IEEE P802.11
Wireless LANs

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| **TGbe CC36 Comment Resolutions****for Subclause 35.3.5.4 – Part 1** |
| **Date:** 2021-08-03 |

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Abstract

This submission proposes resolutions for multiple comments on TGbe D1.0 regarding the usage and rules of Multi-Link element in the context of multi-link setup with the following CIDs (37 **CIDs**):

* 5276, 5277, 8034, 8188, 5055, 5056, 8337, 8339, 8189, 5916, 4380, 4381, 6627, 6628, 6729, 6401
* 6601, 5606, 6279, 6752, 8234, 6360, 7722, 5982, 5376, 6753, 7723, 6399, 8235, 6400, 6277, 7515, 7724, 7814, 7815, 8336, 5983

Revisions:

- Rev 0: Initial version of the document.

- Rev 1: Updated texts and resolution for CID 6729 based on offline discussion

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 1.1. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGbe Draft 1.1 (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**

**1) CIDs that are related to comments addressed during CC34 CR (16 CIDs)**

- Those were reflected on D1.1

- 5276, 5277, 8034, 8188, 5055, 5056, 8337, 8339, 8189, 5916, 4380, 4381, 6627, 6628, 6729, 6401

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| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | **Clause** | **Page** | **Comment** | **Proposed Change** | **Resolution** |
| 5276 | Insun Jang | 35.3.5.4 | 256.51 | In current draft, more subfields in Common Info field were defined, which needs to be considered further for (Re)Association Request frame | As in the comment | Revised**Incorporate the changes as shown in 11-21/0499r6 (**[**https://mentor.ieee.org/802.11/dcn/21/11-21-0499-06-00be-cr-for-cids-related-to-ml-ie-usage-for-multi-link-setup.docx**](https://mentor.ieee.org/802.11/dcn/21/11-21-0499-06-00be-cr-for-cids-related-to-ml-ie-usage-for-multi-link-setup.docx)**). The changes also appear in D1.1****Note to the Editor:**The identified statement was revised during CC34 in the approved document 11-21/499r6. No further changes are required for the resolution of this CID in this document. |
| 5277 | Insun Jang | 35.3.5.4 | 257.20 | In current draft, more subfields in Common Info field were defined, which needs to be considered further for (Re)Association Response frame | As in the comment | Revised**Incorporate the changes as shown in 11-21/0499r6 (**[**https://mentor.ieee.org/802.11/dcn/21/11-21-0499-06-00be-cr-for-cids-related-to-ml-ie-usage-for-multi-link-setup.docx**](https://mentor.ieee.org/802.11/dcn/21/11-21-0499-06-00be-cr-for-cids-related-to-ml-ie-usage-for-multi-link-setup.docx)**). The changes also appear in D1.1****Note to the Editor:**The identified statement was revised during CC34 in the approved document 11-21/499r6. No further changes are required for the resolution of this CID in this document. |
| 8034 | Yuchen Guo | 35.3.5.4 | 256.52 | This paragraph only specifies the MLD MAC address, Link ID Info and BSS Parameters Change Count subfields, what about other subfields in the ML element? Will they be carried in the Association Request frame? | Please clarify | Revised**Incorporate the changes as shown in 11-21/0499r6 (**[**https://mentor.ieee.org/802.11/dcn/21/11-21-0499-06-00be-cr-for-cids-related-to-ml-ie-usage-for-multi-link-setup.docx**](https://mentor.ieee.org/802.11/dcn/21/11-21-0499-06-00be-cr-for-cids-related-to-ml-ie-usage-for-multi-link-setup.docx)**). The changes also appear in D1.1****Note to the Editor:**The identified statement was revised during CC34 in the approved document 11-21/499r6. No further changes are required for the resolution of this CID in this document. |
