOF=1 Len=0 is only used to pad the end of an A-MPDU) and (b) an EOF=1 Len=0 MPDU should appear after the last MPDU (EOF MPDU or normal MPDU) in an A-MPDU | Rejected  Discussion: what the commenter asks for is already in 802.11ax D6.0 P374 L46: In an HE PPDU, a STA shall not add an A-MPDU subframe with the EOF field set to 1 and with the MPDU Length field set to 0 before an A-MPDU subframe with a nonzero MPDU Length field. |
| 24136 | 275 | 17 | The statement "The inclusion of secondary AC traffic in an HE MU PPDU shall not cause the TXOP limit of the primary AC to be exceeded" may be incorrect, if what is intended is that secondary AC traffic in an HE MU PPDU is allowed only when it will not cause the TXOP limit of the primary AC to be exceeded. IF that is what you meant, you missed. | Change to: Secondary AC traffic in an HE MU PPDU shall be included only when it will not cause the TXOP limit of the primary AC to be exceeded. | Accepted |
| 24378 | 315 | 12 | [Resubmission of comment withdrawn on D5.0] "A successfully acknowledged frame transmitted by a non-AP STA in response to a Basic Trigger frame" - we don't have successful acks, we have successful tx | Change the cited text to "A frame successfully transmitted by a non-AP STA in response to a Basic Trigger frame" | Accepted |
| 24379 | 315 | 12 | [Resubmission of comment withdrawn on D5.0] "A successfully acknowledged frame transmitted by a non-AP STA in response to a Basic Trigger frame is a successful frame exchange initiated by the STA as referred to in Clause 11 and Clause 12." is not clear. The exchange is not initiated by the STA. The exchange does not end at the ack (in the case of cascading) | Delete the cited text | Rejected  Discussion: as mentioned in 26,1, the operation of a STA in subclause 11, 12 can be done through the frame being transmitted by the STA in HE TB PPDU. One example of the operation is power ave mode change. Such operation is based on the successful frame exchange. Another reason to add the sentence is that this frame exchange is different from the normal frame exchange: the frames soliciting Ack/BA are transmitted by TXOP responder. |
| 24380 | 315 | 12 | [Resubmission of comment withdrawn on D5.0] "A successfully acknowledged frame transmitted by a non-AP STA in response to a Basic Trigger frame is a successful frame exchange initiated by the STA as referred to in Clause 11 and Clause 12." is not clear. The exchange is not initiated by the STA. The exchange does not end at the ack (in the case of cascading) | Change the cited text to "The transmission of an acknowledgment by an AP in response to a frame transmitted by a non-AP STA in response to a Basic Trigger frame constitutes a successful frame exchange initiated by the AP, as referred to in Clause 11 and Clause 12, even if this is part of an MU cascading sequence (see 26.5.3) that includes non-successful transmission by the AP or a non-AP STA." | Reject  Discussion: as mentioned in 26,1, the operation of a STA in subclause 11, 12 can be done through the frame being transmitted by the STA in HE TB PPDU. One example of the operation is power ave mode change. Such operation is based on the successful frame exchange that the STA receives the acknowledgement from the AP. Another reason to add the sentence is that this frame exchange is different from the normal frame exchange: the frames soliciting Ack/BA are transmitted by TXOP responder. The successful frame exchange initialied by Trigger frame of the AP is decided by whether the AP receives at least one responding frame from the solicited STAs. |