IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 11be D3.0 CR for Some Clauses in 10 and 11 | | | | |
| Date: 2023-03-27 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Po-Kai Huang | Intel |  |  |  |

Abstract

This submission proposes resolutions for the following CIDs:

17326, 17327, 16687, 16686, 17973, 18244, 16253, 15141

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: Revison for CID 17973 based on the discussion with Xiaofei
* Rev 2: Revision for CID 16687 based on the offline discussion with Jay and Jarkko
* Rev 3: Revision based on the discussion during the teleconference call

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 D3.0 Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGbe D3.0 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.***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | **Clause** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 17326 | Alfred Asterjadhi | 10.27.8 | 356.59 | An EHT\_TB cannot be substituted with any other PPDU format, not even HT\_MF. Remove EHT\_TB from here, and from the next paragraph as well. And I speculate this is a copy paste from baseline so the issue is there in baseline too. So please do the same for HE\_TB as well forthe HE counterparts. | As in comment. | Revised –  The cited texts indeed mimic styles of HE parts. Look at the baseline rules of HT\_MF, the idea is essentially to transmit the frames with legacy preambles. However, there are indeed rules like the following in Table 10-27—Applicable HT protection mechanisms that indicates usage of mixed format PPDU as the first PPDU in a TXOP, which is not applicable to TB PPDU. HE\_TB also cannot be decoded by 3 party, and the format, rate, bandwith, field value are all determined by the solicitor. Hence, not much you can do when a responder responds HE\_TB PPDU. As a result, agree in principle with the commenter.  *As the first PPDU in the TXOP, send one of:*  *— A non-HT PPDU containing a frame that requires an immediate response*  *— An HT-mixed format PPDU containing a frame that requires an immediate response in a non-HT PPDU*  TGbe editor to make the changes shown in 11-23/0552r3 under all headings that include CID 17326 |
| 17327 | Alfred Asterjadhi | 10.27.8 | 357.01 | "Additionally, an EHT STA can use the MU-RTS/CTS frame exchange procedure." Yes, that is true, but that is already mentioned for the HE STA case. So no need to mention it again. Even in the case of HE STA I don't think you need to mention it here and there since it is obvious. | Remove cited sentence (at least). | Revised –  Agree in principle that EHT STA is an HE STA, so HE descriptions will be enough.  TGbe editor to make the changes shown in 11-23/0552r3 under all headings that include CID 17327 |
| 16687 | Qi Wang | 11.10.9.1 | 384.48 | The Beacon Report does not contain Multi-link element or any MLD specific information. This information may be relevant for the AP that requested Beacon Report. | Please add AP MLD related information to the Beacon Report. | Rejected –  Beacon report can already include any elements including multi-link element in Reported Frame Body subelement.    *The Reported Frame Body subelement, if present, contains some or all of the fields and elements of the frame body of the reported Beacon, Measurement Pilot, or Probe Response frame.* |
| 16686 | Qi Wang | 11.2.3.15 | 361.40 | The BSS parameter change has Inclusion criteria for Channel Switch related elements. These elements are typically present in multiple consecutive Beacons. Insertion would be more correct criteria to update BSS Parameters for these elements . Insertion causes only a single BPCC update, not continuous update for multiple Beacons. | Please change Inclusion to Insertion for the following elements: Channel Switch Announcement, extended Channel Switch Announcement, Quiet element, Wide Bandwidth Channel Switch element, Channel Switch Wrapper and Quiet Channel. | Rejected –  The commenter comments on a baseline texts. Since the operation is related to how the baseline AP like VHT/HE AP handle BSS parameter update, the commenter is encouraged to submit the comments to revme. |
| 17973 | Xiaofei Wang | 11.2.3.15 | 361.61 | What is an existing broadcast TWT element? This sentence needs to be corrected | as in comment | Revised -  Existing Broadcast TWT element means the ones that is already in the beacon frame, and there is additional Broadcast TWT parameter set field inserted.  We revise the sentence to convey the same meaning without using “existing” based on the following note in the baseline.  TGbe editor to make the changes shown in 11-23/0552r3 under all headings that include CID 17973 |
| 18244 | Li-Hsiang Sun | 11.2.3.15 | 361.60 | For a MLD associated with NSTR mobile AP MLD, it can not receive beacon on the non-primary link. When there is a new/changed rTWT added to the non-primary link, the other non-AP MLD not memebr of rTWT must send ML probe request to learn the new rTWT schedule on the non-primary link  However if the new/changed rTWT on the non-primary link is aligned wih a rTWT on primary link, no such probing is necessary | add a requirement "Insertion of a Broadcast TWT elemnt of a Broadcast TWT Parameter Set field in an existing Broadcast TWT element for an aligned broadcast TWT should not cause BPCC in RNR corresponding to non-primary link to be changed for a NSTR mobile AP MLD" | Rejected –  Broadcast TWT parameter may change, and it is better for the client to get all the information and follow basic rules rather than having exception specifically for NSTR mobile AP MLD and have client using separate rules when there is a requirement to deal with changing parameters. |
| 16253 | Stephen McCann | 11.20.1 | 387.16 | "frames" does not explain which ones they are. | Change "frames" to "TDLS frames". | Rejected –  Table 11-13a has frame like Data frame or Contorl frame, which will not be covered if we change frame in the following sentence to TDLS frame.  *Table 11-13a (Frame type and their pathway in a TDLS setup) shows the frame that can be exchanged between the TDLS peer STAs and the path taken by each of them.* |
| 15141 | Po-Kai Huang | 11.21.2 | 0.00 | Clarify that Transition event request and report will report MLD event for MLO. Clarify that RSNA event request and report will report MLD event for MLO. Clarify that WNM log event request and report will report MLD event for MLO. | Consider to adopt the proposed texts in 11-22-2165r2 | Revised –  Agree in principle with the commenter.  TGbe editor to make the changes shown in 11-23/0552r3 under all headings that include CID 15141 |

