IEEE P802.11
Wireless LANs

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| Comment Resolutions for 11be D2.0 Probe Request ML element CIDs |
| Date: 2021-08-03 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Rojan Chitrakar | Panasonic |  |  | Rojan.chitrakar@sg.panasonic.com |
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Abstract

This submission proposes resolutions of comments received from TGbe LB (TGbe Draft 2.0).

* CIDs: 10457, 10458, 10563, 10564, 11128, 11395, 11396, 11397, 11398, 11519, 13261, 13477 (12 CIDs)

Revisions:

* Rev 0: Initial version of the document. Resolved CIDs: CIDs: 10457, 10458, 10563, 10564, 11128, 11395, 11396, 11397, 13261, 13477
* Rev 1: Resolves CID 11398, text changes in CYAN.
* Rev 2: Added a NOTE as part of resolution of CID 11128, text changes in Gray.
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.***

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| --- | --- | --- | --- | --- | --- | --- | --- |
| CID | Commenter | Clause  | Page | Line | Comment | Proposed Change | Resolution |
| 10457 | Yonggang Fang | 9.4.2.312.3 | 223 | 21 | Proble Request Mlulti-Link element is a variant of Multi-Link element. Please add a sentence to clarify this. | in the comment. | **REJECTED**.It is clearly explained in the General section (9.4.2.312.1 General) that the Type subfield differentiates the variants of the ML element and the Probe Request MLE is clearly listed as a MLE variant in Table 9-401c. |
| 10458 | Yonggang Fang | 9.4.2.312.3 | 223 | 39 | Is the Presence Bitmap field in the Multi-Link Control field of Probe Request Mlulti-Link element? | Please clarify this in the spec | **REJECTED**.All MLE variants have the same common format described in the General section (9.4.2.312.1 General). It is clear from Figure 9-1002f-(Multi-Link Control field) that the Presence Bitmap field is in the Multi-link Control field. |
| 10563 | Abhishek Patil | 9.4.2.312.3 | 223 | 60 | MLD ID subfield is conditionally present in this variant. | Add 'if present' between 'subfield' and 'indicates' and provide a reference to clause 35.3.4.2 which describes rules for presence and usage of this subfield. | **REVISED.**Agree with the comment to clarify that the MLD ID subfield is conditionally present and to add the reference to the normative sub-clause as suggested. TGbe editor to make the changes shown in IEEE 802.11-22/1012r0under all headings that include CID 10563. |
| 10564 | Abhishek Patil | 9.4.2.312.3 | 224 | 29 | The intention of this subfield is oppose to the (same name) subfield in Basic ML IE. | Rename this subfield to "Complete Profile Requested" to differentiate the two subfields and to eliminate the confusion. | **REVISED.**Agree with the comment that the “Complete Profile” field is better renamed as “Complete Profile Requested” to align with the intention of the field. TGbe editor to make the changes shown in IEEE 802.11-22/1012r0under all headings that include CID 10564. |
| 11128 | Brian Hart | 9.4.2.312.3 | 223 | 64 | From P415L37 we learn that "If the Probe Request variant Multi-Link element in the Multi-Link probe request does not include any per-STA profile, then all APs ... are requested APs." This is really a description of how the element format works, and so belongs in clause 9. | Move this to clause 9, atP223L63, along the lines of "The absence of the Link Info field indictates that information is requested for all APs affiliated with the AP MLD that is identified by the MLD ID field" | **REVISED.**Agree with the comment that it is good to help the readers understand the meaning of the absence of the Link info field. However, clause 9 is not the right place to do it; instead we provide a reference to the normative subclause, 35.3.4.2 (Use of Multi-Link probe request and response), that describes the related behaviour and add a NOTE to clarify the meaning of the absence of the Link Info field.  TGbe editor to make the changes shown in IEEE 802.11-22/1012r2 under all headings that include CID 11128. |
| 11395 | Gaurang Naik | 9.4.2.312.3 | 223 | 42 | Not clear what 'it' here refers to. Call it out explicitly. | Revise as 'The MLD ID Present subfield is set to 1 if the MLD ID subfield is present in the Common Info field.' | **REVISED.**Agree with the comment that “it” should be replaced with “MLD ID subfield”.  TGbe editor to make the changes shown in IEEE 802.11-22/1012r0under all headings that include CID 11395. |
