IEEE P802.11  
Wireless LANs

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| LB 266: CR for R-TWT related CIDs Part1 | | | | |
| Date: August 5, 2022 | | | | |
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Abstract

This submission proposes resolutions for following 46 CIDs received for TGbe LB266:

13227, 12054, 13464, 13315, 12967, 13316, 13740, 10455, 10454, 11508, 10905, 12289, 11864, 12339, 12337

13308, 13228, 13021, 13232, 13107, 13304, 12689, 12690, 13230, 13231, 13017, 10682, 12336, 13225, 10429, 12400, 13241, 13444, 13445, 10929, 10930, 12399, 12401, 11784, 12271, 12397, 12398, 12434, 13827, 12395, 13242

**Revisions:**

* Rev 0: Initial version of the document.
* Rev 1: Some editorial changes based on offline comments, added resolution to 13242, tagged some comments as “Green” based on chair’s recommendation.
* Rev 2: Rebase on 11be D2.1.1, some editorial and technical changes based on offline feedback.
* Rev 3: Some changes based on offline comments.

***TGbe editor: The baseline for this document is 11be D2.1.1 and REVme D1.3***

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** |
| 13227 | Binita Gupta | 9.4.2.199 | 206.55 | The text "A Restricted TWT Traffic Info Present subfield, when included in the Restricted TWT Parameter Set field,  is set to 1 to indicate that the Restricted TWT Traffic Info field is present; and set to 0 otherwise. It is reserved for non-EHT STAs." seems to imply that the Restricted TWT Traffic Info Present subfield may not be included in some cases, which is not correct. This subfield is always included in the Restricted TWT Parameter Set field. Modify text to clarify this. | Update text as follows: "A Restricted TWT Traffic Info Present subfield in the Restricted TWT Parameter Set field is set to 1 to indicate that the Restricted TWT Traffic Info field is present; and set to 0 otherwise." | **Revised**  The text is revised based on suggestion.  **TGbe editor, please make the changes tagged by CID #13227 in 22/1280r4.** |
| 12054 | Massinissa Lalam | 9.4.2.199 | 207.54 | There is no description whet the DL TID Bitmap Valid subfield is equal to 1. I'm assuming that when this subfield is set to 1, then its associated bitmap subfield Restricted TWT DL TID Bitmap shall not be set to all 1s or something like that. A sentence like "When the value is set to 1, it indicates that only DL traffic of some TIDs is identified as latency sensitive traffic, and the Restricted TWT DL TID Bitmap field indicates those TIDs."  ... but I could be wrong. Please precise what is the intended behavior when this subfield is set to 1. This comment applies also to the UL TID Bitmap Valid subfield. | As in comment | **Revised**  Text is revised to clarify the case when the Valid bit is set to 1.  **TGbe editor, please make the changes tagged by #12054 in 22/1280r4.** |
| 13464 | Liwen Chu | 9.4.2.199 | 207.63 | add the condition that "when UL/DL TID Bitmap Valid field has value 1" | As in comment | **Revised**  The proposed resolution to #12054 above clarifies the case for Valid bit subfields set to 1, and satisfies this comment as well.  **TGbe editor, please make the changes tagged by #12054 in 22/1280r4.** |
| 13315 | Muhammad Kumail Haider | 9.4.2.199 | 207.54 | The DL and UL TID Bitmap subfield definitions should specify, in case of value set to 0, that traffic of all TIDs "mapped to the corresponding link" is considered latency sensitive. | Rephrase the sentence as "ï»¿When the value is set to 0, it indicates that DL traffic of all TIDs mapped to the link on which the r-TWT membership is being setup is identified as latency sensitive traffic, and the Restricted TWT DL TID Bitmap field is reserved." Similar change for UL case | **Revised**  Agree in principle. The text is revised based on proposed resolution.  **TGbe editor, please make the changes tagged #13315 in 22/1280r4.** |
| 12967 | Chunyu Hu | 9.4.2.199 | 207.64 | Improve wording: "which TID(s) are" ==> "the TID(s) identified" | As in comment | **Revised**  **TGbe editor, please make the changes tagged by #12967 in 22/1280r4.** |
| 13316 | Muhammad Kumail Haider | 9.4.2.199 | 207.64 | "..ï»¿identified by the TWT scheduling AP or the TWT scheduled STA" --> "ï»¿identified by the r-TWT scheduling AP or the r-TWT scheduled STA" | as in comment | **Revised**  The text is revised based on suggestion.  **TGbe editor, please make the changes tagged by #13316 in 22/1280r4.** |
| 13740 | Yunbo Li | 9.4.2.199 | 205.55 | When multiple Broadcast TWT Parameter Set fields are carried in a TWT element in Beacon frame, a legacy STA can will think that all of the Broadcast TWT Parameter Set fields have equal length which is 9 octets, but acctually the Broadcast TWT Parameter Set field for rTWT is 12 octets. This legacy STA will treat the last 3 octets Broadcast TWT Parameter Set field for rTWT as the first 3 octects of a following Broadcast TWT Parameter Set field. | Please provide a solution to solve this problem | **Rejected**  When included in a Beacon frame (and any other broadcast frame where the TWT element has Negotiation Type set to 2), R-TWT parameter set fields do not carry the Restricted TWT Traffic Info fields as per 35.9.2.2 in 11beD2.0. As such, R-TWT parameter set fields have the same length (9 octets) as broadcast TWT parameter set fields and the issue raised by the commenter does not exist. |
