IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| LB271 CR for Some CIDs | | | | |
| Date: 2023-06-08 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Ming Gan | Huawei  Huawei |  |  | ming.gan@huawei.com |
| Jason Yuchen Guo |  |  |  |
| Yunbo Li | Huawei |  |  |  |
| Guogang Huang | Huawei |  |  |  |
| Zhi Mao | Huawei |  |  |  |
| Lan Peng | Huawei |  |  |  |
| Hongjia Su | Huawei |  |  |  |
| Yue Zhao | Huawei |  |  |  |
| Zhenguo Du | Huawei |  |  |  |
| Qi Wang | Huawei |  |  |  |

Abstract

This submission proposes resolutions of comments received from TGbe comment collection LB271 based on TGbe D3.2.

15474 17352 15880 15881 18177 18178 18179 18180 18181 (9 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** |
| 15474 | 9.6.24.8 | 316.44 | The number of TWT element in the TWT Setup frame Action field transmitted by a MLD should be specified. | Adding a subfield to indicate the number of TWT element in the TWT Setup frame; or adding a bit in the TWT element to indicate wethere it is the last TWT element in the TWT Setup frame, then the number of the TWT elements in a TWT Setup frame can be determined. | Rejected-  The comment fails to identify the technical issue. There is no motivation to add an additional field to indicate if it is the last TWT element in the TWT Setup frame. |
| 17352 | 10.8 | 348.07 | MIB variable enablement for SRS, AAR etc are missing in this list. Suggest adding them. | As in comment. | Revised-  Agree in principle. Apply the changes marked as #17532 in this document. |
| 15880 | 35.3.16.8.2 | 561.58 | "existing transmission" wasn't mentioned earlier. | Change to: with other transmissions. | Revised-  Agree with the comment. The corresponding issue has been addressed by the resolution of CID 16910 in 23/0386r1.   Incorporate the changes as shown in CID 16910 in 23/0386r1.  Note to the TGbe Editor, there is no further change for this CID. |
| 15881 | 35.3.16.8.2 | 562.02 | Why "shall" transmit here? The non-AP STA may choose not (impl specific). | Change to "may". | Rejected-  The comment fails to identify the technical issue. This requirement is triggered by the condition after "if". |
| 18177 | 35.3.24 | 583.62 | The statement is written in a broad manner (STA affiliated with an MLD) to suggest that BTM feature is mandatory for an AP MLD and a non-AP MLD. However, clause 11.21.7.1 states that BTM is mandatory for a non-AP HE STA and therefore, by virtue of inheritance, mandatory for a non-AP EHT STA. The clause 11.21.7.1 does not say BTM is mandatory for an (HE/EHT) AP. | Replace 'has' with 'shall have' | Accepted- |
| 18178 | 35.3.24 | 584.21 | Can a non-AP MLD request ML setup with the recommended AP MLD for larger set of links than what is specified in the BTM Request but request via T2LM IE in the (Re)Association Request frame the link set matching the one in the BTM Request? This should be allowed. Please clarify. | As in comment | Revised-  Agree with the comment in principle. Apply the changes marked as #18178 in this document. |
| 18179 | 35.3.24 | 584.35 | Why would an AP include multiple Neighbor Report element all recommending the same AP MLD and same set of links? Such behavior will create a bloated frame with no benefit. AP should be disallowed to advertise more than one NR IE if the recommendation (AP MLD and its affiliated AP's) is the same. The 2nd case is OK since the preferences are different. | As in comment | Revised-  Agree with the comment in principle. Apply the changes marked as #18179 in this document. |
| 18180 | 35.3.24 | 584.53 | BTM procedure is applicable to T2LM link disablement case as well. In addition to 35.3.6.2.2, add reference to 35.3.7.3.2 as well | As in comment | Revised-  Agree with the comment in principle. Apply the changes marked as #18180 in this document. |
| 18181 | 35.3.24 | 584.56 | Clarify that the AP MLD does not disassociate a non-AP MLD if the requested mapping matches the link set specified in the AP's BTM Request. | As in comment | Revised-  Agree with the comment in principle. Apply the changes marked as #18181 in this document. |

**Discussion:** None.

***TGbe Editor: please modify the following paragraphs***

**9.6.13.9 BSS Transition Management Request frame format (#18178)**

Change the fourth, fifth and sixth paragraphs, including Figure 9-1152 (Request Mode field format), 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 trans­mitted 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 9-1152 (Request Mode field format).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | B0 | B1 | B2 | B3 | B4 | B5 | B6 B7 |
|  | Preferred Candidate List Included | Abridged | Disassociation Imminent | BSS Termination Included | ESS Disassociation Imminent | Link Removal Imminent | Reserved |
| Bits**:** | 1 | 1 | 1 | 1 | 1 | 1 | 2 |

**Figure 9-1152—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)setequal 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)setequal 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, or an AP affiliated with an AP MLD not listed in the BSS Transition Candidate List Entries field when the AP MLD provides a preference for a reported AP MLD with only a subset of recommended affiliated APs 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 or the AP affiliated with the AP MLD not listed in the BSS Transition Candidate List Entries field when the AP MLD provides a preference for a reported AP MLD with only a subset of recommended affiliated APs in the BSS Transition Candidate List Entries field. 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, or the AP affiliated with the AP MLD not listed in the BSS Transition Candidate List Entries field when the AP MLD provides a preference for a reported AP MLD with only a subset of recommended affiliated APs in the BSS Transition Candidate List Entries field.

**35.3.23 BSS transition management for MLDs**

A STA affiliated with an MLD has dot11BSSTransitionActivated equal to true (see 11.21.7.1 (BSS transition capability)) and shall follow the procedure define in 11.21.7 (BSS transition management for network load balancing), except that:—The procedure is applied between the SMEs of an AP MLD and a non-AP MLD and not between the SMEs of an AP affiliated with an AP MLD and a non-AP STA affiliated with a non-AP MLD.