| 8188 | Yunbo Li | 35.3.5.4 | 256.51 | Maximum Number Of Simultaneous Links subfield is the basic information that a non-AP MLD shall carry in ML element in Association Request frame, so need to add a bullet to clarify it. | add a bullet to clarify that MLD Capabilities Present of the Multi-Link Control field of the Basic variant Multi-Link element set to 1 | Revised**Incorporate the changes as shown in 11-21/0499r6 (**[**https://mentor.ieee.org/802.11/dcn/21/11-21-0499-06-00be-cr-for-cids-related-to-ml-ie-usage-for-multi-link-setup.docx**](https://mentor.ieee.org/802.11/dcn/21/11-21-0499-06-00be-cr-for-cids-related-to-ml-ie-usage-for-multi-link-setup.docx)**). The changes also appear in D1.1****Note to the Editor:**The identified statement was revised during CC34 in the approved document 11-21/499r6. No further changes are required for the resolution of this CID in this document. |
| 5055 | Gaurang Naik | 35.3.5.4 | 256.54 | Setting of the Presence indicators need not be covered in Clause 35. These are covered in Clause 9. Clause 35 can simply list which subfields are present in the Common Info field. It is implied that their corresponding presence indicators will be set to 1 in the Multi-Link Control field | As in comment | Revised**Incorporate the changes as shown in 11-21/0499r6 (**[**https://mentor.ieee.org/802.11/dcn/21/11-21-0499-06-00be-cr-for-cids-related-to-ml-ie-usage-for-multi-link-setup.docx**](https://mentor.ieee.org/802.11/dcn/21/11-21-0499-06-00be-cr-for-cids-related-to-ml-ie-usage-for-multi-link-setup.docx)**). The changes also appear in D1.1****Note to the Editor:**The relevant NOTE was added during CC34 in the approved document 11-21/499r6. No further changes are required for the resolution of this CID in this document. |
| 5056 | Gaurang Naik | 35.3.5.4 | 257.23 | Setting of the Presence indicators need not be covered in Clause 35. These are covered in Clause 9. Clause 35 can simply list which subfields are present in the Common Info field. It is implied that their corresponding presence indicators will be set to 1 in the Multi-Link Control field | As in comment | Revised**Incorporate the changes as shown in 11-21/0499r6 (**[**https://mentor.ieee.org/802.11/dcn/21/11-21-0499-06-00be-cr-for-cids-related-to-ml-ie-usage-for-multi-link-setup.docx**](https://mentor.ieee.org/802.11/dcn/21/11-21-0499-06-00be-cr-for-cids-related-to-ml-ie-usage-for-multi-link-setup.docx)**). The changes also appear in D1.1****Note to the Editor:**The relevant NOTE was added during CC34 in the approved document 11-21/499r6. No further changes are required for the resolution of this CID in this document. |
| 8337 | Zhiqiang Han | 35.3.5.4 | 256.52 | How to set other subfield in Presence Bitmap subfield ,such as Medium Synchronization Delay Information Present subfield? | Please clarify it | Revised**Incorporate the changes as shown in 11-21/0499r6 (**[**https://mentor.ieee.org/802.11/dcn/21/11-21-0499-06-00be-cr-for-cids-related-to-ml-ie-usage-for-multi-link-setup.docx**](https://mentor.ieee.org/802.11/dcn/21/11-21-0499-06-00be-cr-for-cids-related-to-ml-ie-usage-for-multi-link-setup.docx)**). The changes also appear in D1.1****Note to the Editor:**The relevant NOTE was added during CC34 in the approved document 11-21/499r6. No further changes are required for the resolution of this CID in this document. |
| 8339 | Zhiqiang Han | 35.3.5.4 | 257.21 | How to set other subfield in Presence Bitmap subfield ,such as Medium Synchronization Delay Information Present subfield? | Please clarify it | Revised**Incorporate the changes as shown in 11-21/0499r6 (**[**https://mentor.ieee.org/802.11/dcn/21/11-21-0499-06-00be-cr-for-cids-related-to-ml-ie-usage-for-multi-link-setup.docx**](https://mentor.ieee.org/802.11/dcn/21/11-21-0499-06-00be-cr-for-cids-related-to-ml-ie-usage-for-multi-link-setup.docx)**). The changes also appear in D1.1****Note to the Editor:**The relevant NOTE was added during CC34 in the approved document 11-21/499r6. No further changes are required for the resolution of this CID in this document. |