| 10455 | Yonggang Fang | 9.4.2.199 | 207.37 | The DL TID Bitmap and UP TID Bitmap size should be 2 octets as the maximum number of TIDs is 16. Please change 1 octet to 0 or 2 in the Figure 90770a. | in the comment | **Rejected**  TID Bitmap size was initially proposed as 16 bits in 21/462r2 and was changed to 8 bits in later revisions based on feedback from group, which was subsequently approved by group. This is also consistent with TID-to-Link mapping which indicates TIDs 0-7. |
| 10454 | Yonggang Fang | 9.4.2.199 | 207.42 | If using Traffic Info Control to indicate validity of DL TID Bitmap and UL TID Bitmap, the size of those bitmaps should be 0 or 2. It is not necessary to reserve those fields if not valid because it can increase the payload of broadcast message and reduce efficiency. | suggest change "1" to "0 or 2" | **Rejected**  R-TWT TIDs are indicated in range 0-7 (see also resolution to #10455)  The bitmaps are always present to keep the design/parsing simple (a constant length R-TWT Traffic Info Control subfield, when present.) |
| 11508 | Xiaofei Wang | 9.4.2.199 | 207.54 | The design of restricted TWT traffic info field doesn't make sense; if there is no valid TID bitmap for DL or UL,those fields should be not included; it is just waste of bits. | as in comment | **Rejected**  Restricted TWT Traffic Info field identifies which UL/DL TIDs are latency sensitive traffic associated with the corresponding R-TWT schedule. It’s necessary and critical to serve the functionality.  If the TID Bitmap Valid bits are set to 0, the Bitmap fields are still included to keep the design/parsing simple (constant length R-TWT Traffic Info Control subfield, when present.) |
| 10905 | Akira Kishida | 9.4.2.199 | 205.19 | There is no rule for the maximum value of the duration of r-TWT SP. Though it is reasonable that Nominal Minimum TWT Wake Duration for r-TWT is reused from Broadcast TWT, the maximum value of the duration of r-TWT SP and frame field to notify the value should be defined because r-TWT is a feature of prioritization for latency sensitive traffic. | The frame field of "Maximum TWT Wake Duration" should be defined in Restricted TWT Traffic Info field format (Figure 9-770a), for example. | **Rejected**  The SP duration is part of the negotiable TWT parameters and both AP and non-AP STA can indicate their requirements or constraints through the TWT setup frame. Adding the maximum value allowed as a new parameter is therefore not needed. |
| 12289 | KENGO NAGATA | 9.4.2.199 | 205.19 | There is no rule for the maximum value of the duration of r-TWT SP. Though it is reasonable that Nominal Minimum TWT Wake Duration for r-TWT is reused from Broadcast TWT, the maximum value of the duration of r-TWT SP and frame field to notify the value should be defined because r-TWT is a feature of prioritization for latency sensitive traffic. | The frame field of "Maximum TWT Wake Duration" should be defined in Restricted TWT Traffic Info field format (Figure 9-770a), for example. | **Rejected**  The SP duration is part of the negotiable TWT parameters and both AP and non-AP STA can indicate their requirements or constraints through the TWT setup frame. Adding the maximum value allowed as a new parameter is therefore not needed. |
| 11864 | Alfred Asterjadhi | 9.4.2.199 | 206.37 | What is the difference of a B-TWT that contains a mix of b-TWT shcedules and r-twt schedules and a BTWT that only contains r-TWT schedules? I.e., do we need the term r-TWT element? | As in comment. | **Rejected**  The term R-TWT element is defined for the special case when the element carries only R-TWT parameter set fields, for ease of reference. It will be useful to keep the term for any such reference, e.g., if an announcement or TWT setup only encompasses TWT element with R-TWT parameter set fields only, R-TWT element may be used. |
| 12339 | Guogang Huang | 35.9.2.2 | 511.21 | Please clarify whether the Restricted TWT Traffic Info belongs to the TWT Parameters | As in comment | ﻿**Revised**  TID(s) indicated in Restricted TWT Traffic Info are included in TWT element and hence are TWT parameters. Text is added to clarify.  **TGbe editor, please add the following sentence at the end of NOTE at bottom of Table 9-338.**  **“TID(s) indicated in Restricted TWT Traffic Info field, when included in a restricted TWT parameter set field in the TWT element, are also TWT parameters for an EHT STA.”** |
| 12337 | Guogang Huang | 35.9.2.2 | 511.50 | Please clarify whether the r-TWT AP can change the TID info and the decision basis on which is accepted or rejected | As in comment | **Revised**  As clarified in resolution to #12339, R-TWT scheduling AP may set/change TID info in TWT response frame as specified in baseline broadcast TWT spec in Table 9-338—TWT Setup Command field values. This field’s value, similar to other TWT parameters, is subject to TWT scheduling AP’s final decision (to accept/reject).  **TGbe editor, please edit the NOTE at bottom of Table 9-338 as specified in resolution to #12339 in 22/1280r4.** |