—If the Neighbor Report element that is carried in the BSS Transition Candidate List Entries field of a BSS Transition Management Query/Request or Response frame includes a Basic Multi-Link element, it describes the preference for a target AP MLD candidate and not for a target BSS candidate, otherwise it describes the preference for a target BSS candidate.

—The Preference field value of a Neighbor Report element that includes a Basic Multi-Link element describing an AP MLD provides the indication of preference for the given AP MLD, within the given list at the given time.

—If an AP MLD intends to provide a (#) preference for a reported AP MLD without recommendations about (#) specific affiliated APs, it shall:

•include a Neighbor Report element for one of the APs affiliated with the AP MLD, and include a Basic Multi-Link element in the Neighbor Report.

•set to 0 all subfields of the Presence Bitmap subfield.

•not include any Per-STA Profile subelement in the Basic Multi-Link element.

—If an AP MLD intends to provide a (#) preference for a reported AP MLD with only a subset of recommended affiliated APs, it shall:

•include a Neighbor Report element for one of the recommended APs affiliated with the AP MLD, and include a Basic Multi-Link element in the Neighbor Report element of this reported AP.

•include a Link ID Info field in the Common Info field of the Basic Multi-Link element with the field value set to that corresponding to the AP reported in the Neighbor Report element.

•set to 0 all subfields of the Presence Bitmap subfield of the Basic Multi-Link element included in the Neighbor Report element of the reported AP except the Link ID Info Present subfield.

•include in the Basic Multi-Link element (#) in the Neighbor Report element of the reported AP a Per-STA Profile subfield only for each of the other recommended affiliated APs (if any), and with all the fields set to 0 in the STA Control field, except the Link ID field.

•(#18179) If multiple Neighbor Report elements are used to report the same AP MLD with a (#) different recom­mended subset of affiliated APs, the Preference field value in these elements may be different.

* —When an AP affiliated with an AP MLD transmits a BSS Transition Management Request frame with the Link Removal Imminent subfield equal to 0 and the Disassociation Imminent field equal to 1 to a non-AP MLD, the Disassociation Timer field in the BSS Transition Management Request frame shall be set to 0 or set to the number of TBTTs that will occur prior to the AP MLD disassociating the non-AP MLD.
* —When an AP affiliated with an AP MLD transmits a BSS Transition Management Request frame with the Link Removal Imminent subfield equal to 0 and the BSS Termination Included field equal to 1 to a non-AP MLD, the BSS termination means that the AP MLD is shutting down, and the non-AP MLD will be disassociated from the AP MLD.

—A non-AP MLD that receives a BSS Transition Management Request frame with the Link Removal Imminent subfield equal to 1 follows the procedure defined in 35.3.6.2.2 (Removing affiliated APs) and 35.3.7.4.2 (Affiliated AP link disablement) (#18180).

NOTE—An AP MLD can use this protocol to recommend a non-AP MLD to do (re)association with the same AP MLD with a different set of links, or to initiate a TID-to-link mapping change without disassociation (#18181) if that would match the recommendation.

35.3.16.8.2 MediumSyncDelay OFDM ED based recovery procedure (***#CID 17532***)

A STA with dot11MSDOFDMEDOptionImplemented that is equal to true while the MediumSyncDelay timer has a nonzero value shall use dot11MSDOFDMEDthreshold instead of dot11OFDMEDThreshold as specified in 36.3.21.6.3 (CCA sensitivity for the primary 20 MHz channel) in order to detect a channel busy condition in the primary 20 MHz channel if the MediumSyncDelay timer has a nonzero value.

While the MediumSyncDelay timer has a nonzero value, a STA with dot11MSDOFDMEDOptionImplemented that is equal to true shall perform the following when the timer has a nonzero value:

**C.3 MIB Detail**

***Change Dot11StationConfigEntry as follows (not all lines shown): (#CID 17532)***

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

-- \* dot11StationConfig TABLE

-- \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

Dot11StationConfigEntry ::= SEQUENCE

{

dot11StationIDMacAddress,

…

dot11BSSMaxIdlePeriodIndicationByNonAPSTA,TruthValue

,

dot11EHTOptionImplemented,TruthValue,

dot11EHTTXOPSharingTFOptionImplementedTruthValue,

dot11EHTNSTRMobileAPMLDImplementedTruthValue,

dot11RestrictedTWTOptionImplementedTruthValue,

dot11TwoBQRsOptionImplementedTruthValue,

dot11SRSOptionImplementedTruthValue,

dot11AAROptionImplementedTruthValue,

dot11MSDOFDMEDOptionImplementedTruthValue

}

***Insert the following after the dot11BSSMaxIdlePeriodIndicationByNonAPSTA OBJECT-TYPE in the dot11StationConfig TABLE: (#CID 17532)***

dot11SRSOptionImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true, indicates the ability of the EHT STA to support the SRS operation. If the attribute is false, the EHT STA does not support the SRS operation."

::= { dot11StationConfigEntry <ANA> }

dot11AAROptionImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true, indicates the ability of the EHT STA to support the AAR operation. If the attribute is false, the EHT STA does not support the AAR operation."

::= { dot11StationConfigEntry <ANA> }

dot11MSDOFDMEDOptionImplemented OBJECT-TYPE

SYNTAX TruthValue

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"This is a capability variable.

Its value is determined by device capabilities.

This attribute, when true, indicates the ability of the EHT STA to support the MSDOFDMED operation. If the attribute is false, the EHT STA does not support the MSDOFDMED operation."

::= { dot11StationConfigEntry <ANA> }