IEEE P802.11
Wireless LANs

|  |
| --- |
| LB271 CR on BTM |
| Date: 2023.04.20 |
| Author(s): |
| Name | Company | Address | Phone | email |
| Guogang Huang | Huawei Technologies | F3-6-A124, Huawei Base, Bantian, Longgang, Shenzhen, Guangdong, China, 518129 |  | huangguogang1@huawei.com |
| Yuchen Guo |  |  |  |
| Yunbo Li |  |  |  |
| Yousi Lin |  |  |  |
| Ming Gan |  |  |  |

Abstract

This submission contains proposed comment resolutions to comments on P802.11be D3.0. The following 10 CIDs are resolved:

15960 17764 18256 17765 17766 17767 17768 17769 17910 18105

Revisions:

- Rev 0: Initial version of the document.

- Rev 1: Defer CID 17765, 17766, 18105 and update resolution for CID 17769.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | Clause | Page.Line | Comment | **Proposed Change** | **Resolution** |
| 15960 | Binita Gupta | 9.6.13.9 | 310.60 | The text for 'BSS Termination Included' field need to clarify that when this bit is set to 1 it indicates that BSS Termination Duration field is included and when set to 0 it indicates that no BSS Termination Duration is included (as was captured in removed text). Also clarify that the behavior in sub bullets are applicable only when this field is set to 1. | Revise the description of 'BSS Termination Included' field to indicate missing aspect as per comment. | RevisedAgree with the comment. The description is revised to respectively clarify the meaning when the BSS Termination Included bit is equal to 0 and the meaning when he BSS Termination Included bit is equal to 1. TGbe editor, please make changes as shown in doc 11-23/ 693r1 tagged as 15960 |
| 17764 | Brian Hart | 9.6.13.9 | 310.61 | "indicates A nad indicates B" isn't wrong but could be improved | Try "The BSS Termination Included (bit 3) field indicates whether the BSS Termination Duration field is included and further indicates the following: | RevisedAgree in principle. The description is revised. TGbe editor, please make changes as shown in doc 11-23/ 693r1 tagged as 15960 |
| 18256 | Li-Hsiang Sun | 9.6.13.9 | 310.60 | "The BSS Termination Included (bit 3) field indicates whether the BSS Termination Duration field is included and indicates the following" | change to "The BSS Termination Included (bit 3) field indicates whether the BSS Termination Duration field is included and indicates the following when set to 1" | RevisedAgree in principle. The description is revised. TGbe editor, please make changes as shown in doc 11-23/ 693r1 tagged as 15960 |
| 17765 | Brian Hart | 9.6.13.9 | 311.01 | Probably unintendedly ambiguous antecedent (It => "AP MLD") | Try "..., the BSS Termination Included indicates ..." ditto L4, L9, L12 | RevisedAgree in principle. Replace “it” with “the value 1 in the BSS Termination Included field”TGbe editor, please make changes as shown in doc 11-23/ 693r1 tagged as 17765 |
| 17766 | Brian Hart | 9.6.13.9 | 311.26 | Probably unintendedly ambiguous antecedent (It => "one affiliated AP") | Change "it" to "the AP MLD" at L26, 30. Similarly, change "it" at L31 to "the receiving STA" | 693r1Accepted |
| 17767 | Brian Hart | 9.6.13.9 | 311.44 | "remains" should be "remain" | As in comment | Accepted |
| 17768 | Brian Hart | 9.6.13.9 | 311.60 | "this ,,, this" seems over the top. This is a new para, so normally we start afresh from "a STA" etc etc | Streamline all the "this"s in this para. Do they actgually refer back to something earlier, or should this para start from a clean sheet? | RevisedAgree in principle. Replace “this” with “the”. In addition, make some editorial changes.TGbe editor, please make changes as shown in doc 11-23/ 693r1 tagged as 17768 |
| 17769 | Brian Hart | 9.6.13.10 | 312.43 | "that ... transitions to" was ugly and just got worse | Try "The Target BSSID field is the BSSID of the BSS to which the non-AP STA or non-AP MLD transitions or the MLD MAC address of the AP MLD to which the non-AP MLD transitions" | 693r1Accepted |
| 17910 | Kazuto Yano | 9.6.13.10 | 312.54 | At the end of this sentence, one closing parenthesis and period are missing. | As in comment. | Accepted |
| 18105 | Abhishek Patil | 9.6.13.9 | 310.30 | The bit is used to signal link removal or AP disablement. Rename the field to capture both intentions. | Rename the "Link Removal Imminent" field to "Link Removal or Disablement Imminent" | RevisedAgree in principle. Change the name “Link Removal Imminent” to “Link Removal or Disablement Imminent”. And revise the condition when this field is reservedTGbe editor, please make changes as shown in doc 11-23/ 693r1 tagged as 18105 |

