Non-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:

* 24381, 24389, 24403, 24470, 24565.

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** |
| 24381 | 377 | 3 | [Resubmission of comment withdrawn on D5.0] "If the AP specifies a value defined in Table 9-154 (ACI-to-AC encoding) in the Preferred AC subfield in theTrigger Dependent User Info field of a Basic Trigger frame, then an HE STA that transmits a multi-TID A-MPDU to the AP should aggregate QoS Data frames with TIDs that are from the same AC as or a higher pri-ority AC than indicated in the Preferred AC subfield of the Trigger Dependent User Info field that isaddressed to the STA in the Trigger frame. " -- Table 9-154 has 4 values and the Preferred AC subfield is a 2-bit field, so the "If" condition is always met | Change the cited text to "An HE STA that transmits a multi-TID A-MPDU to the AP should aggregate QoS Data frames with TIDs that are from the same AC as or a higher priority AC than indicated in the Preferred AC subfield of the Trigger Dependent User Info field that is addressed to the STA in the Trigger frame. " | **Revised****Discussion: agree with the commenter that all the possiblevalues of Perferred AC subfield are valid value. So the “ïf” condition is always met. Since multi-TID A-MPDU can be solicited by Trigger frame or transmitted by STA after STA’s backoff, the condition about solicited by Trigger frame is added.****TGax editor to make changes in 11-20/1022r5 under CID 24381** |
| 24389 | 376 | 55 | [Resubmission of comment withdrawn on D5.0] "exceed the current TXOP duration" is not clear. If it means "the duration of the TXOP so far" then it's always exceeded by transmitting something else within the TXOP | Change the cited text to "exceed the TXOP limit" | **Revised****Discussion: it is better to say the TXOP limit of the primary AC.****TGax editor to make changes in 11-20/1022r5 under CID 24389** |
| 24403 |  |  | [Resubmission of comment withdrawn on D5.0] There has been extensive discussion in TGmd of the extent to which multiple ACs' traffic could be transmitted within a given TXOP. The conclusion (see 18/1368 and 18/1260) was that the correct balance of optimal spectrum utilisation and optimal QoS prioritisation was that:\* Allowing a lower AC to transmit into an AC with higher priority degrades the differentiated service offered to the higher ACthough:\* However, once a lower AC has gained access, allowing the same STA higher AC to leverage that same TXOP makes sensei.e. you can aggregate higher-priority traffic only, after transmitting everything available on the primary AC.This balance exists for non-TB transmission in 11ax/D5.0. However in 11ax/D5.0 for TB transmission any ACs are allowed, with just a recommendation to transmit from the preferred AC or higher. The rule should be closer to the above, with encouragement to use the preferred AC first, then any higher-priority ACs, then anything else.There is also a lot of waffling and duplication in the current text. And references to non-existent fields in 26.4.1. | Make the changes shown under Proposed changes for CID 21203 in 19/1667r1 | **Revised****Discussion: the TB transmission is different from the transmission through EDCA: the decision about what to transmit is done within SIFS after receiving the soliciting Trigger frame. Other things also need to be done: CCA to decide whther the TB PPDU can be transmitted, the TB PPDU transmission preparing. It is good to give STA flexibility when responding TB PPDU. However some editorial changes can be adopted to improve the draft.****TGax editor to make changes in 11-20/1022r5 under CID 24403** |
| 24470 | 255 | 53 | "The Ack Policy Indication subfield of a QoS Data frame sent in an HE TB PPDU shall not be set to BlockAck." should be in the A-MPDU context tables in Clause 9, not in Clause 10 (cf. "QoS Null frames with No Ack ackpolicy" in Table 9-532b, for example) | As it says in the comment | **Rejected****Discussion: this is the specifc requirement to the A-MPDU in TB PPDU. It is reasonable to clarify this in TB related paragraph.** |
| 24565 | 358 | 9 | should have ack-enabled multi-TID A-MPDU in the sentence | add ack-enabled multi-TID A-MPDU | **Revised****TGax editor to make changes in 11-20/1022/r5 under CID 24565** |

