**IEEE P802.11  
Wireless LANs**

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| CR for CIDs on TID-to-Link Mapping | | | | |
| Date: 2021-12-07 | | | | |
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|  |  |  |  |  |

Abstract

This submission proposes resolutions for multiple comments related to TGbe D1.0 with the following CIDs (50 CIDs):

* 4021, 4022, 4023, 4024, 4267, 4736, 5132, 5133, 5134, 5371,
* 5686, 5687, 6023, 6024, 6364, 6369, 6539, 6558, 6665, 6666,
* 6667, 6668, 6759, 6888, 7707, 8295, 5320, 5681, 6540, 6638,
* 7841, 8265, 8266, 8267, 8268, 8269, 8270, 5372, 5895, 5956,
* 5957, 6026, 6709, 6760, 8177, 8178, 8182, 8298, 8299, 8300,

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 subsequent 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** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| **CIDs related to TID to Link Mapping element** | | | | | |
| 4021 | Abhishek Patil | 152.63 | What does the Direction subfield when set to 0 indicate? Uplink or downlink? The sentence says downlink but the paranthesis says "(Uplink)". Same comment for the next sentence. | Fix the typo (if any) and clarify the meaning of the value carried in the Direction subfield. | Revised –  Agree with comment. Removed the conflicting instances that are in parenthesis.  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 4021. |
| 4022 | Abhishek Patil | 153.05 | The TID-to-Link Mapping element is used to negotiate non-default mapping. When is Default Link Mapping subfield set to 1? | Clarify the usage of Default Link Mapping subfield. Otherwise remove this subfield. | Revised –  Agree in principle with the comment. Proposed resolution clarifies the use of the field.  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 4022. |
| 4023 | Abhishek Patil | 153.08 | Without any background, the intention of the subfield is unclear | Add the following sentence as the first sentence of this paragraph so the intended meaning of the subfield is clarified: "The Link Mapping Presence Indicator subfield identifies the TID(s) for which the mapping is signaled in the element." | Revised –  Agree in principle with the comment. Proposed resolution adds some clarifications in parenthesis.  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 4023. |
| 4024 | Abhishek Patil | 153.16 | Without any background, the intention of the subfield is unclear | Add the following sentence as the first sentence of this paragraph so the intended meaning of the subfield(s) is clarified: "The Link Mapping Of TID n field(s) carries a bitmap of the links to which the TID identified as 'n' is mapped to." | Revised –  Agree in principle with the comment. Proposed resolution adds some clarifications in parenthesis.  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 4024. |
| 4267 | Alfred Asterjadhi | 132.38 | difference between value 2 and 3 is not clear. I guess adding "but does not support mapping on different link set" for value 3 would make it a little bit clearer. | As in comment. | Revised –  Agree in principle with the comment. Proposed resolution clarifies that value 3 indicates that the STA only supports mapping of all TIDs to the same link set.  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 4267. |
| 4736 | Chunyu Hu | 152.30 | The TID-To-Link Mapping Negotiation Supported field in the MLD Capabilities subfield defines 3 levels of mapping: L0,1,2. Specifically, L1 defines all TIDs to the same link set option. In the TID-to-Link Mapping element format definition, in case of L1, the STA only needs to at most one Link Mapping of TID <n> field instead of repeating 8 instances while all of them are the same. Should allow such simplification which is also less error prone. | As commented | NEED TO CHECK WITH CHUNYU. SEEMS TO MAKE SENSE TO ME AT LEAST. |
| 5132 | Geonjung Ko | 152.63 | The meaning of Uplink and Downlink in parentheses is unclear. | Clarify it. | Revised –  Agree with comment. Removed the conflicting instances that are in parenthesis.  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 5132. |
| 5133 | Geonjung Ko | 153.05 | It is unclear whether the Default Link Mapping subfield can be set to 1 when the Direction subfield indicates downlink or uplink. | Clarify it. | Revised –  Agree in principle with the comment. Proposed resolution clarifies that the bit can be set to 1 for any of the possible directions specified by the Direction subfield.  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 5133. |