| 11396 | Gaurang Naik | 9.4.2.312.3 | 223 | 57 | Clarify whether the value carried in the Common Info Length subfield includes or excludes the one octet of the Common Info Length subfield. | Revise as follows: 'The Common Info Length subfield indicates the number of octets in the Common Info field, including the one octet for the Common Info Length subfield.' | **ACCEPTED**. |
| 11397 | Gaurang Naik | 9.4.2.312.3 | 223 | 61 | Provide a reference to the normative subclause that defines when MLD ID is present in the Probe Request ML element. | Add 'The condition for the presence of the MLD ID subfield in the Common Info field are defined in 35.3.4.2 (Use of Multi-Link probe request and response).' | **REVISED.**Agree with the comment to provide the reference to the normative sub-clause as suggested. The resolution is the same as that for CID 10563 in IEEE 802.11-22/1012r0. TGbe editor: No further action required for 11397 |
| 11398 | Gaurang Naik | 9.4.2.312.3 | 224 | 34 | It is not clear why STA Profile field may be absent when the Complete Profile subfield is set to 0. Please add a note to clarify under what condition this is true. | As in comment | **REVISED.**The STA Profile field may be absent for a reported AP per the inheritance rule, which is explained in the referenced subclauses 35.3.4.2 (Use of Multi-Link probe request and response) and 35.3.2.4.2 (Inheritance in the per-STAprofile of Probe Request Multi-Link element). However, agree with the comment that the sentence can be improved for better readability; however instead of adding a note, the cite sentence itself is modified. TGbe editor to make the changes shown in IEEE 802.11-22/1012r1 under all headings that include CID 11395. |
| 11519 | Xiaofei Wang | 9.4.2.312.3 | 223 | 60 | the MLD ID is not unique across different APs as shown in RNR (such as an AP affiliated with another AP MLD), how would a receiving MLD know for sure which MLD the requesting STA is requesting? If the MLD ID in the RNR cannot be used in a Probe Request frame, then that should be specified. In that case, maybe a different name should be used in RNR than MLD ID. | as in comment | **REJECTED**.The MLD ID is unique for all APs affiliated with the same MLD and is different for different MLDs advertised in the same RNR element, so each MLD ID uniquely identifies an MLD. Regardless, how the MLD ID field is set is described in 35.3.4.2 (Use of Multi-Link probe request and response) and there is no need to repeat them in clause 9. Also, the naming of the fields in RNR element is not related to this sub-clause. |
| 13261 | Binita Gupta | 9.4.2.312.3 | 223 | 42 | Need to clarify in the text that 'it' refers to the MLD ID. It is confusing to read as stated currently. | Modify to "The MLD ID Present subfield is set to 1 if the MLD ID subfield is present in the Common Info field. Otherwise the MLD ID Present subfield is set to 0." | **REVISED.**Agree with the comment that “it” should be replaced with “MLD ID subfield”. The resolution is the same as that for CID 11395 in IEEE 802.11-22/1012r0. TGbe editor: No further action required for 13261 |
| 13477 | Liwen Chu | 9.4.2.312.3 | 223 | 21 | The Probe request Multi-Link IE is not future proof element. | Add STA Info field with 1-octet Length Subfield | **REJECTED**.The need for an STA Info field in the Probe Request MLE has not been identified. |

The baseline for this document is 11be D2.0.

**Discussion:** None.

SP: Do you agree to incorporate the changes provided in IEEE 802.11-22/1012r0 for the below listed CIDs to the next revision of 802.11be draft?

10457, 10458, 10563, 10564, 11128, 11395, 11396, 11397, 11398, 11519, 13261, 13477

9.4.2.295bMulti-Link element

**9.4.2.312.3 Probe Request Multi-Link element (CIDs 10563, 10564, 11128, 11395, 11398)**

***TGbe editor: Modify the subclause as the following (Track Changes ON):***

…

The MLD ID Present subfield is set to 1 if (#11395) the MLD ID subfield is present in the Common Info field. Otherwise the MLD ID Present subfield is set to 0.