| 8189 | Yunbo Li | 35.3.5.4 | 257.02 | "each of which contains the complete information (such as capabilities) of a non-AP STA affiliated with the non-AP MLD and corresponding to a link that is requested for multi-link setup and shall set the Complete Profile subfield of the Multi-Link Control field of the Basic variant Multi-Link element to 1", the complete appers twice in this sentence which is redundant. | remove the first "complete" in the sentence. | Revised**Incorporate the changes as shown in 11-21/0499r6 (**[**https://mentor.ieee.org/802.11/dcn/21/11-21-0499-06-00be-cr-for-cids-related-to-ml-ie-usage-for-multi-link-setup.docx**](https://mentor.ieee.org/802.11/dcn/21/11-21-0499-06-00be-cr-for-cids-related-to-ml-ie-usage-for-multi-link-setup.docx)**). The changes also appear in D1.1****Note to the Editor:**The identified statement was revised during CC34 in the approved document 11-21/499r6. No further changes are required for the resolution of this CID in this document. |
| 5916 | Li-Hsiang Sun | 35.3.5.4 | 257.05 | "Complete Profile subfiled of the Multi-Link Control field"should be STA Control field | as in comment | Revised**Incorporate the changes as shown in 11-21/0499r6 (**[**https://mentor.ieee.org/802.11/dcn/21/11-21-0499-06-00be-cr-for-cids-related-to-ml-ie-usage-for-multi-link-setup.docx**](https://mentor.ieee.org/802.11/dcn/21/11-21-0499-06-00be-cr-for-cids-related-to-ml-ie-usage-for-multi-link-setup.docx)**). The changes also appear in D1.1****Note to the Editor:**The identified statement was revised during CC34 in the approved document 11-21/499r6. No further changes are required for the resolution of this CID in this document. |
| 4380 | Arik Klein | 35.3.5.4 | 257.35 | According to 802.11be D1.0 "The Basic variant Multi-Link element carried in the (Re-)Association Response frame shall include one or more STA profile subelement(s), each of which contains the complete information (such as capabilities and operational parameters) of an AP affiliated with the AP MLD and corresponding to a link \*that is accepted by the AP MLD\* and requested by the non-AP MLD"1. The association response of any AP affiliated with the AP MLD shall refer to all requested links by the corresponding non-AP STAs within the non-AP MLD (as indicated in the soliciting Association Request).2. Consequently, the Per STA subelement used in MLD Association Response shall include the Status Code (accept / Reject, etc.) for the preceding MLD association request (as in regular Association Request frame). | In case of MLD Association Response (i.e using the Association Response with MLE): the Per-STA subelement shall include:1. Remove the words "accepted by the AP MLD and" from the cited text (so the modified text shall be "AP affiliated with the AP MLD and corresponding to a link that is accepted by the AP MLD and requested by the non-AP MLD")2. The Per STA subelement used in MLD Association Response shall include the Status Code (accept / Reject, etc.) for the preceding MLD association request (as in regular Association Request frame). | Revised**Incorporate the changes as shown in 11-21/0499r6 (**[**https://mentor.ieee.org/802.11/dcn/21/11-21-0499-06-00be-cr-for-cids-related-to-ml-ie-usage-for-multi-link-setup.docx**](https://mentor.ieee.org/802.11/dcn/21/11-21-0499-06-00be-cr-for-cids-related-to-ml-ie-usage-for-multi-link-setup.docx)**). The changes also appear in D1.1****Note to the Editor:**The identified statement was revised during CC34 in the approved document 11-21/499r6. No further changes are required for the resolution of this CID in this document. |
