IEEE P802.11
Wireless LANs

|  |
| --- |
| LB271 CR for TWT Info Frame |
| Date: 2023-03-08 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Ming Gan | HuaweiHuawei |  |  | ming.gan@huawei.com |
| Jason Yuchen Guo |  |  |  |
| Yunbo Li | Huawei |  |  |  |
| Guogang Huang | Huawei |  |  |  |
| Zhi Mao | Huawei |  |  |  |
| Lan Peng | Huawei |  |  |  |
| Hongjia Su | Huawei |  |  |  |
| Michanel Montemurro | Huawei |  |  |  |
| Stephen McCann | Huawei |  |  |  |
| Edward Au | Huawei |  |  |  |
| Osama Aboul-Magd | Huawei |  |  |  |

Abstract

This submission proposes resolutions of comments received from TGbe comment collection LB266 based on TGbe D3.0.

16200 16201 16998 17847 (4 CIDs)

Revisions:

* Rev 0: Initial version of the document.
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.***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page** | **Comment** | **Proposed Change** | **Resolution** |
| 16200 | 35.3.24.2 | 586.23 | According to current 802.11 specification, while the TWT Information frame can be used for suspending and resuming all the broadcast TWT schedules followed by a broadcast TWT scheduled STA, the TWT Information frame cannot be used for suspending or resuming broadcast TWT SPs on a per-schedule basis. In 802.11be, with the inclusion of restricted TWT schedule, which is a variant of broadcast TWT schedule, it would be important to better manage the broadcast TWT schedules/restricted TWT schedules and hence, a mechanism is needed to suspend and resume particular broadcast/restricted TWT schedules while maintaining the others. | Please add procedures and mechanisms to enable suspension/resumption of TWT schedules on a per-schedule basis. | Revised-Agree with the comment in principle. Use of TWT Information frames in multi-link operation is added. Apply the changes marked as #16200 in this document. |
| 16201 | 35.3.24.2 | 586.23 | 802.11be should allowTWT Information frame to control available links of the MLTWT flows. For instance, a STA that has TWT flow operating in links 1 and 2 should be able to temporarily suspend TWT Flow on link2. | Please add rules for TWT Information frame use when a STA has TWT Flow operating on multiple links. Please allow STA to suspend or resume a set of links/ all links by using TWT Information frame. | Revised-Agree with the comment in principle. Use of TWT Information frames in multi-link operation is added. Apply the changes marked as #16201 in this document. |
| 16998 | 35.3.24.2 | 585.16 | "Between an AP MLD and a non-AP MLD associated with the AP MLD, if an individually addressed TWTinformation frame for individual TWT, which is intended for one STA affiliated with the associated MLDwith a setup link, is transmitted to another STA affiliated with the associated MLD with a setup link and anacknowledgement in response to the TWT information frame is received, then the STA" should be "Between an AP MLD and a non-AP MLD associated with the AP MLD, if an individually addressed TWTinformation frame for individual TWT that is intended for one STA affiliated with the associated MLDwith a setup link is transmitted to another STA affiliated with the associated MLD with a setup link and anacknowledgement in response to the TWT information frame is received, the STA" | As it says in the comment. Ditto for paras at line 27 and 39 and 47 | Revised-Agree with the comment in principle. Use of TWT Information frames in multi-link operation is added. Apply the changes marked as #16998 in this document.  |
| 17847 | 35.3.24.2 | 586.23 | Currently, TWT Information frame cannot operate on an MLD level. A multi-link device (MLD) may want to suspend TWT schedules on multiple links to save power. Same argument for schedule resumption. There should be a way to indicate for which link(s) among the multiple links between the AP MLD and the non-AP MLD the TWT Information frame is intended. | Please provide text to enhance functionality of TWT Information frame to indicate multiple intended links. | Revised-Agree with the comment in principle. Use of TWT Information frames in multi-link operation is added. Apply the changes marked as #17847 in this document. |

**Discussion:** None.

**35.3.24.5 Use of TWT Information frames in multi-link operation (#**16200 16201 16998 17847**)**

A STA affiliated with an MLD may transmit a TWT Information frame with MLO Link Information element to its peer STA affiliated with another MLD to suspend and/or resume existing individual TWT agreements as described in 26.8.4.2 (TWT Information frame exchange for individual TWT) except that existing individual TWT agreements are setup for the link indicated by the Link ID Bitmap subfield of MLO Link Information element and the Next TWT subfield (if present) is in reference to the TSF of the link indicated by the Link ID Bitmap subfield.

A STA affiliated with an MLD may transmit a TWT Information frame with MLO Link Information element to its peer STA affiliated with another MLD to suspend and/or resume existing broadcast TWT schedules as described in 26.8.4.3 (TWT Information frame exchange for broadcast TWT) except that existing broadcast TWT schedules are setup for the link indicated by the Link ID Bitmap subfield of MLO Link Information element and the Next TWT subfield (if present) is in reference to the TSF of the link indicated by the Link ID Bitmap subfield.

A STA affiliated with an MLD may transmit a TWT Information frame with MLO Link Information element to its peer STA affiliated with another MLD to provide a flexible TWT that is independent of any existing TWT agreements or TWT schedules as described in 26.8.4.4 (TWT Information frame exchange for flexible wake time) except that the flexible TWT are setup for the link indicated by the Link ID Bitmap subfield of MLO Link Information element and the Next TWT subfield (if present) is in reference to the TSF of the link indicated by the Link ID Bitmap subfield.

A STA affiliated with an MLD may transmit a TWT Information frame with MLO Link Information element to its peer STA affiliated with another MLD to suspend and/or resume existing R-TWT schedules as described in 35.8.6 (TWT Information frame exchange for R-TWT) except that existing R-TWT schedules are setup for the link indicated by the Link ID Bitmap subfield of MLO Link Information element and the Next TWT subfield (if present) is in reference to the TSF of the link indicated by the Link ID Bitmap subfield.