**Discussion: None**

*TGbe editor: Change Clause 10.27.8 as follows (track change on):*

**10.27 Protection mechanisms**

***Insert the following subclause at the end of 10.27 (Protection mechanisms):***

**10.27.8 Protection rules for EHT STAs**

An EHT STA operating in the 2.4 GHz band is subject to all of the rules for HT STAs that apply to that band, except that a PPDU with the TXVECTOR parameter FORMAT set to EHT\_MU (#17326)may be substituted for a PPDU with the TXVECTOR parameter FORMAT set to HT\_MF.

An EHT STA operating in the 5 GHz band is subject to all of the rules for VHT STAs that apply to that band, except that a PPDU with the TXVECTOR parameter FORMAT set to EHT\_MU (#17326)may be substituted for a PPDU with the TXVECTOR parameter FORMAT set to VHT.

(#17327)

*TGbe editor: Change Clause 10.27.6 as follows (track change on):*

**10.27.6 Protection rules for HE STAs(11ax)**

An HE STA operating in the 2.4 GHz band is subject to all of the rules for HT STAs that apply to that band, except that a PPDU with the TXVECTOR parameter FORMAT set to HE\_SU, HE\_ER\_SU, or HE\_MU(#17326)may be substituted for a PPDU with the TXVECTOR parameter FORMAT set to HT\_MF.

An HE STA operating in the 5 GHz band is subject to all of the rules for VHT STAs that apply to that band, except that a PPDU with the TXVECTOR parameter FORMAT set to HE\_SU, HE\_ER\_SU, or HE\_MU(#17326)may be substituted for a PPDU with the TXVECTOR parameter FORMAT set to VHT.

Additionally, an HE STA can use the MU-RTS/CTS frame exchange sequence(#109) procedure.

*TGbe editor: Change Clause 11.2.3.15 TIM Broadcast as follows (track change on):*

* + - 1. **TIM Broadcast**

***Change the twelve paragraph by splitting it into two and add additional items as follows:***

The AP shall increase the value (modulo 256) of the Check Beacon field in the next transmitted TIM frame(s) when a critical update occurs to any of the elements inside the Beacon frame.