9.6.13.9 **BSS Transition Management Request frame format**

Change the first paragraph as follows:

The BSS Transition Management Request frame is transmitted by an AP or an AP affiliated with an AP MLD in response to a BSS Transition Management Query frame, or autonomously. The format of the BSS Transition Management Request frame Action field is shown in Figure 9-1152 (BSS Transition Management Request frame Action field format).

Change the fourth, fifth and sixth paragraphs, including [Figure 9-1153 (Request Mode field](#bookmark263) [format)](#bookmark263), as follows:

The Dialog Token field is defined in 9.4.1.12 (Dialog Token field). It is the nonzero value received in the BSS Transition Management Query frame if the BSS Transition Management Request frame is being trans- mitted in response to a BSS Transition Management Query frame. If the BSS Transition Management Request frame is being transmitted other than in response to a BSS Transition Management Query frame, then the Dialog Token field is a nonzero value chosen by the AP or AP MLD sending the BSS Transition Management Request frame to identify the request/response transaction.

The Request Mode field is defined in [Figure 9-1153 (Request Mode field format)](#bookmark263).

B0 B1 B2 B3 B4 B5 ~~B5~~B6 B7

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Preferred Candidate List Included | Abridged | Disassociation Imminent | BSSTermination Included | ESSDisassociation Imminent | (#18105)Link Removal Or Disablement Imminent | Reserved |

