IEEE P802.11
Wireless LANs

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| LB271 CR for subclause 35.3.12.6 |
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Abstract

This submission proposes resolutions of comments received from TGbe comment collection LB271 based on TGbe D3.0.

16828 16829 15056 16603 16604 17962 16605 16606 (8 CIDs)

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: add green tags provided by Alfred
1. **Introduction**

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. The introduction and the explanation of the proposed changes are 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 802.11be 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** | **Page** | **Comment** | **Proposed Change** | **Resolution** |
| 16828 | 35.3.12.6 | 542.03 | "in Listen Interval field" missing article | Change to "in the Listen Interval field". Ditto 543.3 (2x), 543.60 (2x) | Revised-Agree. Apply the changes marked as #16828 in this document.TGbe editor: please change "in Listen Interval field" to "in the Listen Interval field" through the draft 3.0 |
| 16829 | 35.3.12.6 | 542.05 | "The value of the Listen Interval field shall be in units of the maximum value of beacon intervalscorresponding to the links that the non-AP MLD intends to setup in the (Re)Association Request frame (see9.4.1.6 (Listen Interval field))." is very confusing. The LI field is defined in Clause 9 as being in units of beacon intervals, and I don't think it makes sense to redefine it here as being in units of a number of beacon intervals, especially with such a vague definition ("maximum ... intends") as the receiver doesn't know the sender's intentions | Delete (leave units as in Clause 9) | Rejected-The receiver needs to know the beacon interval of each link that is requested to do multi-link setup. The corresponding info could be obtained through the precedure described in 35.3.4.6 (Frame exchange sequences during MLO discovery and multi-link setup).  |
| 15056 | 35.3.12.6 | 542.13 | It is better to change the statement "field is not changed after successful". | field remains unchanged after successful | Revised –Agree in principle. TGbe editor: Please replace cited text with “field remains unchanged after successful”. |
| 16603 | 35.3.12.6 | 543.09 | Replace "enter in power save mode" to "enter to power save mode" in the following sentence:" After the successful multi-link setup, non-AP STA 2 and non-AP STA 3 enter in power save mode." | As in comment | Revised-Agree in principle although the use of “to” is incorrect. Apply the changes marked as #16603 in this document.Note: Changes are shown in doc. |
| 16604 | 35.3.12.6 | 543.10 | Replace "enters power save mode" to "enters to power save mode" in the following sentence:" A little later, non-AP STA 1 enters power save mode (i.e., signals PM = 1)." | As in comment | Rejected-The original text is grammatically correct. The proposed change would make it grammatically incorrect. |
| 17962 | 35.3.12.6 | 543.13 | The restriction is 'a non-AP STA affiliated with the non-AP MLD is required to wake up to receive at least one Beacon frame before T2 where T2 = T1 + 250 ms''.But in the example,non-AP STA3 is required to wake up at T1+280ms,which is larger than T1+250msï¼same issue in the next example. | as the comment | Rejected-The comment fails to identify a technical issue and appears to be based on a misinterpretation of the text. The starting time is not the first beacon transmission time, it starts at the time slot of buffering the traffic, referring to the first dash arrow. |
| 16605 | 35.3.12.6 | 544.02 | Replace "enters in power save mode" to "enters to power save mode" in the following sentence:" After the successful multi-link setup, non-AP STA 3 enters in power save mode." | As in comment |  Revised-Agree in principle, although the use of “to” is incorrect. Apply the changes marked as #16605 in this document. |
| 16606 | 35.3.12.6 | 544.02 | Replace "enters power save mode" to "enters to power save mode" in the following sentence:" A little later, non-AP STA 2 enters power save mode (i.e., signal PM = 1)." | As in comment | Rejected-The original text is grammatically correct. The proposed change would make it grammatically incorrect. |

**Discussion:** None.

**35.3.12.6 Operation for MLD listen interval**

During multi-link (re)setup, the value carried in the (16828) Listen Interval field in the (Re)Association Request frame sent by a non-AP STA affiliated with a non-AP MLD to an AP affiliated with an AP MLD is requested at the MLD level. The value of the Listen Interval field shall be in units of the maximum value of beacon intervals corresponding to the links that the non-AP MLD intends to setup in the (Re)Association Request frame (see 9.4.1.6 (Listen Interval field)). The AP affiliated with the AP MLD may reject the multi-link (re)setup because the listen interval requested by the non-AP MLD is too large. After successful multi-link (re)setup, the AP MLD shall use the listen interval in determining the lifetime of frames that it buffers for the non-AP MLD.