**9.4.2.199 TWT element**

***TGbe editor: Please modify the 1st paragraph in this subclause (A Restricted TWT …) on Page 210 in 11beD2.1.1 as shown below:***

﻿(#13227)~~A~~ The Restricted TWT Traffic Info Present subfield~~, when included in~~ of the Restricted TWT Parameter Set field~~,~~ is set to 1 ~~to indicate that~~ if the Restricted TWT Traffic Info field is present; and set to 0 otherwise. It is reserved for non-EHT STAs.

***TGbe editor: Please modify the last three paragraphs in this subclause as shown below:***

(#12054)The DL TID Bitmap Valid subfield is set to 1 to indicate~~s if~~ that the Restricted TWT DL TID Bitmap field ~~has~~ is valid ~~information~~. ~~When the value~~The DL TID Bitmap Valid subfield is set to 0~~, it~~ to indicate~~s~~ that the DL traffic of all the TIDs (#13315)mapped in DL to the link in which the R-TWT membership is being setup, is identified as latency sensitive traffic, and the Restricted TWT DL TID Bitmap field is reserved.

(#12054)The UL TID Bitmap Valid subfield is set to 1 to indicate~~s if~~ that the Restricted TWT UL TID Bitmap field ~~has~~ is valid ~~information~~. ~~When the value~~The UL TID Bitmap Valid subfield is set to 0~~, it~~ to indicate~~s~~ that the UL traffic of all the TIDs (#13315)mapped in UL to the link in which the R-TWT membership is being setup, is identified as latency sensitive traffic, and the Restricted TWT UL TID Bitmap field is reserved.

﻿The Restricted TWT DL TID Bitmap and Restricted TWT UL TID Bitmap subfields specify (#12967)~~which TID(s)~~the TID(s) that are identified by the (#13316)R-TWT scheduling AP or the (#13316)R-TWT scheduled STA as latency sensitive traffic streams in ﻿the downlink and uplink direction, respectively. A value of 1 at bit position k in the bitmap indicates that TID k is classified as latency sensitive traffic stream. A value of 0 at bit position k in the bitmap indicates that TID k is not classified as latency sensitive traffic stream.