Bits: 1 1 1 1 1 1 ~~3~~2

**Figure 9-1153—Request Mode field format**

* The Preferred Candidate List Included (bit 0) field indicates whether the BSS transition candidate list included in this frame is a preferred candidate list or a list of known BSS transition candidates. The Preferred Candidate List Included bit (#17768)equal to 0 indicates that the receiving STA or non-AP MLD can ignore the BSS Transition Candidate List Entries field (see 11.21.7.3 (BSS transition management request)). The Preferred Candidate List Included bit (#17768)equal to 1 indicates that the sender expects the receiving STA or non-AP MLD to process this frame.
* The Abridged (bit 1) field indicates to the recipient of the frame the intended treatment of all BSSIDs or AP MLDs not listed in the BSS Transition Candidate List Entries field. The AP or AP MLD sets the Abridged bit in the Request Mode field to 1 when a preference value of 0 is assigned to all BSSIDs or AP MLDs that do not appear in the BSS Transition Candidate List. The AP or AP MLD sets the Abridged bit in the Request Mode field to 0 when the AP or AP MLD has no recommendation for or against any BSSID or AP MLD not present in the BSS Transition Candidate List Entries field.
* The Disassociation Imminent (bit 2) field indicates whether the STA or the non-AP MLD will be disassociated from the current AP or AP MLD. The value 1 in the Disassociation Imminent bit in the Request Mode field indicates that the STA or the non-AP MLD is to be disassociated from the cur- rent AP or AP MLD, while the value 0 indicates that disassociation from the AP or AP MLD is not imminent.
* The BSS Termination Included (bit 3) field indicates whether the BSS Termination Duration field is included(#15960). The value 0 in the BSS Termination Included field in the Request Mode field indicates that no BSS termination duration information is included in the BSS Transition Management Request frame, while the value 1 indicates that BSS termination duration information is included and the following applies:~~, the BSS is shutting down and the STA will be disassociated.~~ ~~The AP sets the BSS Termination Included bit in the Request Mode field to 1 to indicate that the~~ ~~BSS is shutting down. The BSS Termination Included bit is 0 if no BSS Termination Duration information is included in the BSS Transition Management Request frame.~~
	+ For an AP that is not affiliated with an AP MLD, (#17765)the value 1 in the BSS Termination Included field indicates that the corresponding BSS is shutting down and that the STA associated with the AP will be disassociated.
	+ For an AP MLD that operates with only one affiliated AP, (#17765)the value 1 in the BSS Termination Included field indicates that the AP MLD and the BSS are shutting down and that the STA and the non-AP MLD associated with the AP MLD or the corresponding affiliated AP will be disassociated.
	+ For an AP MLD that operates with more than one affiliated AP,
		- If the Link Removal (#18105)Or Disablement Imminent field in the Request Mode field is equal to 0, (#17765)the value 1 in the BSS Termination Included field indicates that the AP MLD and all its BSSs are shutting down and that the STA associated with any affiliated AP and the non-AP MLD associated with the AP MLD will be disassociated.
		- If the Link Removal (#18105)Or Disablement Imminent field in the Request Mode field is equal to 1, (#17765)the value 1 in the BSS Termination Included field indicates that the BSS whose AP transmits this BSS Transition Management Request frame is shutting down, the STA associated with the AP or the non-AP MLD that has set up only this link will be disassociated and the non-AP MLD that has set up more than this link remains associated to the AP MLD with the remaining setup link(s).
* The ESS Disassociation Imminent (bit 4) field indicates that the Session Information URL field is included, and that the STA or non-AP MLD will be disassociated from the ESS. The value 1 in the ESS Disassociation Imminent bit in the Request Mode field indicates that the STA or the non-AP MLD is to be disassociated from the ESS, while the value 0 indicates that disassociation from the ESS is not imminent. When the ESS Disassociation Imminent bit value is (#17768)equal to 1, a Session Information URL field is included in the BSS Transition Management Request frame.
* For an AP MLD that operates with more than one affiliated AP, (#17766)the AP MLD sets the Link Removal (#18105)Or Disablement Imminent field (bit 5) to 1 to limit the scope of the BSS termination to the link on which the request is being transmitted if the BSS Termination Included field (bit 3) is set to 1 (see 35.3.6.2.2 (Removing affiliated APs)) (#18105)or to indicate the link on which the request is being transmitted will be disabled (see 35.3.7.1.7 (Advertised TID-to-link mapping in Beacon and Probe Response frames)) if the BSS Termination Included field (bit 3) is equal to 0, and otherwise, (#17766)the AP MLD sets the Link Removal Or Disablement Imminent field to 0. If a receiving STA is not affiliated with a non-AP MLD, (#17766)the receiving STA will ignore the Link Removal (#18105)Or Disablement Imminent (bit 5) field. When the Link Removal (#18105)Or Disablement Imminent (bit 5) field is equal to 1,
	+ If a receiving STA is affiliated with a non-AP MLD that has set up only this link, then the non- AP MLD will be disassociated (see 35.3.6.2.2 (Removing affiliated APs)).
	+ If a receiving STA is affiliated with a non-AP MLD that has set up more than this link, and the AP MLD is announcing that the AP will be removed according to procedures defined in 35.3.6.2.2 (Removing affiliated APs), then the non-AP MLD is still associated to the AP MLD with the remaining setup link(s).
	+ If a receiving STA is affiliated with a non-AP MLD that has set up more than this link, and the AP MLD is advertising that the AP link will be disabled for all associated non-AP MLDs according to procedures defined in 35.3.7.1.7 (Advertised TID-to-link mapping in Beacon and Probe Response frames), then the non-AP MLD may ignore the BTM request and (#17767)remain associated to the AP MLD on all currently setup link(s) while the link is disabled and re-enabled in a future time.