**26.6.3 Multi-TID A-MPDU and ack-enabled single-TID A-MPDU**

**26.6.3.1 General**

***TGax editor: Change 26.6.3.1 as follows:***

**……**

A multi-TID A-MPDU shall not be transmitted in an HE SU PPDU, HE ER SU PPDU or HE MU PPDU, unless the TXOP limit is greater than 0 for the AC that is used to gain access to the medium. The AC used to gain access to the medium is the primary AC (see 10.23.2.9 (TXOP limits)). If the TXOP limit of the primary AC is greater than 0, then the STA may aggregate QoS Data frames from one or more TIDs in the AMPDU under the following conditions:

— The A-MPDU shall be carried in either an HE SU PPDU or an HE ER SU PPDU transmitted by the STA within the obtained TXOP or an HE MU PPDU transmitted by a non-AP STA within the obtained TXOP

— The A-MPDU shall contain one or more MPDUs with any of the TIDs that correspond to the primary AC

— If no more MPDUs can be aggregated in the A-MPDU from any of the TIDs that correspond to the primary AC then the A-MPDU may additionally contain one or more MPDUs with TIDs that do not correspond to the primary AC if the TIDs correspond to any AC that has a higher priority with respect to the primary AC and the addition of these MPDUs does not cause the STA to exceed the TXOP limit of the primary AC. (#24389)

……

If an HE non-AP STA receives a Basic Trigger frame and responds with a multi-TID A-MPDU, thenthe HE non-AP STA should aggregate QoS Data frames with TIDs that are from the same AC as or a higher priority AC than indicated in the Preferred AC subfield of the Trigger Dependent User Info field that is addressed to the STA in the Trigger frame. The number of TIDs from which QoS Data frames and the Management frame that solicits Ack frame are aggregated in an HE TB PPDU by a STA shall follow the restriction defined in Table 26-2 (Relation between TID Aggregation Limit field, Multi-TID Aggregation Tx Support field and solicited immediate response). (#24381)

……

**26.4 HE acknowledgment procedure**

**26.4.1 Overview**

***TGax editor: Change 26.4 as follows:***

……

An HE STA that transmits a Multi-TID BlockAckReq frame in a PPDU that is not an HE TB PPDU shall set the TID Value subfields in the Per TID Info subfields of the BAR Information field of the Multi-TID BlockAck- Req frame to TIDs that correspond to ACs that have the same or higher priority as the primary AC. An HE STA that transmits a Multi-TID BlockAckReq frame in an HE TB PPDU should set the TID Value subfields in the Per TID Info subfields of the BAR Information field of the Multi-TID BlockAckReq frame to a TID that corresponds to any AC. (#24403)

……

**26.5.2.4 A-MPDU contents in an HE TB PPDU**

***TGax editor: Change 26.5.2.4 as follows:***

**……**

— Table 9-532b (A-MPDU contents in the HE ack-enabled single-TID immediate response context) or Table 9-532d (A-MPDU contents in the HE ack-enabled multi-TID immediate response context) if the TID Aggregation Limit field of the User Info field addressed to the non-AP STA in the Trigger frame is greater than 0 and the non-AP STA intends to carry an ack-enabled single-TID A-MPDU or ack-enabled multi-TID A-MPDU (see 26.6.3.1 (General) and 26.6.3.4 (Ack-enabled multi-TID A-MPDU operation)). The A-MPDU is subject to the following restrictions: (#24565)

• It shall contain a control response frame if the non-AP STA receives at least another MPDU that solicits an immediate acknowledgment.

• The number of TIDs present in the A-MPDU, in either QoS Data or BlockAckReq frames, shall count towards reaching the TID aggregation limit that is obtained from the TID Aggregation Limit field of the User Info field addressed to the non-AP STA in the Trigger frame.

**……**