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| **CID** | **Commenter** | **Clause** | **Pg/Ln** | **Comment** | **Proposed Change** | **Resolution** |
| 13017 | Chunyu Hu | 35.9.4.1 | 511.02 | r-TWT operation assumes broadcast TWT operation as baseline. Is it required to have bTWT related capabilities set for r-TWT supporting STAs? Need to clarify this dependancy. | See comment. | **Revised**  Agree in principle. Text is added to specify that a STA that supports R-TWT operation also supports Broadcast TWT operation.  **TGbe editor, please make the changes tagged by #13017 in 22/1280r4.** |
| 13230 | Binita Gupta | 35.9.4.2 | 511.24 | The text needs to clarify that the r-TWT scheduling AP also supports bTWT and sets the Broadcast TWT Support field in the HE Capabilities element it transmits to 1, since rTWT is built on top of bTWT feature. See TWT scheduling AP definition in baseline. | Modify as follows "An r-TWT scheduling AP is an EHT AP that supports r-TWT operation and sets the Restricted TWT Support subfield in transmitted EHT Capabilities elements to 1, and supports broadcast TWT operation and sets the Broadcast  TWT Support field in the HE Capabilities element it transmits to 1." | **Revised**  Agree in principle. Resolution to #13017 also satisfies this comment.  **TGbe editor, please make the changes tagged by #13017 in 22/1280r4.** |
| 13231 | Binita Gupta | 35.9.4.2 | 511.28 | The text needs to clarify that the r-TWT scheduled STA also supports bTWT and sets the Broadcast TWT Support field in the HE Capabilities element it transmits to 1. See TWT scheduled STA definition in baseline. | Modify as follows "An r-TWT scheduled STA is a non-AP EHT STA that supports r-TWT operation and sets the Restricted TWT Support subfield in transmitted EHT Capabilities elements to 1, and supports broadcast TWT operation and sets the Broadcast TWT Support field in the HE Capabilities element it transmits to 1." | **Revised**  Agree in principle. Resolution to #13017 also satisfies this comment.  **TGbe editor, please make the changes tagged by #13017 in 22/1280r4.** |
| 10682 | Liangxiao Xin | 35.9 | 511.06 | Does an EHT STA that support R-TWT operation follow the rules of a TWT scheduled STA? | A R-TWT scheduled STA is a TWT scheduled STA | **Revised**  Agree in principle. Resolution to #13017 also satisfies this comment.  **TGbe editor, please make the changes tagged by #13017 in 22/1280r4.** |
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| 13308 | Muhammad Kumail Haider | ï»¿35.9.2.2 | 511.19 | ï»¿"An r-TWT agreement is established using the same procedure used to set up a broadcast TWT agreement as described in 26.8.3 (Broadcast TWT operation) except that the TWT setup frames contain a broadcast TWT element that includes a Restricted TWT Parameter Set field as described in 9.4.2.199 (TWT element)" The TWT setup frame may carry multiple bTWT elements and each element may contain one or more r-TWT Parameter Set fields. Please revise the sentence to reflect this. | as in comment | **Revised**  Agreed in principle. Text is revised to reflect the missing information identified by the comment.  **TGbe editor, please make the changes tagged by #13308 in 22/1280r4.** |
| 13228 | Binita Gupta | 35.9.4.2 | 511.19 | A broadcast TWT element can include multiple 'Broadcast TWT Parameter Set' fields each of which can be a Restricted TWT Parameter Set. Hence the bTWT element can include multiple Restricted TWT Parameter Set fields as well. Update to reflect this. | Update to following "An r-TWT agreement is established using the same procedure used to set up a broadcast TWT agreement as described in 26.8.3 (Broadcast TWT operation) except that the TWT setup frames contain a broadcast TWT element that includes one or more Restricted TWT Parameter Set fields as described in 9.4.2.199 (TWT element)." | **Revised**  Agreed in principle. Resolution to #13308 addresses the problem identified by this comment as well.  **TGbe editor, please make the changes tagged by #13308 in 22/1280r4.** |
| 13021 | Chunyu Hu | 35.9.4.1 | 511.24 | The definition of r-TWT scheduling AP and r-TWT scheduled STA are done from perspective of capability rather than if engaging in a schedule/membership setup, and have some misalignment in the natural interpretation (scheduling/scheduled). Consider a better definition of these two terms, respectively. | See comment. | **Revised**  Agree in principle. The definitions of R-TWT scheduling AP and R-TWT scheduled STA are revised.  **TGbe editor, please make the changes tagged by #13021 in 22/1280r4.** |