| 4381 | Arik Klein | 35.3.5.4 | 257.36 | According to the text in this section, in case of (re)Association Response - the Link Info field of the Basic variant MLE "shall include one or more Per-STA Profile subelement(s), each of which contains the complete information (such as capabilities and operational parameters) of an AP affiliated with the AP MLD".This contradicats with the (legacy) Association Response, which contains the values of the parameters that are accepted by the AP and consider the Requesting STA capabilities (as specified in the preceding Association Request) | Revise the cited sentence as follows: "The Link Info field of the Basic variant Multi-Link element carried in the (Re)Association Response frame shall include one or more Per-STA Profile subelement(s), each of which contains the complete information (such as capabilities and operational parameters) \*that were requested by the non-AP STA affiliated with the non-AP MLD and were accepted by the\* AP affiliated with the AP MLD." | Revised**Incorporate the changes as shown in 11-21/0499r6 (**[**https://mentor.ieee.org/802.11/dcn/21/11-21-0499-06-00be-cr-for-cids-related-to-ml-ie-usage-for-multi-link-setup.docx**](https://mentor.ieee.org/802.11/dcn/21/11-21-0499-06-00be-cr-for-cids-related-to-ml-ie-usage-for-multi-link-setup.docx)**). The changes also appear in D1.1****Note to the Editor:**The identified statement was revised during CC34 in the approved document 11-21/499r6. No further changes are required for the resolution of this CID in this document. |
| 6627 | Po-Kai Huang | 35.3.5.4 | 257.01 | Clarify that the complete information including the MAC address of the STA corresponding to the requested link. | As in comment. | Revised**Incorporate the changes as shown in 11-21/0254r6 (**[**https://mentor.ieee.org/802.11/dcn/21/11-21-0254-06-00be-cc34-resolution-for-cids-related-to-ml-ie-part-2.docx**](https://mentor.ieee.org/802.11/dcn/21/11-21-0254-06-00be-cc34-resolution-for-cids-related-to-ml-ie-part-2.docx)**). The changes also appear in D1.1****Note to the Editor:**The relevant NOTE was added during CC34 in the approved document 11-21/254r6. No further changes are required for the resolution of this CID in this document. |
| 6628 | Po-Kai Huang | 35.3.5.4 | 257.34 | Clarify that the complete information including the MAC address of the STA corresponding to the accepted/rejected link. | As in comment. | Revised**Incorporate the changes as shown in 11-21/0254r6 (**[**https://mentor.ieee.org/802.11/dcn/21/11-21-0254-06-00be-cc34-resolution-for-cids-related-to-ml-ie-part-2.docx**](https://mentor.ieee.org/802.11/dcn/21/11-21-0254-06-00be-cc34-resolution-for-cids-related-to-ml-ie-part-2.docx)**). The changes also appear in D1.1****Note to the Editor:**The relevant NOTE was added during CC34 in the approved document 11-21/254r6. No further changes are required for the resolution of this CID in this document. |
| 6401 | Muhammad Kumail Haider | 35.3.5.4 | 257.46 | The paragraph is grammatically inconsistent | Rephrase as "The Per-STA Profile subelement(s) included in the Basic variant Multi-Link element carried in the (Re)Association Request frame and the (Re)Association Response frame shall not include another Basic variant Multi-Link element." | Revised**Incorporate the changes as shown in 11-21/0523r3 (**[**https://mentor.ieee.org/802.11/dcn/21/11-21-0523-03-00be-cr-for-35-3-5-4-multi-link-setup-ie-usage.docx**](https://mentor.ieee.org/802.11/dcn/21/11-21-0523-03-00be-cr-for-35-3-5-4-multi-link-setup-ie-usage.docx)**). The changes also appear in D1.1****Note to the Editor:**The identified statement was revised during CC34 in the approved document 11-21/523r3. No further changes are required for the resolution of this CID in this document. |

