IEEE P802.11
Wireless LANs

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| Comment resolution for Fragmentation |
| Date: 2017-07-10 |
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Abstract

This submission proposes resolutions for multiple comments related to TGax D1.0 with the following CIDs (13):

* 5361 5470 5362 5927 8443 8444 7075 7535 8454 8456 9523 8442 8455

Revisions:

* Rev 0: Initial version of the document

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.***

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| **CID** | **Page** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 5361 | 153.47 | 27.3.3.1 | S-MPDU is not defined | Define S-MPDU or replace it | Rejected. The term S-MPDU is defined in 802.11ah spec (please see 802.11ah D10.0 page 3 line 9) |
| 5362 | 153.56 | 27.3.3.1 | S-MPDU is not defined | Define S-MPDU or replace it | Rejected. The term S-MPDU is defined in 802.11ah spec (please see 802.11ah D10.0 page 3 line 9) |
| 5470 | 153.47 | 27.3.3.2 | What is an S-MPDU? I can't find a definition of what this is, here or in 11mc. Assuming it is 'single MPDU', isn't this because all MPDUs are treated as A-MPDUs in VHT? So what is difference between MPDU amd S-MPDU, and non-A-MPDU? Let's see how complicated we can make this. | Define S-MPDU somewhere or better still just use 'single MPDU' if it really is different from MPDU. | Rejected. The term S-MPDU is defined in 802.11ah spec (please see 802.11ah D10.0 page 3 line 9) |
| 5927 | 153.57 | 27.3.3.2 | The text only specifies MSDU. Is MMPDU also allowed for Level 1 Dynamic Fragmentation? | Please clarify. | Revised. Agree with the comment in principle.That sentence has been modified.TGax editor to make the changes shown in 11-17/0xxxr0. |
| 8443 | 153.60 | 27.3.3.2 | The value of level 1 signaling in the block ack agreement is questionable. Level 1 is supported without a block ack agreement (provided the recipient has indicated level 1 support in its HE Capabilities element). Why should putting a block ack agreement in place disable it? | Remove level 1 negotiation from the block ack agreement. | Revised.Agree with the comment in principle. Description about block ack agreement is unclear. Level 1 fragmentation is available in both cases. Description has been modified to clarify the block ack agreement with level 1 fragmentation.TGax editor to make the changes shown in 11-17/0xxxr0. |
| 8444 | 154.01 | 27.3.3.2 | This is a silly statement to make. Are there other ways to generate an S-MPDU? | Delete sentence | Revised. Agree with the comment in principle.That sentence has been deleted.TGax editor to make the changes shown in 11-17/0xxxr0. |
| 8442 | 153.47 | 27.3.3.2 | "not sent under a block ack agreement" is not compatible with baseline fragmentation. Should be "sent as a non-A-MPDU frame". Even if a block ack agreement is in place, the originator can fragment and send as long as the fragment is sent in a non-A-MPDU frame. | The only difference between the level 1 fragmentation and the baseline fragmentation procedure is the requirement on equal lengh fragments. Thus this section should reference the baseline procedure with that one exception. Delete content of subclause and replace with "An originator STA may transmit a non-uniformly fragmented MSDU, A-MSDU or MMPDU following the procedure defined in 10.2.7, 10.5 and 10.6 if the Fragmentation Support subfield in the HE MAC Capabilities Information field of the HE Capabilities element is 1." A non-uniformly fragmented MSDU, A-MSDU or MMPDU" should be defined (see previous comment regarding P152L55). | Revised. Agree with the comment in principle.Description about block ack agreement is unclear. Level 1 fragmentation is available in both cases. Non-uniformly fragmented MSDU, A-MSDU or MMPDU is described in 27.3.2 (Support and requirements for dynamic fragmentation)Description has been modified to clarify the block ack agreement with level 1 fragmentation.TGax editor to make the changes shown in 11-17/0xxxr0. |
| 7075 | 155.56 | 27.3.4.2 | "Upon reception of an MPDU or S-MPDU that carries one or more dynamic fragments ..."It is unclear when an MPDU or S-MPDU carries more than one dynamic fragments. If not necessary, "or more" should be deleted. | as in comment | Revised. Agree with the comment in principle.That sentence has been modified.TGax editor to make the changes shown in 11-17/0xxxr0. |
| 7535 | 155.56 | 27.3.4.2 | How does an MPDU or S-MPDU carry more than 1 dynamic fragments? | removes "or more" | Revised –It is a duplicate one of CID 7075.TGax editor to make the changes shown in 11-17/0xxxr0. |
| 8454 | 155.56 | 27.3.4.2 | The statement "MPDU or S-MPDU that carries one or more dynamic fragments" is non-sensical since a fragment is an MPDU per definition. We already have specific rules as to when an Ack frame is the appropriate response so this whole sentence is unnecessary. | Delete sentence. | Revised –It is a duplicate one of CID 7075.TGax editor to make the changes shown in 11-17/0xxxr0. |
| 8455 | 155.58 | 27.3.4.2 | There is no need to reference Ack frame and BlockAck frame response rules for fragments any more than there is a need to reference these rules for MPDUs that are not fragments. There are special rules for generating the block ack bitmap, but that belongs in the Block Acknowledgement subclause. | Delete sentence. | Revised. Agree with the comment in principle.That sentence has been modified to add rules for MPDU that are fragmented. TGax editor to make the changes shown in 11-17/0xxxr0. |
| 8456 | 155.56 | 27.3.4.2 | The statement "MPDU or A-MPDU that carries one or more dynamic fragments" is non-sensical since a fragment is an MPDU by definition. All the requirements in this subclause have to do with acknowledgement. The Ack frame rules for fragments in the first bullet are the same as the Ack frame rules for non-fragments and covered by the general rules for MPDU acknowledgement (nothing special happens if the MPDU is a fragment). There are special rules for handling the block ack bitmap related to fragmentation, but that belongs in the Block Acknowledgement subclause. | Delete the first paragraph. | Revised –It is a duplicate one of CID 7075.TGax editor to make the changes shown in 11-17/0xxxr0. |
| 9523 | 155.56 | 27.3.4.2 | "Upon reception of an MPDU or S-MPDU that carries one or more dynamic fragments, the recipient STA ..."It is not clear whether an MPDU or S-MPDU can carry more than one dynamic fragments. | Clarify | Revised –It is a duplicate one of CID 7075.TGax editor to make the changes shown in 11-17/0xxxr0. |

