IEEE P802.11
Wireless LANs

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| Comment resolutions for Frame Control |
| Date: 2019-03-01 |
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Abstract

This submission proposes resolutions for multiple comments related to TGax D4.0 with the following CIDs (7 CIDs):

* 20174, 20269, 20270, 20570, 20853, 21475, 21585

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** | **Commenter** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 20174 | Chunyu Hu | 70.17 | A HE capable STA can use non-HT rate to transmit a QoS-data frame as it operates at various distance of the wireless link range. The HTC field has been a necessity for many essential 11ax features and the support is indicated by the HTC capability. For a HE capable STA that has indicated support HTC in the HE capability field, the FC bit 15 should be always interpretated as presence of +HTC field if set to 1 regardless the PPDU's format (including non-HT.) | Add a sentence to state:For a HE capable STA that has indicated support HTC in the HE capability field, the FC bit 15 should be always interpretated as presence of +HTC field if set to 1 regardless the PPDU's format (including non-HT.) | Revised –Agree in principle with the comment. Proposed resolution clarifies that the functionality is independent of the PPDU format when the carries frame is sent to an HE STA.TGax editor to make the changes shown in 11-19/0309r0 under all headings that include CID 20174. |
| 20269 | Joseph Levy | 69.36 | The baseline text being modified in 9.2.4.1.8 is not consistent with P802.11REVmdD2.0. For example the baseline text in mdD2.0 begins the 5th paragraph (called the 4th paragraph in the amendment) with "An AP optionally sets the More Data subfield to 1 in Ack frames to a non-DMG and non-S1G(11ah) STA ...", while the amendment test starts the 4th paragraph with "An AP optionally sets the More Data subfield to 1 in Ack frames sent to a non-DMG non-HE STA and in Ack, BlockAck and Multi-STA BlockAck frames sent to an HE STA." | Reference the correct location of the text in the baseline amendment: the 5th and 6 paragraphs and correct the baseline text so that the edits are correct. | Revised –Agree in principle with the comment that one word of the paragraph is not updated. However, the paragraph numbers are correct. Proposed resolution corrects the outdated word.TGax editor to make the changes shown in 11-19/0309r0 under all headings that include CID 20269. |
| 20270 | Joseph Levy | 69.36 | The text being modified is an optional behavior of an AP that applies to ACK frames sent to non-DMG and non-S1G STAs. The text is modified changes this optional behavior to apply only to non-DMG non-HE STAs. Hence this optional behavior is no longer applicable to non-DMG STAs or non-S1G STAs. This breaks the existing legacy specification. | Correct the text so that this optional behavior applies to Ack frames sent to non-DMG non-HE STAs and non-S1G STAs. Also there is no reason that non-HE needs to be added to this restriction, as later in the sentence it is explicitly stated that it may be sent to an HE STA in an ACK Frame. It would be best to simply leave the legacy text as it is and then add the additional condition supporting BlockACK and Multi-STA BlockACK frames sent to an HE STA. | Revised –Agree in principle with the comment. Proposed resolution fixes the inconsistency inline with the suggestion.TGax editor to make the changes shown in 11-19/0309r0 under all headings that include CID 20270. |
| 20570 | Mark RISON | 69.40 | "The QoS Info field is pres-ent in the QoS Capability, EDCA Parameter Set, and MU EDCA Parameter Set elements transmitted by anHE AP." -- duplication | Delete the cited text at the referenced location | Revised –Agree in principle with the comment. Converted the sentence in a note to help the reader identify which elements carry this field.TGax editor to make the changes shown in 11-19/0309r0 under all headings that include CID 20570. |
| 20853 | Mark RISON | 69.36 | A non-HE AP that sets More Data Ack does not indicate that it supports the signalling for BlockAck and Multi-STA BlockAck frames sent to an HE STA | After the para referenced add a "NOTE---A non-HE AP does not indicate whether it supports setting the More Data subfield to 1 in Ack frames.". After the para at line 58 add a "NOTE---A non-HE TDLS peer STA does not indicate whether it supports setting the More Data subfield to 1 in Ack frames." | Revised –Agree in principle with the comment. Proposed resolution accounts for the suggested change.TGax editor to make the changes shown in 11-19/0309r0 under all headings that include CID 20853. |
| 21475 | Xiaofei Wang | 69.37 | The Sentence "An HE AP indicates that it supports setting the More Data subfield to 1 in these control response frames by setting the More Data Ack subfield to 1 in the QoS Info field of elements it includes in frames transmitted to the STA." is very difficult to read. | remove "it includes in frames" | Revised –Agree in principle with the comment. Proposed resolution accounts for the suggested change.TGax editor to make the changes shown in 11-19/0309r0 under all headings that include CID 21475. |
| 21585 | Zhou Lan | 70.17 | A HE capable STA can use non-HT rate to transmit a QoS-data frame as it operates at various distance of the wireless link range. The HTC field has been a necessity for many essential 11ax features and the support is indicated by the HTC capability. For a HE capable STA that has indicated support HTC in the HE capability field, the FC bit 15 should be always interpretated as presence of +HTC field if set to 1 regardless the PPDU's format (including non-HT.) | Add a sentence to state:For a HE capable STA that has indicated support HTC in the HE capability field, the FC bit 15 should be always interpretated as presence of +HTC field if set to 1 regardless the PPDU's format (including non-HT.) | Revised –Agree in principle with the comment. Proposed resolution clarifies that the functionality is independent of the PPDU format when the carries frame is sent to an HE STA.TGax editor to make the changes shown in 11-19/0309r0 under all headings that include CID 21585. |

