IEEE P802.11
Wireless LANs

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| Comment resolution for several miscellaneous comments part 3 |
| Date: 2018-05-01 |
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Abstract

This submission proposes resolutions for comments related to TGax D2.0 with the following CIDs:

* 14239, 14240, 13670, 12939, 12837 (5 CIDs)

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: With some changes based on the discussions during the presentation. Changes highlighted in green. CID 14239 is still under discussion.
* Rev 2: Amends the proposed changes for CID 14329 to specify that the CW[AC] follows the baseline rules. Changes in this color.

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** |
| 14239 | Yusuke Tanaka | 229.17 | The operation when the HEMUEDCATimer[AC] reaches zero should consider the retry counters. The retry counters should be reset to 0 at updating of EDCA parameters, otherwise the STA would give up retransmission after only one transmission with CWmin. Similar discussion happened during D1.0 comment resolution but no technical reason was provided and this problem is still alive. | Two suggestion.1. Provide technical reason not to reset retry count.2. Add the following texts at the end."When the STA update the CWmin[AC], CWmax[AC] and AIFSN[AC] either, The SSRC and the SLRC shall be reset to 0. | Revised –The retry counters should not be reset because if they are reset it would give a technical advantage to those STAs that do compared to those STAs that don’t, and to those STAs that are using simply basic EDCA parameter sets, which leads to unfairness, since these STAs would benefit from both triggers and EDCA contention. Hence the proposed resolution is to use the same rules there are there for when switching from SU to MU mode. See 10.22.2.X:“*If an HE STA transmits an HE TB PPDU, the QSRC[AC] and QLRC[AC] for the associated EDCAF are not changed.*” and“*An HE STA resumes the EDCA backoff procedure without modifying CW or the backoff counter for the associated EDCAF, after transmission of an MPDU in an HE TB PPDU regardless of whether the STA has received the corresponding acknowledgement frame in response to the MPDU sent in the HE TB PPDU*.”TGax editor to make the changes shown in 11-18/0684r2 under all headings that include CID 14239. |
| 14240 | Yusuke Tanaka | 229.17 | Once the HEMUEDCATimer is set, there is no way to reset or terminate it even if there is no buffered data which should be triggered. The specification needs to define a way to reset or terminate HEMUEDCA which let STAs back to regular EDCA. | Define a way to reset or terminate HEMUEDCA for AP. | Rejected –The reception of an UL MU Disable bit set to 1 is an indication to the AP that the STA is terminating its HE MU EDCA, and as such switches to regular EDCA. |
| 13670 | Tomoko Adachi |  | The discussion may go back to the baseline, but an "HE BSS" is not defined. (Not even HT BSS nor VHT BSS.) There is an implicit understanding that a BSS with a Beacon or Probe Response frame that includes an HT/VHT/HE Capabilities element is an HT/VHT/HE BSS. Why not add such explanation in BSS? The problem is that the definition for BSS is in 3.1, not specific to IEEE Std 802.11, but the HT/VHT/HE BSS is specific to IEEE Std 802.11. But is BSS really a general term? | Move the definition of BSS from 3.1 to 3.2 and add an explanation that a BSS with a Beacon or Probe Response frame that includes an HT/VHT/HE Capabilities element is an HT/VHT/HE BSS. | Revised –Disagree in the changes to the baseline. Definitions in 3.1 apply to 802.11 concepts, as such there is no issue. In terms of the changes to HT and VHT please submit a comment to REVmd. The proposed resolution is to add a declarative statement in HE BSS operation subclause as to what is an HE BSS, and the requirement is more than providing HE capabilities.TGax editor to make the changes shown in 11-18/0684r2 under all headings that include CID 13670. |
| 12939 | Mark RISON |  | There should be a mechanism to allow an HE BFer to poll for missed segments. It is not clear whether a BRP frame can be used in the SU case, and the BRP variant Trigger frame cannot be used in the MU case as it is preceded by an NDP that will take precedence.This was rejected in D1.0 on the following basis:Segementation of the beamforming feedback is only allowed if the feedback is greater than the beamformer's maximum MPDU length capability. The maximum MPDU length for an HE beamformer is 11,454 octets. Most SU feedback is less than 11,454 octets so the HE beamformee shall send the feedback as one segment. Given that the feedback is sent as one segment in most cases there is no value in allowing a new Trigger frame which solicits missed segments.Further even in the case where the feedback is sent as two segments the beamformer can always resound and get the full feedback, this also ensures that the feedback is not stale. | Delete the Feedback Segment Retransmission Bitmap field from the Trigger Dependent User Info subfield for the Beamforming Report Poll variant | Rejected –The comment is not clear in its intention. First it states that these should be a mechanism that allows the HE BFer to poll missed segments (which is already there BRP Trigger frame), and then states that the mechanism is not needed, as such delete the bitmap in the BRP Trigger frame. The Feedback Segment Retransmission Bitmpa field provides information to the HE Beamformee of which segments it is being polled. This is useful especially in the case of the HE TB sounding where the resources allocated to the HE beamformee for providing the feedback are limited (e.g., less than 242-tones, low MCS etc. depending on the decision of the HE Beamformer which assigns these resources.) As such the field in itself is needed to clearly identify which of the segments are being polled. |
| 12837 | Mark RISON | 152.33 | "a value 0 of the AIFSN fieldindicates that the AIFSN is equal to the value of the MU EDCA Timer, i.e., EDCA is disabled for the duration specified by the MUEDCATimer for the corresponding AC" is missing "field". It's also needlessly confusing | Change the cited text to "the value 0 in the AIFSN field indicates that EDCA is disabledfor the duration specified by the MUEDCATimer for the corresponding AC" | Revised –Agree with the comment. Proposed resolution accounts for the suggested changes.TGax editor to make the changes shown in 11-18/0684r2 under all headings that include CID 12837. |