NOTE—The value of the Listen Interval field remains unchanged (#15056) after successful multi-link (re)setup.

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In this example, AP MLD has three affiliated APs: AP 1 operates on link 1, AP 2 operates on link 2, and AP 3 operates on link 3. The beacon intervals of link 1, link 2, and link 3 are 250 ms, 200 ms, and 70 ms, respectively. Non-AP STA 1 affiliated with the non-AP MLD sends an Association Request frame to AP 1 affiliated with the AP MLD. The non-AP STA 1 requests three links to be setup (link 1 between AP 1 and non-AP STA 1, link 2 between AP 2 and non-AP STA 2, and link 3 between AP 3 and non-AP STA 3) and set the value of Listen Interval field carried in the Association Request frame to 1 and the value of Listen Interval field in units of 250 ms. Therefore, the listen interval requested by the non-AP MLD is 250 ms. AP 1 affiliated with the AP MLD accepts the three links for this multi-link setup (link 1 between AP 1 and non-AP STA 1, link 2 between AP 2 and non-AP STA 2, and link 3 between AP 3 and non-AP STA 3) by sending an Association Response frame to non-AP STA 1 affiliated with the non-AP MLD. After the successful multi-link setup, non-AP STA 2 and non-AP STA 3 enter (#16603) power save mode. A little later, non-AP STA 1 enters power save mode (i.e., signals PM = 1). In this case, the AP MLD shall buffer the DL BUs to the non-AP MLD at least for 250 ms. At T1, the non-AP STA 1 receives a Beacon frame on link 1, then a non-AP STA affiliated with the non-AP MLD is required to wake up to receive at least one Beacon frame before T2 where T2 = T1 + 250 ms, for example, the non-AP STA 1 receives the second Beacon frame on link 1 (at T1 + 250 ms), or the non-AP STA 2 receives the second Beacon frame on link 2 (at T1 + 200 ms), or the non-AP STA 3 receives the fourth Beacon frame on link 3 (at T1 + 280 ms). The figure was simplified to show the first Beacon frames on all links as aligned. In real deployment, the first TBTTs on all links may not be aligned.

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In this example, AP MLD has three affiliated APs: AP 1 operates on link 1, AP 2 operates on link 2, and AP 3 operates on link 3. The beacon intervals of link 1, link 2, and link 3 are 250 ms, 200 ms, and 70 ms, respectively. Non-AP STA 2 affiliated with the non-AP MLD sends an Association Request frame to AP 2 affiliated with the AP MLD. The non-AP STA 2 requests three links to be setup (link 1 between AP 1 and non-AP STA 1, link 2 between AP 2 and non-AP STA 2, and link 3 between AP 3 and non-AP STA 3) and sets the value of Listen Interval field carried in the Association Request frame to 1 and the value of Listen Interval field in units of 250 ms. AP 2 affiliated with the AP MLD accepts the two links for this multi-link setup (link 2 between AP 2 and non-AP STA 2, and link 3 between AP 3 and non-AP STA 3) by sending an Association Response frame to non-AP STA 2 affiliated with the non-AP MLD, the listen interval requested by the non-AP MLD is still 250 ms and it is not changed along with the accepted links in the multi-link setup procedure. After the successful multi-link setup, non-AP STA 3 enters (#16605) power save mode. A little later, non-AP STA 2 enters power save mode (i.e., signal PM = 1). In this case, the AP MLD shall buffer the DL BUs to the non-AP MLD at least for 250 ms. At T1, the non-AP STA 2 receives a Beacon frame on link 2, then either non-AP STA 2 or non-AP STA 3 is required to wake up to receive at least one Beacon frame before T2 where T2 = T1 + 250 ms, for example, the non-AP STA 2 receives the second Beacon frame on link 2 (which occurs at T1 + 200 ms in this example) or the non-AP STA 3 receives the fourth Beacon frame on link 3 (which occurs at T1 + 280 ms). The figure was simplified to show the first Beacon frames on all links as aligned. In real deployment, the first TBTTs on all links may not be aligned.