**2) Resolved CIDs (21 CIDs)**

- 6601, 5606, 6279, 6752, 8234, 6360, 7722, 5982, 5376, 6753, 7723, 6399, 8235, 6400, 6277, 7515, 7724, 7814, 7815, 8336, 5983

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| 6601 | Po-Kai Huang | 35.3.5.4 | 257.55 | For the sentence, "(#2044)A STA, which is affiliated with an MLD, may select and manage its operating parametersindependently from the other STA(s) affiliated with the same MLD, unless specified otherwise.", it needs to be clarified that STA can also select its capabilities independenlty. | Change the cited sentence to "A STA, which is affiliated with an MLD, may select and manage its capabilities and operating parametersindependently from the other STA(s) affiliated with the same MLD, unless specified otherwise." | Accepted**TGbe editor, please make changes as shown in doc 11-21/1221r1 tagged as CID 6601.** |
| 5606 | John Wullert | 35.3.5.4 | 257.55 | Statement allows a STA to manage its operating parameters independently from the other STAs "unless specified otherwise." This vague reference puts burden on reader to determine where such exceptions may be specified. | It would be useful to provide references to the sections describing exceptions. A complete list, owever, might be onerous to assemble and maintain. An alternative would be to provide a few examples to illustrate what the form tat exceptions can take. (e.g., Section 35.3.10.5 (WNM sleep mode in multi-link operation) requires that all STAs affiliated with an MLD have the same WNM Sleep Mode capability.) | RevisedAgree in principle with the commenter. The revised text provides a few examples as a Note, i.e., listen Interval and WNM sleep Interval instead of including all cases which can make it too long list.**TGbe editor, please make changes as shown in doc 11-21/1221r1 tagged as CID 5606.** |
| 6279 | Ming Gan | 35.3.5.4 | 257.55 | This sentence is not needed since it does not point out which operating parameters should be managed independently and which ones should not be. | Please remove it | RejectedThere were similar comments in CC34. Consequently, we kept the text and moved it to 35.3.1 (General) which means that that unless the standard specifically mentions that the parameters are the same for all STAs affiliated with the MLD (e.g., Listen Interval), a STA can choose the parameters independently from other STAs. Basically, we added a NOTE showing an example (BSS color) during CC34 CR and further added a NOTE referencing a few examples of MLD-level parameters. |
| 6752 | Romain GUIGNARD | 35.3.5.4 | 256.33 | In this paragraph, replace multi-link setup by multi-link (re)setup to be consistent with the rest of the section 35.3.5 and the whole document. | as in comment | RevisedAgree in principle with the commenter. Throughout the 35.3.5.4, “multi-link setup” was changed to “multi-link (re)setup”.**TGbe editor, please make changes as shown in doc 11-21/1221r1 tagged as CID 6752.** |
| 8234 | Yuxin LU | 35.3.5.4 Usage and rules of Basic variant Multi-Link element in the context of multi-link setup | 256.38 | "subset of APs" is inaccurate since there is no "set" defined. "subset" of which "set" is unclear | Change "subset" to "set" | Accepted**TGbe editor, please incorporate the changes as shown in 21/1221r1 under CID 8234.** |
| 6360 | Morteza Mehrnoush | 35.3.5.4 | 256.56 | Do we need to mention that the (Re)Association Response frame should be send over the same link that (Re)Association Request frame is received? Because the non-AP MLD may have different capability than the AP MLD and non-AP MLD may not be able to receive over all the AP MLD links."An AP that is affiliated with the AP MLD and that received the (Re)Association Request frame shall transmit an (Re)Association Response frame." | suggested text:"An AP that is affiliated with the AP MLD and that received the (Re)Association Request frame shall transmit an (Re)Association Response frame on the same link that the (Re)Association Request frame is received." | RevsiedAgree in principle with the commenter. The paragraph was revised by specifying what an AP should be**TGbe editor, please make changes as shown in doc 11-21/1221r1 tagged as CID 6360.** |