**Discussion: *None*.**

**9.4.2.240 MU EDCA Parameter Set element**

**TGax Editor: *Change the paragraph below of this subclause as follows (#CID 12837):***

The format of the ACI/AIFSN field is defined in Figure 9-262 (ACI/AIFSN field) and the encoding of its subfields is defined in 9.4.2.29 (EDCA Parameter Set element), except that the value 0 in the AIFSN field indicates that EDCA is disabled for the duration specified by the MUEDCATimer for the corresponding AC.*(#12837)*

**27.2.6 EDCA operation using MU EDCA parameters**

**TGax Editor: *Change the paragraph below of this subclause as follows (#CID 14239):***

When the HEMUEDCATimer[AC] of a non-AP HE STA reaches zero, then the STA may update the CWmin[AC], CWmax[AC] and AIFSN[AC] either to the values that are contained in the most recently received EDCA Parameter Set element sent by the AP to which the STA is associated, or to the values contained in the default dot11EDCATable if an EDCA Parameter Set element has not been received. An non-AP HE STA that sends a frame with OM Control field with the UL MU Disable subfield set to 1 as defined in 27.8.3 (Rules for transmit operating mode (TOM) indication) may set the HEMUEDCATimer[AC] for all its ACs to 0 on receiving an immediate acknowledegment from the OMI responder. The STA continues the current EDCA backoff procedure without modifying the QSRC[AC], QLRC[AC] or the backoff counter for the associated EDCAF, regardless of whether the HEMUEDCATimer[AC] has reached zero, until the STA invokes a new EDCA backoff procedure. The STA follows the rules defined in 10.22.2.2 (EDCA backoff procedure) for updating the CW[AC].*(#14239)*

**TGax Editor: *Insert the paragraph below in the appropriate location of subclause 3.2 (#CID 13670):***

**High Efficiency (HE) basic service set (BSS):** A BSS in which a Beacon frame transmitted by a HE station (STA) includes the HE Operation element.*(#13670)*

**27.16.1 Basic HE BSS functionality**

**TGax Editor: *Change the paragraph below of this subclause as follows (#CID 13670):***

An HE STA has dot11HEOptionImplemented equal to true. A BSS started by an HE STA is an HE BSS. *(#13670)*

A STA that is starting an HE BSS shall be able to receive and transmit at each of the <HE-MCS, NSS> tuple values indicated by the Basic HE-MCS And NSS Set field of the HE Operation parameter of the MLME-START.request primitive and shall be able to receive at each of the <HE-MCS, NSS> tuple values indicated by the Supported HE-MCS and NSS Set field of the HE Capabilities parameter of the MLME-START.request primitive. The basic HE-MCS and NSS set is the set of <HE-MCS, NSS> tuples that are supported by all HE STAs that are members of an HE BSS. It is established by the STA that starts the HE BSS, indicated by the Basic HE-MCS And NSS Set field of the HE Operation parameter in the MLME-START.request primitive. Other HE STAs determine the basic HE-MCS and NSS set from the Basic HE-MCS And NSS Set field of the HE Operation element in the BSSDescription derived through the scan mech-anism (see 11.1.4.1 (General)).