| 13232 | Binita Gupta | 35.9.4.2 | 511.28 | In the baseline definition of TWT Scheduled STA, the non-AP STA is a TWT scheduled STA if it receives a broadcast TWT element transmitted by a TWT scheduling AP. See following text from baseline "A TWT scheduled STA is a non-AP HE STA that sets the Broadcast TWT Support field in the HE Capabilities element it transmits to 1 and receives a broadcast TWT element transmitted by an HE AP that is a TWT scheduling AP." In the definition of rTWT scheduled STA, this part is not included. Given this what is the difference between a non-AP STA which supports rTWT (rTWT supporting STA) and an rTWT scheduled STA. Clarify in the text. | Suggest to modify the definition of rTWT scheduled STA to indicate rTWT supporting STAs which have received or initiated transmission of broadcast TWT element with Restricted TWT Parameter Set field. | **Revised**  Agree in principle. Same resolution as #13021.  **TGbe editor, please make the changes tagged by #13021 in 22/1280r4.** |
| 13107 | Chittabrata Ghosh | 35.9.4.2 | 511.28 | In the baseline definition of TWT Scheduled STA, the non-AP STA is a TWT scheduled STA if it receives a broadcast TWT element transmitted by a TWT scheduling AP. See following text from baseline "A TWT scheduled STA is a non-AP HE STA that sets the Broadcast TWT Support field in the HE Capabilities element it transmits to 1 and receives a broadcast TWT element transmitted by an HE AP that is a TWT scheduling AP." In the definition of rTWT scheduled STA, this part is not included. Given this what is the difference between a non-AP STA which supports rTWT (rTWT supporting STA) and an rTWT scheduled STA. Clarify in the text. | Suggest to modify the definition of rTWT scheduled STA to indicate rTWT supporting STAs which have received or initiated transmission of broadcast TWT element with Restricted TWT Parameter Set field. | **Revised**  Agree in principle. Same resolution as #13021.  **TGbe editor, please make the changes tagged by #13021 in 22/1280r4.** |
| 13304 | Muhammad Kumail Haider | ï»¿35.9.3 | 511.59 | Definition of r-TWT scheduling AP/scheduled STA should be revised to be consistent with TWT scheduling AP/scheduled STA where it is not just based on capability, but on participation in operation in that a membership is established. | as in comment | **Revised**  Agree in principle. Same resolution as #13021.  **TGbe editor, please make the changes tagged by #13021 in 22/1280r4.** |
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| 12689 | Arik Klein | 35.9.4 | 511.25 | Typo: should be "element" (instead of elements) in the sentence: "...and sets the Restricted TWT Support subfield in transmitted EHT Capabilities elements to 1" | As in comment | **Revised**  **TGbe editor, please make the changes tagged by #12689 in 22/1280r4.** |
| 12690 | Arik Klein | 35.9.4 | 511.29 | Typo: should be "element" (instead of elements) in the sentence: "...and sets the Restricted TWT Support subfield in transmitted EHT Capabilities elements to 1" | As in comment | **Revised**  **TGbe editor, please make the changes tagged by #12690 in 22/1280r4.** |
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| 12336 | Guogang Huang | 35.9.2.2 | 511.32 | If considering that an r-TWT scheduling AP also can be an AP that supports broadcast TWT, the text is not exactly correct. Please revise this paragraph. For example, when the Broadcast TWT Recommendation field for a broadcast TWT element included in an individually addressed TWT Setup frame transmitted by an r-TWT scheduling AP or r-TWT scheduled STA is set to 4, the Restricted TWT Traffic Info Present subfield of the Broadcast TWT Info field shall be set to 1. | Please replace "When included in an individually addressed TWT Setup frame transmitted by an r-TWT scheduling AP or r-TWT scheduled STA, the Restricted TWT Traffic Info Present subfield of the Broadcast TWT Info field shall be set to 1." with "When the Broadcast TWT Recommendation field of a broadcast TWT element included in an individually addressed TWT Setup frame transmitted by an r-TWT scheduling AP or r-TWT scheduled STA is set to 4, the Restricted TWT Traffic Info Present subfield of the Broadcast TWT Info field shall be set to 1." | **Revised**  Restricted TWT Traffic Info Present subfield is only defined for an R-TWT parameter set field and is reserved in a broadcast TWT parameter set field and hence cannot be set. However, based on comment, the paragraph is revised to clarify.  **TGbe editor, please make the changes tagged by #12336 in 22/1280r4.** |
| 13225 | Binita Gupta | 35.9.4.2 | 511.31 | This text seems to imply that an rTWT supporting STA/AP can't setup a bTWT agreement which is not rTWT, since it says that the Restricted TWT Traffic Info Present subfield shall be set to 1 in individually addressed TWT setup frame. This should only be done for TWT setup frame for rTWT indicated by the Broadcast TWT Recommendation field value equal to 4 | Update as follows "An r-TWT scheduling AP or rTWT scheduled STA shall set the Restricted TWT Traffic Info Present subfield of the Broadcast TWT Info field to 1 in an individually addressed TWT Setup frame (has Negotiation Type subfield equal to 3) it transmits with Broadcast TWT Recommendation field value equal to 4" | **Revised**  Same resolution as #12336  **TGbe editor, please make the changes tagged by #12336 in 22/1280r4.** |
