IEEE P802.11  
Wireless LANs

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| LB266-CR-for-Clause-6.3 | | | | |
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Abstract

This submission proposes CR for CID 12951, 13274, 14093 (LB266)

Revisions:

Rev 0: Initial version of the document.

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.***

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| **CID** | **Commenter** | **Pg/Ln** | **Section** | **Comment** | **Proposed Change** | **Resolution** |
| 12951 | Chunyu Hu | 83/01 | 6.3.7.5.2 | According to 35.3.5.4, the (Re)Association Response frame is required to be transmitted on the link where the request was received from. Add a "LinkID" field in the MLME-ASSOCIATE.response(). | As in comment | **Rejected**  According to 35.3.5.1 “The (Re)Association Response frame shall be transmitted by the AP MLD through the affiliatedAP that receives the (Re)Association Request frame”.  Therefore, it is implementation issue whether the Lower MAC or Upper MAC or SME wil be aware to the link on which the Association Request frame has been received. |
| 13274 | Binita Gupta | 79/34 | 6.3.7.2.2 | The 'Recommended Link' parameter should be optional for MLME-Associate.request. Current description indicates that this parameter is always present if dot11MultiLinkActivated is true. Update text to clarify that this parameter is optionally included. | As in comment | **Revised**  Agree in principle with the comment.    Similar to the conditions set for the inclusion of the TID-to-Link mapping element in the MLME-ASSOCIATE.request, we should add a condition that Recommended Link parameter is present if the MLD is recommending a link upon which the Association Request frame will be transmitted.  This resolution is also applied for the  6.3.5.2 MLME-AUTHENTICATE.request  6.3.8.2 MLME-REASSOCIATE.request  **TGbe editor please implement changes as shown in doc 11-22/1878r0 tagged as 13274.** |
| 14093 | Li-Hsiang Sun | 75/32 | 6.3.5.2 | In fig 4-30b and description in 4.9.5 "The SME is responsible for coordinating each of the MLMEs of all affiliated STAs" , each link has its own MLME SAP. The link preference of SME is implicitly given when MLME SAP of the link receives MLME-AUTHENTICATE.request. Note this primitive is not sent on MAC-SAP | remove Recommended Link parameter | **Revised**  The cited text from clause 4 is not normative and the commenter correctly indicates that there is an inconsistency between the cited text and the normative behavior described in clause 6. Furthermore, for MLO, Authentication and Association is established between MLDs over one of the links advertised in the Beacon and Probe Response frames, so it makes sense to retain Recommended Link parameter in these MLME primitives.  **TGbe editor please implement changes as shown in doc 11-22/1878r0 tagged as 14093.** |

*TGbe editor: Please note baseline is 11be D2.2 and REVme D2.0*

**4.9.6 Reference model for multi-link operation (MLO)**

***TGbe editor: Please update the contents of the 8th paragraph in this subclause as shown below:***

(#14093) The SME is responsible for coordinating the MLD and each of the affiliated STAs through the MLME, and to maintain an RSNA key management entity and IEEE 802.1X Authenticator or Supplicant in each upper MAC sublayer component, for MLO.

* + - 1. **MLME-ASSOCIATE.request**
         1. **Semantics of the service primitive**

***TGbe editor: Please update the contents of the following paragraph in this subclause as shown below:***

# *Change the primitive parameters as follows (not all existing parameters are shown):*

The primitive parameters are as follows: MLME-ASSOCIATE.request(

...

EHTCapabilities, MultiLink, Recommended Link, TID-To-Link Mapping, VendorSpecificInfo

)

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Type** | **Valid range** | **Description** |
| ... |  |  |  |
| ListenInterval | Integer |  0 | (#10270)For non-MLO,  specifies~~Specifies~~ how often the STA awakens and listens for the next Beacon frame, if it enters power save mode.  (#10270)For MLO, specifies how often at least one STA affiliated with the MLD awakens and listens for the next Beacon frame, if all STAs affiliated with the MLD enter power save mode. |
| ... |  |  |  |
| EHTCapabilities | As defined in EHT Capabilities element | As defined in  9.4.2.313 (EHT  Capabilities element) | Specifies the parameters in the EHT Capabilities element that are supported by the STA. The parameter is present if dot11EHTOptionImplemented is true; otherwise not present. |
| MultiLink | Basic Multi-Link element | As defined in  9.4.2.312 (Multi-  Link element) | Indicates the Multi-Link parameters of the local MLD. This parameter is present if dot11MultiLinkActivated is true and is absent otherwise. |
| Recommended Link | Link ID subfield | 0–15 | Indicates a value that uniquely identifies the link upon which the Association Request frame can be transmitted by a non-AP STA affiliated with a non-AP MLD.  This parameter is present if dot11- MultiLinkActivated is true and (#13274) if the SME is recommending one of links among those advertised by the APs affiliated with AP MLD on which the Association Request frame can be transmitted. Otherwise, it is absent . |
| TID-To-Link Mapping | TID-To-Link Mapping element | As defined in  9.4.2.314 (TID-To-  Link Mapping element) | Indicates links on which frames belonging to each TID can be exchanged. This parameter is present if dot11MultiLinkActivated is true, dot11TIDtoLinkMappingActivated is true, and the STA affiliated with an MLD initiates both (#10270)an association with an AP MLD and a TID-to-link mapping negotiation. Otherwise it is not present. |
| VendorSpecificInfo | A set of elements | As defined in  9.4.2.25 (Vendor Specific element) | Zero or more elements. |