**27.3.3.2 Level 1 dynamic fragmentation**

***TGax Editor: Please delete the first paragraph and add following paragraph in the head of this subclause (CID #5927, 8442, 8443)***

~~An originator STA may transmit to a recipient STA an MPDU or S-MPDU that contains one dynamic fragment of an MMPDU or of an MSDU that is not sent under a block ack agreement if the recipient STA has indicated a value 1 in the HE Fragmentation Support field of its HE Capabilities element. An originator STA may transmit to a recipient STA an MPDU or S-MPDU that contains one dynamic fragment of an A-MSDU if the recipient STA has indicated a value of 1 in the A-MSDU Fragmentation Support field of its HE Capabilities element.~~ ***(#5927,*** ***8442, 8443)***

An originator STA may transmit to a recipient STA an MPDU or S-MPDU that contains one dynamic fragment of an MMPDU, an MSDU or an A-MSDU that is not sent under a block ack agreement if the following condition is met:

— The HE Fragmentation Support field in the HE Capabilities element received from the STA is 1 ***(#5927,*** ***8442, 8443)***

***TGax Editor: Please modify the second paragraph as follow (CID #5927, 8442, 8443)***

An originator STA may transmit to a recipient STA an MPDU or S-MPDU that contains one dynamic fragment of an MMPDU, an MSDU or an A-MSDU that is sent under a block ack agreement if ~~provided~~ the following conditions are met: ***(#5927, 8442, 8443)***

 — The HE Fragmentation Support field in the HE Capabilities element received from the STA is 1

— For the block ack agreement associated with the TID of the MSDU, the ADDBA Extension element is present and the HE Fragmentation Operation subfield is 1 in the ADDBA Response frame received from the STA.

***TGax Editor: Please delete the last paragraph (CID #8444)***

~~The originator STA shall follow the rules defined in 10.13.8 (Transport of S-MPDUs) for generating the SMPDU.~~ ***(#8444)***

**27.3.4.2 Level 1 dynamic defragmentation**

***TGax Editor: Please modify the first paragraph as follow***

Upon reception of an MPDU, a fragmented MMPDU or S-MPDU that carries one ~~or more~~ dynamic fragment~~s~~, the recipient STA responds with an Ack frame or an Multi-STA BlockAck frame when the received fragment is contained in an MPDU, a fragmented MMPDU or S-MPDU that solicits the immediate response. ***(#5927, 7075, 7535, 8454, 8456, 9523)*** The receiver STA shall follow the rules defined in 10.3.2.9 (Ack procedure) for generating the Ack frame and the rules defined in 27.4 (Block acknowledgement) for generating the Multi- STA BlockAck frame that contains the acknowledgement for the soliciting S-MPDU that carries one dynamic fragment and carried in a HE TB PPDU. (***#8455***)