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| 13242 | Binita Gupta | 35.9.2.2 | 511.36 | This req "An r-TWT scheduling AP that includes a Restricted TWT Parameter Set field in a broadcast TWT element shall set the Restricted TWT Traffic Info Present subfield of the Restricted TWT Parameter Set field to 0 if the Negotiation Type subfield of the TWT element is equal to 2." applies to the announcement of rTWT schedules in bTWT element, hence it should be moved under 35.9.3. This does not apply to individual negotiation for rTWT setup. | As in comment | **Revised**  Agree in principle. The text is moved to 35.9.3.  **TGbe editor, please make the changes tagged by #13242 in 22/1280r4.** |
|  |  |  |  |  |  |  |
| 10429 | Yan li | 35.9 | 511.40 | Since these paragraphs describe same requirement for the r-TWT scheduling AP and scheduled STA,this paragraph should be merged with the following one | as the comment | **Revised**  Agree in principle. The two paragraphs are merged, and text is revised to make it more concise.  **TGbe editor, please make the changes tagged by #10429 in 22/1280r4.** |
| 12400 | Rojan Chitrakar | 35.9.3 | 511.46 | This is almost a repeat of the previous paragraph except its for non-AP STA. Why not just combine the two paragraphs since the focus here is how the fields are set and not who sets the fields. | Combine the paragraph with the previous one. | **Revised**  Same resolution as #10429.  **TGbe editor, please make the changes tagged by #10429 in 22/1280r4.** |
| 13241 | Binita Gupta | 35.9.5 | 511.40 | As part of the rTWT setup procedures, should add requirements for the rTWT scheduling AP and rTWT scheduled STA to indicate LS traffic streams using rTWT TIDs. | Add following requirements: "An rTWT scheduled STA should indicate specific TIDs for latency sensitive traffic streams in the Restricted TWT DL TID Bitmap and Restricted TWT UL TID Bitmap subfields of the Restricted TWT Parameter Set field in the TWT request sent to the rTWT scheduling AP for an rTWT setup"  "An rTWT scheduling AP should indicate specific TIDs for latency sensitive traffic streams in the Restricted TWT DL TID Bitmap and Restricted TWT UL TID Bitmap subfields of the Restricted TWT Parameter Set field in the TWT response sent to the rTWT scheduled STA for an rTWT setup" | **Revised**  Agree in principle.  **TGbe editor, please make the changes tagged by #13241 in 22/1280r4.** |
| 13444 | Liwen Chu | 35.9.5 | 511.45 | The "should" in the sentence may means that the TIDs for r-TWT SP may be different from the negotiation TID to link mpping. If the answer is no, make it clear by updating the text. | fix the issue mentioned in the comment | **Revised**  Agree in principle. Text is revised to replace “should” with “shall” requirement.  **TGbe editor, please make the changes tagged by #13444 in 22/1280r4.** |
| 13445 | Liwen Chu | 35.9.5 | 511.41 | The "should" in the sentence may means that the TIDs for r-TWT SP may be different from the negotiation TID to link mpping. If the answer is no, make it clear by updating the text. Another thing that needs to be clrafied is that whether the spec allows an AP to accept the request with the TIDs that are different from the requested TIDs. | fix the issue mentioned in the comment | **Revised**  Agree in principle about revising “should” requirement to “shall”. This is addressed by resolution to #13444.  For 2nd part of comment, the NOTE added as resolution to #12339 clarifies that R-TWT scheduling AP may set/change TID info in TWT response frame as specified in baseline broadcast TWT spec in Table 9-338—TWT Setup Command field values.  **TGbe editor, please make the changes tagged by #13444 and edit the NOTE at bottom of Table 9-338 in REVmeD1.3 as specified in resolution to #12339 in 22/1280r4.** |
| 10929 | Thomas Handte | 35.9.2.1 | 511.42 | The word only seems not adequate in the context "...TID Bitmap subfields only the TIDs that are mapped to the link...", because it suggests that the TID Bitmap subfiled is equal to the TIDs that are mapped to the respective link | Suggest to replace the "only" by "no more than" | **Revised**  Agree in principle. Text is revised to make it clear.  **TGbe editor, please make the changes tagged by #10929 in 22/1280r4.** |
| 10930 | Thomas Handte | 35.9.2.1 | 511.46 | The word only seems not adequate in the context "...TID Bitmap subfields only the TIDs that are mapped to the link...", because it suggests that the TID Bitmap subfiled is equal to the TIDs that are mapped to the respective link | Suggest to replace the "only" by "no more than" | **Revised**  Agree in principle. Text is revised to make it clear.  **TGbe editor, please make the changes tagged by #10930 in 22/1280r4.** |
