IEEE P802.11
Wireless LANs

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|  CC36 Resolution for CIDs in Clause 35.7.4 (Random Backoff for EHT STAs before Restricted TWT Service Period) |
| Date: October 19, 2021 |
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 Abstract

This submission proposes resolutions for CID 4921 received for TGbe CC36.

**Revisions:**

* Rev 0: Initial version of the document.
* Rev 1: Editorial fixes.
* Rev 2: Based on feedback received when the doc was presented in TGbe MAC call 11/29/21
* Rev 3: Updated baseline to D1.4
* Rev 4: Based on feedback from Liwen
* Rev 5: Based on additional offline feedback
* Rev 6: Added CID 4921 and limited the resolution to non-member r-TWT STAs based on additional offline feedback from members

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 TGbe Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGbe Draft (i.e. they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

***TGbe Editor: Editing instructions preceded by “TGbe Editor” are instructions to the TGbe editor to modify existing material in the TGbe draft. As a result of adopting the changes, the TGbe editor will execute the instructions rather than copy them to the TGbe Draft.***

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| **CID** | **Commenter** | **Clause**  | **Pg/Ln** | **Comment** | **Proposed Change** | **Resolution** |
| 4921 | Duncan Ho | 35.6.4.1 | 298 | Restricted TWT, all STAs should reset their RBOs and draw a new one at the start of a rTWT SP | A non-AP EHT STA that supports rTWT shall draw a new RBO counter at the start of a rTWT SP - contribution to follow | **Revised**Agree in principle. This will help in case the backoff counter reaches zero for a non-AP EHT STA that supports r-TWT but who is not a member of an upcoming r-TWT SP, and the STA cannot transmit because the r-TWT SP is starting soon. Hence, restarting the random back-off count will help to reduce collisions at the r-TWT SP start.**Tgbe editor please implement changes as shown in doc 11-21/1699r6 tagged as 4921** |

**Discussion:**

A non-AP EHT STA with dot11RestrictedTWTOptionImplemented set to true may count down its RBO to zero but decide not to transmit because the remaining time till the start of the upcoming r-TWT service period is too short.

If multiple such STAs maintain zero RBO counter till the start of the r-TWT SP, transmissions will collide and hence the latency will increase. Especially that these STAs are expected to be awake during the r-TWT SP and go back to doze state after.

In baseline, the last paragraph of 11.8.3 address a similar issue. Thus, the highlighted text in green below was added based on received feedback and is technically similar to baseline 11.8.3.

**Proposed Text:**

***TGbe editor: Please note Baseline is 11be D1.4***

**35.8.4.1 TXOP rules for r-TWT SPs**

***TGbe editor: Please modify the following paragraph in Clause 35.8.4.1***

A non-AP EHT STA with dot11RestrictedTWTOptionImplemented set to true as a TXOP holder shall ensure the TXOP ends before the start time of any r-TWT SPs advertised by the associated AP. Before starting transmission of any MPDU, a non-AP EHT STA with dot11RestrictedTWTOptionImplemented set to true that is not a TXOP responder and not a member of the upcoming restricted TWT service period shall check if there is enough time for the frame exchange to complete prior to the start of the restricted TWT service period and, if there is not enough time then the STA shall defer transmission by selecting a random backoff count using the present CW (without advancing to the next value in the series). The ~~short retry count and long retry count~~ QSRC[AC] for the MSDU or A-MSDU are not affected. (#4921)

SP: Do you agree to the resolutions provided in doc 11-21/1699r6 for the following CIDs for inclusion in the latest 11be draft?

4921