The Link Removal (#18105)Or Disablement Imminent (bit 5) field is reserved if one of the following conditions is met:

* + ~~when the~~The transmitting AP is not affiliated with an AP MLD.
	+ The transmitting AP is affiliated with an AP MLD that operates with only one affiliated AP.~~or~~ ~~when the BSS Termination Included field is zero, and is ignored by a receiving STA that is not~~ ~~affiliated with a non-AP MLD or when the BSS Termination Included field is zero. The field is~~ ~~set to 1 to limit the scope of the BSS termination to the link on which the request is being trans-~~ ~~mitted, and is set to 0 otherwise.~~
	+ The BSS Termination Included field is set to zero.

(#17768)The Disassociation Timer indicates the time after which the AP ~~issues~~sends a Disassociation frame to the STA or the AP affiliated with the AP MLD sends a Disassociation frame to the non-AP STA affiliated with this non-AP MLD. The Disassociation Timer field contains the number of beacon transmission times (TBTTs) until the AP sends a Disassociation frame to the STA or the AP affiliated with the AP MLD sends a Disassociation frame to the non-AP STA affiliated with the non-AP MLD. Setting the field to 0 indicates that the AP has not determined when it will send a Disassociation frame to this STA or the AP affiliated with the AP MLD has not determined when it will send a Disassociation frame to the non-AP STA affiliated with the non-AP MLD. If the Disassociation Imminent field is (#17768)equal to 0, the Disassociation Timer field is reserved. The format of the Disassociation Timer field is shown in Figure 9-1154 (Disassociation Timer field format).

Change the eighth paragraph as follows:

The BSS Termination Duration field contains the BSS Termination Duration subelement (see [9.4.2.36](#bookmark123) [(Neighbor Report element)](#bookmark123)) for the current BSS or AP MLD and is present only when the BSS Termination Included field is (#17768)equal to 1 in the Request Mode field.

**9.6.13.10 BSS Transition Management Response frame format**

Change the first paragraph as follows:

The BSS Transition Management Response frame is optionally transmitted by a STA or a non-AP STA affiliated with a non-AP MLD in response to a BSS Transition Management Request frame. The format of the BSS Transition Management Response frame Action field is shown in Figure 9-1156 (BSS Transition Management Response frame Action field format).

Change the fifth to eighth paragraphs as follows:

The BTM Status Code field contains the status code in response to a BSS Transition Management Request frame as defined in Table 9-511 (BTM status code definitions). If the STA or non-AP MLD will transition to another BSS or the non-AP MLD will transition to another AP MLD, then the status code is (#17768)set to 0 (i.e., Accept). If the STA or non-AP MLD intends to retain the association with the current BSS or AP MLD, the status code is (#17768)set to one of the “Reject” status codes.

NOTE—For a non-AP MLD, it can transition from the current AP MLD to either another AP MLD or another AP that is not affiliated with an AP MLD.

The BSS Termination Delay field is the number of minutes that the responding STA or non-AP MLD requests the BSS or AP MLD to delay termination. This field is reserved if the Status code field value is not (#17768)equal to 5.

(#17769)The Target BSSID field is the BSSID of the BSS to which the non-AP STA or non-AP MLD transitions or the MLD MAC address of the AP MLD to which the non-AP MLD transitions. This field is present if the Status code subfield contains 0, and not present otherwise.

The BSS Transition Candidate List Entries field contains zero or more Neighbor Report elements described in [9.4.2.36 (Neighbor Report element)](#bookmark123). The Neighbor Report elements are collected by the STA or non-AP MLD as part of its scanning procedures and provided to the AP or AP MLD as described in 11.21.7.4 (BSS transition management response) and 35.3.23 (BSS transition management for MLDs). The length of the BSS Transition Candidate List Entries field in a BSS Transition Management Response frame is limited by the maximum MMPDU size (see 9.3.3.1 (Format of (PV0) Management frames)).(#17910)