* + - 1. **MLME-AUTHENTICATE.request**
         1. **Semantics of the service primitive**

***TGbe editor: Please update the contents of the following paragraph in this subclause as shown below:***

# *Change the primitive parameters as follows (not all existing parameters are shown):*

The primitive parameters are as follows: MLME-AUTHENTICATE.request(

...

MultiLink, Recommended Link, VendorSpecificInfo

)

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Type** | **Valid range** | **Description** |
| MultiLink | Basic Multi- Link element | As defined in 9.4.2.312 (Multi-Link element) | Indicates the Multi-Link parameters of the local MLD. This parameter is present if dot11MultiLinkActivated is true and is absent otherwise. |
| Recommended Link | Link ID subfield | 0–15 | Indicates a value that uniquely identi- fies the link upon which the Authenti- cation frame can be transmitted by a non-AP STA affiliated with a non-AP MLD. This parameter is present if dot11MultiLinkActivated is true and (#13274) if the SME is recommending one of links among those advertised by the APs affiliated with AP MLD on which the Authentication frame can be transmitted. Otherwise, it is absent. |
| VendorSpecificInfo | A set of elements | As defined in  9.4.2.25 (Vendor Specific element) | Zero or more elements. |

* + - 1. **MLME-REASSOCIATE.request**
         1. **Semantics of the service primitive**

***TGbe editor: Please update the contents of the following paragraph in this subclause as shown below:***

# *Change the primitive parameters as follows (not all existing parameters are shown):*

The primitive parameters are as follows: MLME-REASSOCIATE.request(

...

EHTCapabilities, MultiLink, Recommended Link, TID-To-Link Mapping, VendorSpecificInfo

)

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Type** | **Valid range** | **Description** |
| ... |  |  |  |
| ListenInterval | Integer |  0 | (#10270)For non-MLO, specifies~~Specifies~~ how often the STA awakens and listens for the next Beacon frame, if it enters power save mode.  (#10270)For MLO, specifies how often at least one STA affiliated with the MLD awakens and listens for the next Beacon frame, if all STAs affiliated with the MLD enter power save mode. |
| ... |  |  |  |
| EHTCapabilities | As defined in EHT Capabilities element | As defined in  9.4.2.313 (EHT  Capabilities element) | Specifies the parameters in the EHT Capabilities element that are supported by the STA. The parameter is present if dot11EHTOptionImplemented is true; otherwise not present. |
| MultiLink | Basic Multi-Link element | As defined in  9.4.2.312 (Multi-  Link element) | Indicates the Multi-Link parameters of the local MLD. This parameter is present if dot11MultiLinkActivated is true and is absent otherwise. |
| Recommended Link | Link ID subfield | 0–15 | Indicates a value that uniquely identifies the link upon which the Reassociation Request frame can be transmitted by a non- AP STA affiliated with a non-AP MLD. This parameter is present if dot11Multi- LinkActivated is true and (#13274) if the SME is recommending one of links among those advertised by the APs affiliated with AP MLD on which the Reassociation Request frame can be transmitted. Otherwise, it is absent. |
| TID-To-Link Mapping | TID-To-Link Mapping element | As defined in  9.4.2.314 (TID-To-  Link Mapping element) | Indicates links on which frames belonging to each TID can be exchanged. This parameter is present if dot11MultiLinkActivated is true, dot11TIDtoLinkMappingActivated is true, and the STA affiliated with an MLD initiates (#10270)both an association with an AP MLD and a TID-to-link mapping negotiation. Otherwise it is not present. |
| VendorSpecificInfo | A set of elements | As defined in  9.4.2.25 (Vendor Specific element) | Zero or more elements. |

Straw Poll:

Do you support to incorporate the proposed draft text in this document 11-22/1878r0 to the next revision of TGbe Draft 2.3, for addressing the following CIDs: 12951, 13274, 14093?

Result: Yes/No/Abstain