The following events about the BSS parameters of the AP shall classify as a critical update:

1. Inclusion of a Channel Switch Announcement element
2. Inclusion of an Extended Channel Switch Announcement element
3. Modification of the EDCA parameters element
4. Inclusion of a Quiet element
5. Modification of the DSSS Parameter Set
6. Modification of the HT Operation element
7. Inclusion of a Wide Bandwidth Channel Switch element
8. Inclusion of a Channel Switch Wrapper element
9. Inclusion of an Operating Mode Notification element
10. Inclusion of a Quiet Channel element
11. Modification of the VHT Operation element
12. Modification of the HE Operation element
13. Insertion of a Broadcast TWT element

m1) Insertion of a Broadcast TWT Parameter Set field in the Broadcast TWT element(#17973)

1. Inclusion of the BSS Color Change Announcement element
2. Modification of the MU EDCA Parameter Set element
3. Modification of the Spatial Reuse Parameter Set element
4. Modification of the UORA Parameter Set element
5. Modification of the EHT Operation element

***Change NOTE 4 as follows:***

NOTE 4—Modification of an element means that at least one field in the element is changed, although not all fields in an element can be changed (e.g., the fields that advertise the basic MCS sets in HT Operation, VHT Operation, and HE Operation elements do not change). Inclusion of an element means that the element is included in a Beacon frame. The insertion of an element means that the element was not present in the previous Beacon frame, is present in the current Beacon frame, and will be carried in the next Beacon frame. Inclusion/modification of an element for a nontransmitted BSSID is done in a Beacon frame transmitted by the transmitted BSSID either by including/modifying the element in the nontransmitted BSSID profile of the Multiple BSSID element or by including/modifying the element for the transmitted BSSID if that element is inherited for the nontransmitted BSSID (see 11.1.3.8.4 Inheritance of element values).

**----------------------------------------proposed change for 15141 --------------------------------------------**

***TGbe editor:******Modify 11.21 as follows (track change on).***

* **Event request and report procedures**
* **Transition event request and report**

The Transition Event report provides information on the previous transition events for a given non-AP STA (for non-MLO) or non-AP MLD (for MLO). The Transition Event request and report are only permitted in the infrastructure BSS.

Each STA supporting the Transition Event shall log up to the last five Transition events occurring since the STA (for non-MLO) or the MLD (for MLO), with which the STA is affiliated, associated to the ESS. A STA may log more than five of the most recent Transition events.

Upon receipt of an Event Request frame containing an Event Request element including a Transition Event request, the non-AP STA shall respond with an Event Report frame that includes available Event Report elements within the ESS of which the transmitting STA (for non-MLO) or the MLD (for MLO), with which the transmitting STA is affiliated, is a member for the Transition event type.

…(existing texts)….

* + - 1. RSNA event request and report

The RSNA Event Report provides authentication events for a given non-AP STA (for non-MLO) or a non-AP MLD (for MLO). The RSNA Event Request and Report are only permitted in an infrastructure BSS.

Each STA supporting the RSNA Event shall log up to the last five RSNA events occurring since the STA (for non-MLO) or the MLD (for MLO), with which the STA is affiliated, associated to the ESS. A STA may log more than five of the most recent RSNA events.

Upon receipt of an Event Request frame containing an Event Request element including an RSNA Event request, the non-AP STA shall respond with an Event Report frame that includes available Event Report elements within the ESS of which the transmitting STA (for non-MLO) or the MLD (for MLO), with which the transmitting STA is affiliated, is a member for the RSNA event type.

…(existing texts)….

* + - 1. **WNM log event request and report**

…(existing texts)….

The WNM log is particularly useful for logging success or failure events across areas such as driver status, IEEE 802.11 or IEEE 802.1X authentication, authorization, status changes while associated or unassociated.

For example:

<0>Oct 03 17:47:00 00:01:02:03:04:05 Adapter DLL Service initialized

<1>Oct 03 17:48:40 00:01:02:03:04:05 Authentication started

<1>Oct 03 17:48:46 00:01:02:03:04:05 IEEE 802.1X Authentication Failed, credential failure

<1>Oct 03 17:49:00 00:01:02:03:04:05 Authentication success

A non-AP STA that supports event reporting may be queried at any time for its current set of WNM log messages. The WNM log messages returned by the non-AP STA may provide insight into the trouble being experienced by the non-AP STA (for non-MLO) or the non-AP MLD (for MLO), with which the non-AP STA is affiliated.

…(existing texts)….