…

The MLD ID subfield (#10563), if present, indicates the identifier of the AP MLD that is targeted by the Multi-Link probe request, as described in 35.3.4.2 (Use of Multi-Link probe request and response).

If the Link Info field is present ((#11128) see 35.3.4.2 (Use of Multi-Link probe request and response), one or more Per-STA Profile subelements are included in the list of subelements (see Table 9-401d (Optional subelement IDs for Link Info field of the Multi-Link element)).

(#11128) NOTE - The absence of the Link Info field indicates that information is requested for all APs affiliated with the target AP MLD.

…

 B3 B4 B5 B15

|  |  |  |
| --- | --- | --- |
| Link ID | Complete Profile Requested (#10564) | Reserved |

 Bits: 4 1 11

 **Figure 9-1002t—STA Control field of the Probe Request Multi-Link element format**

The Link ID subfield specifies a value that uniquely identifies the AP whose information is requested.

The Complete Profile (#10564) Requested subfield is set to 1 when complete profile of the AP identified by the Link ID subfield is requested as defined in 35.3.4.2 (Use of Multi-Link probe request and response). Otherwise, the subfield is set to 0.

If the Complete Profile (#10564) Requested subfield is set to 0 (#11398) and the STA Profile field is present in a Per-STA Profile subelement, as described in 35.3.4.2 (Use of Multi-Link probe request and response and 35.3.2.4.2 (Inheritance in the per-STA profile of Probe Request Multi-Link element), the STA Profile field includes exactly one of the following:

—one Request element (see 9.4.2.9 (Request element)), or

—one Extended Request element (see 9.4.2.10 (Extended Request element)), or

—one Request element and one Extended Request element

If the Complete Profile (#10564) Requested subfield is set to 1, the STA Profile field is not present in a Per-STA Profile subelement.

**35.3.2.4.2 Inheritance in the per-STA profile of Probe Request Multi-Link element (CIDs 10564)**

***TGbe editor: Modify the 3rd paragraph as the following (Track Changes ON):***

For AP x, the non-AP STA requests the element with element ID “a”, which is the same as the element requested for the AP. Hence, the Complete Profile (#10564) Requested subfield for the per-STA profile x is set to 0 and the per-STA profile does not include the Request element in the STA Profile field by inheritance rule. For AP y, the non-AP STA requests the element with element ID “b”, which is not requested for the AP. Hence, the Complete Profile (#10564) Requested subfield for the per-STA profile y is set to 0 and the per-STA profile includes the Request element in the STA Profile field. The non-AP STA requests the complete profile for AP z. The Complete Profile (#10564) Requested subfield for the per-STA profile z is set to 1 and the per-STA profile does not include any elements in the STA Profile field.

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***TGbe editor: Replace Figure 35.3.4.2 (Example of inheritance in a Request element for Multi-Link probe request) with below:***



**Figure 35-5—Example of inheritance in a Request element for Multi-Link probe request (#10564)**

**35.3.4.2 Use of Multi-Link probe request and response (CIDs 10564)**

***TGbe editor: Modify the 9th paragraph as the following (Track Changes ON):***

If a STA affiliated with a non-AP MLD sends a Multi-Link probe request to an AP to retrieve partial profile for AP(s) affiliated with the targeted AP MLD, the STA shall include the (Extended) Request element in the frame body of the Multi-Link probe request and/or a Per-STA Profile subelement in a Probe Request Multi-Link element carried in the Multi-Link probe request. In this case, the Complete Profile (#10564) Requested subfield of the STA Control field in the Per-STA Profile subelement shall be set to 0. The (Extended) Request element carried in the per-STA profile corresponding to the requested AP that requests the same partial profile as the AP can be inherited from the (Extended) Request element in the frame body, subject to the rules defined in 35.3.2.4.2 (Inheritance in the per-STA profile of Probe Request Multi-Link element).