| 7722 | Xiaofei Wang | 35.3.5.4 | 256.42 | Since the exchange of Association Request/Response frames on the same link; it should be clearly stated. | Change the sentence "An AP that is affiliated with the AP MLD and that received the(Re)Association Request frame shall transmit an (Re)Association Response frame." to "An AP that is affiliated with the AP MLD and that received the(Re)Association Request frame shall transmit an (Re)Association Response frame on the same link." | RevsiedAgree in principle with the commenter. The paragraph was revised by specifying what an AP should be**TGbe editor, please incorporate the changes as shown in 21/1221r1 under CID 6360.** |
| 5982 | Liwen Chu | 35.3.5.4 | 256.44 | Change the paragraph to "The non-AP STA affiliated with non-A PMLD shall include a Basic variant Multi-Link element in the (Re)Association Request frame it transmits." | As in comment | RevisedAgree in principle with the commenter. The paragraph was revised by specifying what the STA should be**TGbe editor, please make changes as shown in doc 11-21/1221r1 tagged as CID 5982.** |
| 7814 | Yiqing Li | 35.3.5.4 | 256.44 | The non-AP STA including a Basic variant Multi-Link element in the (Re)Association Request frame it transmits should be under the constraint as multi-link setup. | Change this sentence to "The non-AP STA shall include a Basic variant Multi-Link element in the (Re)Association Request frame that it transmits if it is affiliated with a non-AP MLD and initiates a multi-link setup with an AP MLD." | RevisedAgree in principle with the commenter. The paragraph was revised by specifying what the STA should be**TGbe editor, please incorporate the changes as shown in 21/1221r1 under CID 5982** |
| 8336 | Zhiqiang Han | 35.3.5.4 | 256.45 | It's better to add a condition: if the non-AP STA initiates a multi-link setup. | as in comment. | RevisedAgree in principle with the commenter. The paragraph was revised by specifying what the STA should be**TGbe editor, please incorporate the changes as shown in 21/1221r1 under CID 5982** |
| 5376 | Jay Yang | 35.3.5.4 | 257.58 | not include the Link ID Info subfield by setting the Link ID Info Present subfield of the Multi-Link Control field of the Basic variant Multi-Link element to 0.The Link ID subfield of the STA Control field of the Per-STA Profile subelement for the corresponding non-AP STA that requests a link for multi-link setup with the AP MLD is set to the link ID of an AP MLD that is operating on that link. The link ID is obtained during discovery.conflict description. | 11be shall address such conflict description, to make it clear whether the Link ID shall be carried or not during set-up procedure. | RejectedThe value of Link ID Info field is the Link ID of an AP which transmits the Association Response frame and is affiliated with an AP MLD. It is clearly different from the Link ID subfield of STA Control field since This is for reported or requested APs in addition to the AP and always exists. |
| 6753 | Romain GUIGNARD | 35.3.5.4 | 257.08 | The sentence for the link Id subfield is not clear and may be confusing for who is operating on a link: an AP affiliated to an AP-MLD or an AP-MLD | The Link ID subfield of the STA Control field of the Per-STA Profile subelement for the corresponding non-AP STA affiliated to a non-AP MLD that requests a link for multi-link setup with an AP MLD is set to the link ID of the AP affiliated to the AP-MLD that is operating on that link. The link ID is obtained during discovery. | RevisedAgree in principle with the commenter. The sentence was revised by adding “the AP affiliated with”**TGbe editor, please make changes as shown in doc 11-21/1221r1 tagged as CID 6753.** |
| 7723 | Xiaofei Wang | 35.3.5.4 | 257.11 | what is "the link ID of an AP MLD"? If link ID is associated with an AP, it should be corrected. | use correct language | RevisedAgree in principle with the commenter. The sentence was revised by replacing “an AP MLD” with “the AP affiliated with the AP MLD”**TGbe editor, Please incorporate the changes as shown in 21/1221r1 under CID 6753.** |
