IEEE P802.11
Wireless LANs

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| **TGbe LB 271 CR for 35.3.5.4****ML IE Usage and Rules for Multi-link Setup** |
| Date: 2023-05-10 |
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Abstract

This submission proposes resolutions for following 5 CIDs received for TGbe LB271:

15050, 15984, 16092, 16093, 17488

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: 4 CIDs are tagged in green and minor updates by Alfred

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. This introduction is 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 802.11 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.***

**List of CIDs**

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| **CID** | **Commenter** | **Clause** | **Page** | **Comment** | **Proposed Change** | **Resolution** |
| 15050 | Xiangxin Gu | 35.3.5.4 | 509.48 | If the link corresponding to a Per-STA Profile subelement is not accepted just because the link on which the (Re)Association Request frame is transmitted is not accepted, can REFUSED\_REASON\_UNSPECIFIED be used for the Status Code field included in the STA Profile subfield of the Per-STA Profile subelement? Please clarify. | as the comment | RejectedWe’ve discussed this topic related to the comment several times. AP may not provide any specific reason without any restriction. |
| 16092 | Insun Jang | 35.3.5.4 | 509.17 | "an (Re)Association" should be changed to "a (Re)Association" | As in the comment | RevisedThe term “an (Re)Association”s are shown three times in 35.3.5. “an” is changed to “a”.**TGbe editor, please make changes as shown in doc 11-23/0688r1 tagged as CID 16902** |
| 17488 | Brian Hart | 35.3.5.4 | 508.07 | "for each requested link" ambiguously allows the ReAssoc link to be included | Change to "for each other requested link" at L7 and L35.5 like L4.5 (consistent with L13-15) | RevisedThis comment is clearly on P509L07 and P509L35. As commented, “other” is added to be clarified.**TGbe editor, please make changes as shown in doc 11-23/0688r1 tagged as CID 17488** |
| 15984 | Binita Gupta | 35.3.5.4 | 509.35 | Correct grammar - Modify to "shall contain theLink Info field for each requested link, and the Link Info field shall contain the..." | As in comment | Revised“include” is changed to “contain”. Please note that it is better to point “for each requested link” for Per-STA Profile subelement rather than Link Info field.**TGbe editor, please make changes as shown in doc 11-23/0688r1 tagged as CID 15984** |
| 16093 | Insun Jang | 35.3.5.4 | 509.53 | This condition should be alignged with P509L33, i.e., instead of "the (Re)Association Response frame is transmitted,", it should be "the (Re)Association Request frame was transmitted" | As in the comment | Accepted |

**Proposed spec text:**

***TGbe editor: The baseline for this document is 11be D3.1***

***TGbe editor: Please modify the subclause 35.3.5.4 (Usage and rules of Basic Multi-Link element in the context of multi-link (re)setup, authentication, and FT action frame exchange between two MLDs) as follows:***

35.3.5.4 Usage and rules of Basic Multi-Link element in the context of multi-link (re)setup, authentication, and FT action frame exchange between two MLDs

A non-AP STA affiliated with a non-AP MLD that initiates a multi-link (re)setup with an AP MLD shall include a Basic Multi-Link element in (#16092)a (Re)Association Request frame it transmits.

NOTE 1—When a (Re)Association Request frame is sent from a non-AP EHT STA with dot11MultiLinkActivated set to false, the Basic Multi-Link element is not carried in the (Re)Association Request frame (see Table 9-62 (Association Request frame body), Table 9-64 (Reassociation Request frame body), and 35.3.1 (General)).

The Basic Multi-Link element carried in the (Re)Association Request frame shall include the Common Info field and may include the Link Info field.

NOTE 2—The conditions for the presence of subfields in the Common Info field are defined in 9.4.2.312.2.3 (Common Info field of the Basic Multi-Link element).

If there is other requested link(s) in addition to the link on which the (Re)Association Request frame is transmitted, the Basic Multi-Link element carried in the (Re)Association Request frame shall (#15984)contain the Link Info field, and for (#17488)each other requested link, the Link Info field shall contain the corresponding Per-STA Profile subelement(s). For each Per-STA Profile subelement included in the Link Info field, the Complete Profile subfield of the STA Control field shall be set to 1 (see 35.3.3.3 (Advertisement of complete or partial per-link information)).

If there is no other requested link in addition to the link on which the (Re)Association Request frame is transmitted, the Basic Multi-Link element carried in the (Re)Association Request frame shall not include the Link Info field.

The AP that is affiliated with the AP MLD and that responds to (#16092)a (Re)Association Request frame that carries a Basic Multi-Link element shall include a Basic Multi-Link element in the (Re)Association Response frame that it transmits.

NOTE 3—When a (Re)Association Response frame is sent to a non-AP EHT STA with dot11MultiLinkActivated set to false, the Basic Multi-Link element is not carried in the (Re)Association Response frame (see Table 9-63 (Association Response frame body), Table 9-65 (Reassociation Response frame body), and 35.3.1 (General)).

The Basic Multi-Link element carried in the (Re)Association Response frame shall include the Common Info field and may include the Link Info field.

NOTE 4—The conditions for the presence of subfields in the Common Info field are defined in 9.4.2.312.2.3 (Common Info field of the Basic Multi-Link element).

If there is other requested link(s) in addition to the link on which the (Re)Association Request frame was transmitted, the Basic Multi-Link element carried in the (Re)Association Response frame shall contain the Link Info field, and for (#17488)each other requested link, the Link Info field shall contain the corresponding Per-STA Profile subelement(s).

For each Per-STA Profile subelement included in the Link Info field, the Complete Profile subfield of the STA Control field shall be set to 1 (see 35.3.3.3 (Advertisement of complete or partial per-link information)) and the Status Code field included in the STA Profile subfield of the Per-STA Profile subelement shall indicate SUCCESS if the link is accepted or the failure cause if the link is not accepted. The Status Code field in the (Re)Association Response frame body shall indicate, as defined in 9.4.1.9 (Status Code field), whether the link on which the (Re)Association Request frame is received is accepted or not. The Status Code field included in the STA Profile subfield of the Per-STA Profile subelement shall indicate (#16789)DENIED\_LINK\_ON\_WHICH\_THE\_(Re)ASSOCIATION\_REQUEST\_FRAME\_IS\_TRANSMITTED\_NOT\_ACCEPTED if the Status Code is not set to REFUSED\_REASON\_UNSPECIFIED and the link corresponding to the Per-STA Profile subelement is not accepted only because the link on which the (Re)Association Request frame is transmitted is not accepted.

If there is no other requested link in addition to the link on which the (Re)Association (#16093)Request frame was transmitted, the Basic Multi-Link element carried in the (Re)Association Response frame shall not include the Link Info field.

A STA affiliated with an MLD shall include a Basic Multi-Link element in an Authentication frame or FT action frame that it transmits with the following rules:

—the STA shall include the MLD MAC address of the MLD with which the STA is affiliated in the Common Info field of the element

—the STA shall set all subfields in the Presence Bitmap subfield of the Multi-Link Control field of the element to 0

—the STA shall not include the Link Info field of the element.

***TGbe editor: Please modify the subclause 35.3.5.1 (Multi-link (re)setup procedure) as follows:***

35.3.5.1 Multi-link (re)setup procedure

A non-AP MLD may initiate a multi-link setup with an AP MLD to (re)set up one or more links with AP(s) affiliated with the AP MLD. When a non-AP MLD initiates a multi-link (re)setup with an AP MLD, a STA that is affiliated with the non-AP MLD shall transmit (#16092)a (Re)Association Request frame on the link that it desires to use as part of the multi-link (re)setup.