| 12399 | Rojan Chitrakar | 35.9.3 | 511.41 | It is not clear what "..should indicate.." mean here. Each bit in the bitmap can only have two values: 0 or 1 and each has its own meaning. If the intention is to mean that only TIDs that are mapped to the link can be set to 1, that should be explicitly mentioned. | Clarify what "should indicate" mean here. If the intention is to mean that only TIDs that are mapped to the link can be set to 1, that should be explicitly mentioned. | **Revised**  Agree in principle and adopt the same resolution as #10930.  **TGbe editor, please make the changes tagged by #10930 in 22/1280r4.** |
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| 12401 | Rojan Chitrakar | 35.9.3 | 511.51 | And what if the DL or UL TID Bitmap Valid subfield set to 0; the TIDs in that case are not r-TWT TIDs? Aren't all TIDs considered latency sensitive in that case? | As in the comment. | **Revised**  Revised the text to be comprehensive by referring to the field description (as in 9.4.2.199.)  **TGbe editor, please make the changes tagged by #12401 in 22/1280r4.** |
|  |  |  |  |  |  |  |
| 11784 | Osama Aboulmagd | 35.9.2.2 | 512.48 | What is r-TWT TID(s). It is not defined any where. Please define and specify how it would be used. | As in comment | **Rejected**  The term R-TWT TID(s) is already defined, please refer to 11beD2.1 35.9.2.2 P522L56. |
| 12271 | Rajat Pushkarna | 35.9.2.2 | 512.15 | Does TIDs during rTWT needs to be prioritized? A prioritization between TIDs in rTWT SP should be defined | As in comment. | **Rejected**  R-TWT TIDs are prioritized as described in 35.9.5. Any prioritization among R-TWT TIDs is subject to STA’s scheduling and existing EDCA rules |
| 12397 | Rojan Chitrakar | 35.9.2.4 | 511.24 | Is it necessary to define the term "r-TWT scheduling AP"? In baseline, TWT roles (scheduling, scheduled) are not restricted, refer to clause 10.47: "STAs that request a TWT agreement are called TWT requesting STAs and the STAs that respond to their requests are TWT responding STAs." Why not use the same terms for rTWT: rTWT responding STA? | Rename "r-TWT scheduling AP" as "rTWT responding STA" to preserve the flexibility of the scheduling/scheduled roles as done in baseline. | **Rejected**  The quoted text in comment from 10.47 is in context of individual TWT.  REVmeD1.3 in 26.8 uses the terms TWT requesting STA and TWT responding AP in context of individual TWT and TWT scheduled STA/ TWT scheduling AP for broadcast TWT. Since R-TWT is based on broadcast TWT, it inherits the same terminology as broadcast TWT from baseline, with a “R-“ added for additional qualification. |
| 12398 | Rojan Chitrakar | 35.9.3 | 511.27 | Is it necessary to define the term "r-TWT scheduled STAP"? In baseline, TWT roles (scheduling, scheduled) are not restricted, refer to clause 10.47: "STAs that request a TWT agreement are called TWT requesting STAs and the STAs that respond to their requests are TWT responding STAs." Why not use the same terms for rTWT: rTWT requesting STA? | Rename "r-TWT scheduled STA" as "r-TWT requesting STA" to preserve the flexibility of the scheduling/scheduled roles as done in baseline. | **Rejected**  The quoted text in comment from 10.47 is in context of individual TWT.  REVmeD1.3 in 26.8 uses the terms TWT requesting STA and TWT responding AP in context of individual TWT and TWT scheduled STA/ TWT scheduling AP for broadcast TWT. Since R-TWT is based on broadcast TWT, it inherits the same terminology as broadcast TWT from baseline, with a “R-“ added for additional qualification. |
| 12434 | Bo Yang | 35.9.3 | 512.48 | the spec need to specify whether PS-poll or QoS Null frame is needed during trigger-enabled rTWT SPs for r-TWT scheduled STAs to indicate that they are awake | add a exmple figure if ps-poll or QoS Null frame is not needed. The spec should explicitly stat that the responding frame to the trigger frame is QoS data frame. | **Rejected**  As per baseline broadcast TWT operation spec in 26.8, whether PS-Poll or QoS NULL frame is required is determined by rules for announced/unannounced TWT. R-TWT follows the same spec; no further change is needed. |
| 13827 | Yuchen Guo | 35.9.5 | 510.51 | If the non-AP STA wants to use r-TWT, but the AP has not announced any r-TWT element in the Beacon, how could the non-AP STA request to join an r-TWT agreement? | Define a mechanism so that the non-AP STA can request the AP to establish a new r-TWT agreement | **Rejected**  As per baseline bTWT operation spec in 26.8, a STA may send a TWT request proposing its own schedule, different from those being announced by the AP. So if the AP is not announcing any schedules, the STA may still send a request with its desired set of TWT parameters. (Please refer to Table 9-338 in REVmeD1.3) |
| 12395 | Rojan Chitrakar | 35.9.2.2 | 511.02 | r-TWT should also be extended to individual TWT. | As in comment | **Rejected**  A key part of R-TWT is the channel access rules as defined in 35.9.4. This requires that R-TWT schedules be announced, which is accomplished by bTWT signaling but is lacking in individual TWT. The motivation of extending R-TWT to individual TWT is not clear. |