| 6399 | Muhammad Kumail Haider | 35.3.5.4 | 256.10 | "﻿The link ID is obtained during discovery" should be edited to "during multi-link discovery" | as in comment | RevisedAgree in principle with the commenter. It was added “multi-link” before discovery. Basically, 35.3.4 (Discovery of an AP MLD) covers the use of RNR/ML probe request/response and multi-link discovery is mandatory for MLD**TGbe editor, please make changes as shown in doc 11-21/1221r1 tagged as CID 6399.** |
| 8235 | Yuxin LU | 35.3.5.4 Usage and rules of Basic variant Multi-Link element in the context of multi-link setup | 257.11 | For the sentence "The link ID is obtained during discovery", suggest to give a reference for "discovery" for clearity | Change this sentence to "The link ID is obtained during discovery as described in 35.3.4 (Discovery of an AP MLD)" | RevisedAgree in principle with the commenter. The revised text added the subclause 35.3.4 (Discovery of an AP MLD) as the reference.**TGbe editor, please make changes as shown in doc 11-21/1221r1 tagged as CID 8235.** |
| 7815 | Yiqing Li | 35.3.5.4 | 257.13 | The AP including a Basic variant Multi-Link element in the (Re)Association Response frame it transmits should be under the constraint as multi-link setup. | Change this sentence to "The AP shall include a Basic variant Multi-Link element in the (Re)Association Response frame that it transmits if it is affiliated with an AP MLD and receives a (Re)Association Request frame which includes a Basic variant Multi-Link element from a non-AP MLD." | RevisedAgree in principle with the commenter. The paragraph was revised by specifying what the AP should be**TGbe editor, please make changes as shown in doc 11-21/1221r1 tagged as CID 7815.**  |
| 6400 | Muhammad Kumail Haider | 35.3.5.4 | 257.42 | Several editorial mistakes in the paragraph | Rephrase as "The Link ID subfield of the STA Control field of the Per-STA Profile subelement for the corresponding AP that accepts a link requested by a STA of non-AP MLD with a non-AP MLD is set to the Link ID of the AP affiliatedd with the AP MLD that is operating on that link." | RevisedAgree in principle with the commenter. The paragraph was revised overall to make it clear.**TGbe editor, please make changes as shown in doc 11-21/1221r1 tagged as CID 6400.** |
| 6277 | Ming Gan | 35.3.5.4 | 257.44 | Change "of" to "affiliated with" | as in the comment | RevisedAgree in principle with the commenter. The paragraph was revised overall to make it clear.**TGbe editor, Please incorporate the changes as shown in 21/1221r1 under CID 6400.** |
| 7515 | Tomoko Adachi | 35.3.5.4 | 257.43 | "... that accepts a link requested by an STA of non-AP MLD ...". For the term "STA", indefinite "a" is used. | Change it to read "... that accepts a link requested by a STA of non-AP MLD ...". | RevisedAgree in principle with the commenter. The paragraph was revised overall to make it clear.**TGbe editor, Please incorporate the changes as shown in 21/1221r1 under CID 6400** |
| 7724 | Xiaofei Wang | 35.3.5.4 | 257.43 | The phrase "an STA of non-AP MLD with a non-AP MLD" needs to be corrected | correct the language | RevisedAgree in principle with the commenter. The paragraph was revised overall to make it clear.**TGbe editor, Please incorporate the changes as shown in 21/1221r1 under CID 6400** |
| 5983 | Liwen Chu | 35.3.5.4 | 257.46 | This paragraph is duplicate one. Delete it. | As in comment | RejectedIt was changed only for non-AP MLD side in 523r3 (for CC34 CR) instead of removing the text, because the ML discovery part decribes that part only for the AP MLD side. |
| 6729 | Rojan Chitrakar | 35.3.5.4 | 257.34 | What about the link in which the (Re-)Association Response frame is sent in? In this case a per-sta profile for that link is not carried in the (Re-)Association Response frame. I assume if a Association response frame is sent with a status of "Success" in a link, that link is always accepted by the AP MLD. | Clarify that the link in which an Association response frame is sent with a status of "Success" is always accepted by the AP MLD. | RevisedAgree in principle with the commenter. The corresponding paragraph was revised by adding successful multi-link setup case and a NOTE referring 9.4.1.9 (Status Code field). Moreover, to make it clear, the location of Link Info field was specified**TGbe editor, please make changes as shown in doc 11-21/1221r1 tagged as CID 6729.**  |

