IEEE P802.11  
Wireless LANs

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| Resolution for Misc. CIDs | | | | |
| Date: 2023-03-28 | | | | |
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Abstract

This submission proposes resolution for CIDs received in LB271 (11be D3.0).

***TGbe editor: The baseline for this document is 11be D3.0***

**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 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** | **Clause** | **Pg/Ln** | **Comment** | **Proposed Change** | **Resolution** |
| 15245 | 35.8.5.1 | 620.09 | An operation for the following case should be clarified in addition to the text described in 35.8.5.1.  The case is if there is not enough time for the frame exchange to complete before the R-TWT SP and selected a random backoff count using the present CW, and then if the backoff counts reach zero before the start of the R-TWT SP. | Proposed to add the text as "if there is not enough time for the frame exchange to complete before the R-TWT SP and selected a random backoff count using the present CW, and then if the backoff counts reach zero before the start of the R-TWT SP, A non-AP EHT STA should select again a random backoff count using the present CW (without advancing to the next value in the sequence)." | **Revised**  Per the current rule, in the scenario described by the commenter, an R-TWT scheduled STA will restart the RBO again since there is not enough time for transmission before the start time of the R-TWT SP and hence no further changes are needed We add a NOTE to clarify the behavior cited by the commentor.  TGbe editor, please implement changes as shown in 11-23/673r2 tagged as 15245 |
| 15744 | 35.8.5.1 | 620.09 | "In addition, before starting transmission of any PPDU, the non-AP EHT STA with dot11RestrictedTWTOptionImplemented set to true shall check if there is enough time for the frame exchange to complete prior to the start of the R-TWT SP 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 sequence)." When a STA knows there is not enough time, it may defer transmission several times due to the back off count reaching zero again and again. It may be inefficient. | Please add the following language. "If there is not enough time, then the STA may defer transmission until the end of R-TWT SP, and then selects a random backoff count using the present CW." | **Rejected**  The cited rule helps to avoid collisions at the start of the R-TWT SP. The suggestion of the commenter would preclude a STA from contending within the R-TWT SP which complicates the protocol unnecessarily and lead to inefficiencies with respect to member R-TWT STAs.  TGbe editor, no further changes needed. |
| 15843 | 35.8.4 | 619.55 | "Agreement" is the term for individual TWT. | Change 'agreement' to 'schedule'. | **Revised**  Agree in principle, we revise the term ‘agreement’ to ‘schedule’.  Tgbe editor, please implement changes as shown in 11-23/673r2 tagged as 15843 |
| 15934 | 35.8.4 | 619.54 | [10:25] is a typo | remove the [10:25] | **Rejected**  The cited text [10:25] refers to the part of the TSF timer that is carried in the Target Wake Time subfield and is already used in baseline Broadcast TWT.  TGbe editor, no further changes are needed. |
| 16651 | 35.8.4 | 619.54 | [10:25] is a typo | remove the [10:25] | **Rejected**  Same resolution as CID 16651  TGbe editor, no further changes are needed. |
| 16145 | 35.8.4 | 619.57 | The term "first R-TWT SP" is better to specify the first R-TWT SP from what. For example, when the Beacon frame includes new R-TWT schedule(s), does the first R-TWT SP mean the scheduled R-TWT SP at first after receiving/transmitting the Beacon frame? | Please clarify the term "first R-TWT SP". | **Revised**  Agree in principle. We clarify the first R-TWT SP.  Tgbe editor, please implement changes as shown in 11-23/673r2 tagged as 16145 |
| 17795 | 35.8.4 | 619.58 | Clarify how the STA compute the Next R-TWT SP start time based on the first R-TWT SP start time received in the TWT element | As in the comment | **Revised**  Agree in principle. Same resolution as CID 16145  Tgbe editor, please implement changes as shown in 11-23/673r2 tagged as 16145 |
| 17084 | 35.8.4 | 619.52 | "An R-TWT scheduling AP when announcing an R-TWT schedule, shall" poor wording | Change to "When an R-TWT scheduling AP announces an R-TWT schedule, it shall" | **Revised**  We clarify the cited sentence.  Tgbe editor, please implement changes as shown in 11-23/673r2 tagged as 17084 |
| 15651 | 35.8.5.1 | 620.13 | How a STA could defer a transmission by selecting a random backoff ? This is not clear. Moreover the wording in the bracket is not also clear. | Please modify the sentence such as "and select a random backoff count using the present CW" and remove the bracket | **Revised**  We clarify the cited sentence.  Tgbe editor, please implement changes as shown in 11-23/673r0 tagged as 15651 |
| 17086 | 35.8.5.1 | 620 | "(without advancing to the next value in the sequence)" not clear as to which sequence this is | Delete the cited text | **Revised**  We clarify the cited sentence. Same resolution as CID 15651  Tgbe editor, please implement changes as shown in 11-23/673r0 tagged as 15651 |