**Discussion: *None.***

* Frame fields
* Frame Control field
* Type and Subtype subfields

Change Table 9-1 (Valid type and subtype combinations) as follows:

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| * Valid type and subtype combinations
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| Type valueB3 B2 | Type description | Subtype valueB7 B6 B5 B4 | Subtype description |
| 01 | Control | 0000–~~0010~~0001 | Reserved |
| 01 | Control | 0010 | Trigger |
| 01 | Control | 0101 | VHT/HE NDP Announcement |

* More Data subfield

Change the 4th and 5th paragraphs as follows:

**TGax Editor: *Change the paragraph below of this subclause as follows (#CID 20269, 20270, 20570, 20853):***

An AP optionally sets the More Data subfield to 1 in Ack frames sent to a non-DMG non-S1G non-HE STA. An HE AP optionally sets the More Data subfield in Ack, BlockAck and Multi-STA BlockAck frames sent to an HE STA. An HE AP indicates that it supports setting the More Data subfield to 1 in these control response frames by setting the More Data Ack subfield to 1 in the QoS Info field of elements transmitted to the STA.

NOTE 1--The QoS Info field is present in the QoS Capability, EDCA Parameter Set elements, transmitted by an AP and in MU EDCA Parameter Set elements transmitted by an HE AP.

NOTE 2—A non-HE AP does not explicitly indicate whether it supports setting the More Data subfield to 1 in Ack frames it transmits.*(#20269, 20270, 20570, 20853)*

The AP can set the More Data subfield to 1 to indicate that it has a pending transmission for the STA if it ~~from which it~~ has received a frame that contains a QoS Capability element in which the More Data Ack subfield is equal to 1 from the STA and ~~that has one or more ACs that are delivery enabled and that is in PS mode to indicate that the AP has a pending transmission for the STA~~ one of the following conditions is true:

* The STA is in PS mode and has one or more ACs that are delivery enabled (see 11.2.2.6 (AP operation during the CP)).
* The STA is in PS mode and is a TWT requester or a TWT scheduled STA (see 26.8 (TWT operation))

A TDLS peer STA optionally sets the More Data subfield to 1 in Ack frames sent to a non-HE STA. An HE TDLS peer STA optionally sets the More Data subfield to 1 in Ack, BlockAck, and Multi-STA BlockAck frames sent to an HE STA. An HE TDLS peer STA indicates that it supports setting the More Data subfield to 1 in these control response frames by setting the More Data Ack subfield to 1 in the QoS Info field of the QoS Capability element transmitted to the STA.

NOTE 2—A non-HE TDLS peer STA does not explicitly indicate whether it supports setting the More Data subfield to 1 in Ack frames it transmits.*(#20269, 20270, 20570, 20853)*

The TDLS peer STA can set the More Data subfield to 1 to indicate that it has pending transmission for the STA if it has received from the STA a TDLS Setup Request frame or TDLS Setup Response frame ~~that has TDLS peer PSM enabled and~~ that has the More Data Ack subfield equal to 1 in the QoS Capability element ~~of its transmitted TDLS Setup Request frame or TDLS Setup Response frame to indicate that it has a pending transmission for the STA.~~ and one of the following conditions is true:

* The STA has TDLS peer PSM enabled (see 11.2.3.6 (AP operation during the CP))
* The STA is in PS mode and is a TWT requester or a TWT scheduled STA (see 26.8 (TWT operation)).
* +HTC subfield

**TGax Editor: *Change the paragraph below of this subclause as follows (#CID 20174, 21585):***

The +HTC subfield is 1 bit in length. The setting of the subfield is as follows:(#15194)

* It is set to 1 in a QoS Dataor Management frame transmitted with a value of HT\_GF, HT\_MF, VHT, or S1G for the FORMAT parameter of the TXVECTOR to indicate that the frame contains an HT Control field.
* It is set to 1 in an RTS frame transmitted with a value of S1G for the FORMAT parameter of the TXVECTOR to indicate that the intended recipient of the frame has permission to extend the TXOP as described in 10.50.5.4 (Relay-shared TXOP protection mechanisms).(#15194)
* It is set to 1 in a QoS Data or Management frame transmitted by a QoS CMMG STA to indicate that the frame contains a CMMG Control field.
* It is set to 1 in a QoS Data, QoS Null, or Management frame transmitted by an HE STA to another HE STA to indicate that the frame contains an HT Control field.*(#20174, 21585)*

Otherwise, the +HTC field is set to 0.

NOTE—The +HTC field is always set to 0 for frames transmitted by a DMG STA.