**35.9 Restricted TWT (R-TWT)**

**35.9.1 General**

***TGbe editor: Please modify the second paragraph of this subclause in 11beD2.1.1 as shown below:***

An EHT STA that supports R-TWT operation has dot11RestrictedTWTOptionImplemented set to true, otherwise, the EHT STA has dot11RestrictedTWTOptionImplemented set to false. An EHT STA with dot11RestrictedTWTOptionImplemented equal to true shall set the Restricted TWT Support subfield in the transmitted EHT Capabilities element~~s~~(#12689) to 1(#13017) and shall set the Broadcast TWT Support subfield in transmitted HE Capabilities element to 1; otherwise, the EHT STA shall set the Restricted TWT Support subfield in the transmitted EHT Capabilities element~~s~~(#12689) to 0.

**35.9.2 R-TWT membership setup**

**35.9.2.2 The setup procedure**

***TGbe editor: Please modify the entire subclause in 11beD2.1.1 as shown below:***

﻿﻿﻿(#13308)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 ~~s~~Setup frame~~s contain a broadcast TWT element that~~ (9.6.24.8 TWT Setup frame format) include~~s~~ one or more ~~a~~ Restricted TWT Parameter Set fields as described in 9.4.2.199 (TWT element).

An R-TWT scheduling AP is an EHT AP (#13021)with dot11TWTOptionActivated equal to true that (#13021)~~supports R-TWT operation and~~ sets the Restricted TWT Support subfield in the transmitted EHT Capabilities element~~s~~(#12689) to 1.

An R-TWT scheduled STA is a non-AP EHT STA that (#13021)~~supports R-TWT operation and~~ sets the Restricted TWT Support subfield in the transmitted EHT Capabilities element~~s~~(#12690) to 1 (#13021)and sends to or receives from an R-TWT scheduling AP a broadcast TWT element carrying one or more Restricted TWT Parameter Set field(s).

When included in an individually addressed TWT Setup frame transmitted by an R-TWT scheduling AP or R-TWT scheduled STA, the Restricted TWT Traffic Info Present subfield of the Broadcast TWT Info field (#12336)included in a Restricted TWT Parameter Set field shall be set to 1.

﻿(#13242)~~An R-TWT scheduling AP that includes a Restricted TWT Parameter Set field in a broadcast TWT element shall set the Restricted TWT Traffic Info Present subfield of the Restricted TWT Parameter Set field to 0 if the Negotiation Type subfield of the TWT element is equal to 2.~~

﻿(#10429)~~The R-TWT scheduling AP should indicate in the Restricted TWT DL TID Bitmap and Restricted TWT UL TID Bitmap subfields only the TIDs that are mapped to the link on which the R-TWT membership is being set up (see 35.3.7.1 (TID-to-link mapping)).~~

(#10429)~~The R-TWT scheduled STA should indicate in the Restricted TWT DL TID Bitmap and Restricted TWT UL TID Bitmap subfields only the TIDs that are mapped to the link on which the R-TWT membership is being set up (see 35.3.7.1 (TID-to-link mapping)).~~

(#10429,#13241)The R-TWT scheduling AP and the R-TWT scheduled STA should set the values in the Restricted TWT DL TID Bitmap and the Restricted TWT UL TID Bitmap subfields to identify the TID(s) that carry latency sensitive traffic in DL and UL, respectively, that correspond to the R-TWT membership being set up. The DL and UL TIDs set to 1 in the respective bitmaps (#13444)shall be (#10929,#10930)within the set of TIDs that are mapped in DL and UL, respectively, to the link on which the R-TWT membership is being setup (see 35.3.7.1. (TID-to-link mapping)).

﻿(#12401)The TID(s) that are specified in the ~~Restricted TWT DL TID Bitmap subfield or Restricted TWT UL TID Bitmap subfield with the corresponding DL or UL TID Bitmap Valid subfield set to 1~~ Restricted TWT Traffic Info field of the TWT element (as described in 9.4.2.199 (TWT element)) in a TWT Response frame that indicates Accept TWT are referred to as R-TWT DL TID(s) or R-TWT UL TID(s), and collectively as R-TWT TID(s), in the following subclauses.

**35.9.3 R-TWT SPs announcement**

***TGbe editor: Please insert the following paragraph (that was removed from the 5th paragraph in subclause 35.9.2.2) to be after the first paragraph (If there is any R-TWT membership set up …) as follows:***

﻿(#13242)An R-TWT scheduling AP that includes a Restricted TWT Parameter Set field in a broadcast TWT element shall set the Restricted TWT Traffic Info Present subfield of the Restricted TWT Parameter Set field to 0 if the Negotiation Type subfield of the TWT element is equal to 2.