### Discussion: None

### Proposed Text:

**35.8.2 R-TWT membership setup**

An R-TWT membership is established using the same procedure used to set up a broadcast TWT membership as described in 26.8.3 (Broadcast TWT operation) except that the broadcast TWT element(s) carried in the TWT Setup frame (9.6.24.8 (TWT Setup frame format)) include one or more Restricted TWT Parameter Set fields as described in 9.4.2.199 (TWT element).

(#16145) During the setup of an R-TWT membership whose TWT Wake Interval is not an integer multiple of 1 TU, an R-TWT scheduled STA and R-TWT scheduling AP shall set the the Target Wake Time field to TSFReference\_SP [10:25], where TSFReference\_SP is the start time of the first R-TWT SP of the corresponding R-TWT schedule that happens right after TSF time 0. In this case, the R-TWT membership starts at the start of the R-TWT SP that occurs right after the next TBTT that follows the R-TWT scheduling AP's successful transmission of a TWT Response carrying the corresponding R-TWT Parameter Set field with the TWT Setup Command field set to Accept TWT.

**35.8.3 R-TWT SPs announcement**

(#17084) When an R-TWT scheduling AP announces an R-TWT schedule whose TWT Wake Interval is not an integer multiple of 1 TU, it shall set the Target Wake Time field in the TWT element in transmitted Management frames to (#15843) (#16145) TSFReference\_SP [10:25], where TSFReference\_SP is the timestamp that corresponds to the start time of the first R-TWT SP that happens right after TSF time 0 of the corresponding R-TWT schedule. The R-TWT scheduling AP and R-TWT scheduled STA shall determine the start time of subsequent R-TWT SPs that happen after the first R-TWT SP (next R-TWT SP start time) in a periodic R-TWT schedule based on the start time of the first R-TWT SP and the TWT wake interval of the corresponding R-TWT schedule.

**35.8.4 Channel access rules for R-TWT SPs**

**35.8.4.1 TXOP and backoff procedures rules for R-TWT SPs**

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 active R-TWT SPs that are advertised by its associated AP or the AP corresponding to the transmitted BSSID in a multiple BSSID set in which its associated AP belongs to, as specified in 35.8.3 (R-TWT SPs announcement). In addition, before starting transmission of any PPDU, the non-AP EHT STA with dot11RestrictedTWTOptionImplemented set to true shall check if there is enough time for the frame exchange to complete prior to the start of the R-TWT SP and, if there is not enough time, then the STA shall defer transmission by selecting a random backoff count using the present CW[AC] (without advancing to the next value of CW[AC]) (#15651). The QSRC[AC] for the MSDU or A-MSDU is not affected.

(#15245) NOTE - If the backoff count reaches zero again before the start of the R-TWT SP, the non-AP EHT STA with dot11RestrictedTWTOptionImplemented set to true selects again a random backoff count using the present CW[AC] without advancing to the next value of CW[AC].