**Proposed spec text:**

**35.3 Multi-link operation**

***TGbe editor: Please modify the subclause 35.3.1 (General) as follows:***

***TGbe editor: Please note that the baseline of this subcluase 35.3.1 (General) is D1.1***

**35.3.1 General**

MLO enables a non-AP MLD to discover, authenticate, associate, and set up multiple links with an AP MLD. Each link enables channel access and frame exchanges between the non-AP MLD and the AP MLD based on the supported capabilities exchanged during association.

A STA, which is affiliated with an MLD, may select and manage its (#6601)capabilities and operating parameters independently from the other STA(s) affiliated with the same MLD, unless specified otherwise.

NOTE 1– For example, each AP, which is affiliated with an AP MLD, may select its BSS color corresponding to the BSS that the AP generates differently.

(#5606)NOTE 2– Examples of operating parameters that are selected at the MLD level (i.e., not independently selected by affiliated STAs) are the listen interval (see 35.3.11.6 (Operation for MLD listen interval)) and the WNM sleep interval (see 11.2.3.1 (General))

***TGbe editor: Please modify the subclause 35.3.5.4 (Usage and Rules of Multi-Link element in the context of multi-link (re)setup) as follows:***

***TGbe editor: Please note that the baseline of this subclause 35.3.5.4 is D1.1***

35.3.5.4. Usage and Rules of Multi-Link element in the context of multi-link (re)setup

(#6752)A non-AP MLD may initiate a multi-link setup with an AP MLD to (re)set up more than one link with a (#8234)set of APs that are 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 an (Re)Association Request frame on the link that it desires to use as part of the multi-link (re)setup. (#6360)An AP that is affiliated with the AP MLD shall transmit an (Re)Association Response frame on the link on which it received the (Re)Association Request frame.

 (#5982)A STA affiliated with a non-AP MLD that initiates a multi-link (re)setup with an AP MLD shall include a Basic variant Multi-Link element in an (Re)Association Request frame that it transmits.

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

The Common Info field of the Basic variant Multi-Link element carried in the (Re)Association Request frame shall include the MLD MAC address, the MLD Capabilities, and the EML Capabilities subfields, and shall not include the Link ID Info, the BSS Parameters Change Count, and the Medium Synchronization Delay Information subfields.

NOTE – The presence of the subfields in the Common Info field is signaled via the Multi-Link Control field of the Basic variant Multi-Link element as defined in 9.4.2.295b.2 (Basic variant Multi-Link element).

For each link requested in addition to the link on which the (Re)Association Request frame is transmitted, the Link Info field (#6729)of the Basic variant Multi-Link element carried in the (Re)Association Request frame 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 35.3.2.2 (Advertisement of complete or partial per-link information)).

The Link ID subfield of the STA Control field of the Per-STA Profile subelement for the corresponding non-AP STA that requests a link for multi-link (#6752)(re)setup with the AP MLD is set to the link ID of (#6753)the AP affiliated with the AP MLD that is operating on that link. The link ID is obtained during (#6399)multi-link discovery (#8235)(see 35.3.4 (Discovery of an AP MLD)).

(#7815) The AP that is affiliated with the AP MLD and that responds to an (Re)Association Request frame which carries a Basic variant Multi-Link element shall include a Basic variant Multi-Link element in the (Re)Association Response frame that it transmits.

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

The Common Info field of the Basic variant Multi-Link element carried in the (Re)Association Response frame shall include the MLD MAC address, the MLD Capabilities, the EML Capabilities, the Link ID Info, and the BSS Parameters Change Count subfields.

NOTE – The presence of the subfields in the Common Info field is signaled via the Multi-Link Control field of the Basic variant Multi-Link element as defined in 9.4.2.295b.2 (Basic variant Multi-Link element).

For each requested link in addition to the link on which the (Re)Association Request frame is transmitted, the Link Info field (#6729)of the Basic variant Multi-Link element carried in the (Re)Association Response frame 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 35.3.2.2 (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.

If the link on which the (Re)Association Request frame was received cannot be accepted by the AP MLD, the AP MLD shall treat the multi-link (re)setup as a failure and shall not accept any requested links. (#6729)If the link on which the (Re)Association Request frame was received is accepted by the AP MLD, the AP MLD shall treat the multi-link (re)setup as a success.

(#6729)NOTE - The Status Code field of the (Re)Association Response frame is indicated as defined in 9.4.1.9 (Status Code field)

(#6400)The Link ID subfield of the STA Control field of the Per-STA Profile subelement for the AP corresponding to a link is set to the link ID of the AP affiliated with the AP MLD that is operating on that link.

A Per-STA Profile subelement included in the Basic variant Multi-Link element carried in the (Re)Association Request frame shall not include another Basic variant Multi-Link element.

A STA affiliated with an MLD shall include a Basic variant Multi-Link element containing the MLD MAC address of the MLD with which the STA is affiliated in the Authentication frame that it transmits.

Do you support to accept the resolution in 11-21/1221r1 for the following CIDs?

- 5276, 5277, 8034, 8188, 5055, 5056, 8337, 8339, 8189, 5916, 4380, 4381, 6627, 6628, 6729, 6401, 6601, 5606, 6279, 6752, 8234, 6360, 7722, 5982, 5376, 6753, 7723, 6399, 8235, 6400, 6277, 7515, 7724, 7814, 7815, 8336, 5983