| 5134 | Geonjung Ko | 153.17 | Need to specify what a value of 0 indicates. | As in comment | Revised –  Agree in principle with the comment. Proposed resolution covers the case of the value 0.  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 5134. |
| 5371 | Jay Yang | 152.62 | The Direction subfield only contain DL,UL, and BL, shall we concern direct link, like TDLS? | no rules for the direct link, please supplement it. | Rejected –  The group has discussed enabling multi link operation for direct link (e.g, TDLS) and has not reached agreement. Since direct link with multi link operation is not possible then signaling that would rely on it is out of scope. |
| 5686 | kaiying Lu | 152.62 | The Direction subfield is set to 0 (Uplink) if the TID-To-link Mapping element provides the TID-to-link mapping information for frames transmitted on the uplink. | Please change " downlink " to " uplink" | Revised –  Agree with comment. Removed the conflicting instances that are in parenthesis.  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 5686. |
| 5687 | kaiying Lu | 152.63 | It is set to 1 (Downlink) if the TID-To-Link Mapping element provides the TID-to-link mapping information for frames transmitted on the downlink. | Please change " uplink " to " downlink" | Revised –  Agree with comment. Removed the conflicting instances that are in parenthesis.  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 5687. |
| 6023 | Liwen Chu | 152.62 | change to "The Direction subfield is set to 0 (Uplink) if the TID-To-link Mapping element provides the TID-to-link mapping information for frames transmitted on the uplink" | As in comment | Revised –  Agree with comment. Removed the conflicting instances that are in parenthesis.  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 6023. |
| 6024 | Liwen Chu | 152.63 | change to "It is set to 1 (Downlink) if the TID-To-Link Mapping element provides the TID-to-link mapping information for frames transmitted on the downlink" | As in comment | Revised –  Agree with comment. Removed the conflicting instances that are in parenthesis.  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 6024. |
| 6364 | Morteza Mehrnoush | 153.08 | We have TID=0 to 15, so shouldn't the "Link Mapping Presence Indicator" be 16 bits? and also need 16 subfields for the Link Mapping: "Link Mapping Of TID 0" to "Link Mapping Of TID 15". | as in comment | Rejected –  While it is true that there are 16 possible values of TIDs (usable by the higher layer) current MAC only uses 8 of them in all currently defined functionalities (Qos Control, BA sessions, etc). Hence, proposal is to keep the status quo with existing protocols. |
| 6369 | Morteza Mehrnoush | 152.62 | Please fix below sentense to "0 (Downlink)" and "1 (Uplink)", it is reversed in the current text. "The Direction subfield is set to 0 (Uplink) if the TID-To-link Mapping element provides the TID-to-link mapping information for frames transmitted on the downlink. It is set to 1 (Downlink) if the TID-To-Link Mapping element provides the TID-to-link mapping information for frames transmitted on the uplink." | as in comment | Revised –  Agree with comment. Removed the conflicting instances that are in parenthesis.  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 6369. |
| 6539 | Pascal VIGER | 152.30 | According to 9.4.2.295d TID-To-Link Mapping element section, TID values are only between 0 to 7. According to REVme, the TID subfield (9.2.4.5.2) can take values up to 15, in order to identify a TC or TS. Such values > 7 can be useful to identify latency sensitive streams (either TS or SCSID) | Increase all TID fields (and relative fields such as bitmaps) so that traffic stream can be identified (e.g. Latency sensitive streams identified by TSID or SCSID). | Rejected –  While it is true that there are 16 possible values of TIDs (usable by the higher layer) current MAC only uses 8 of them in all currently defined functionalities (Qos Control, BA sessions, etc). Hence, proposal is to keep the status quo with existing protocols. |
| 6558 | Patrice Nezou | 152.62 | The Direction field only defines UL and DL transmission. A TID also concerns P2P traffics. Mapping P2P communication on a dedicated link is important to avoid disturbance on the other links. Add a new value for the Direction subfield to consider P2P communications. | As in comment | Rejected –  The group has discussed enabling multi link operation for direct link (e.g, TDLS) and has not reached agreement. Since direct link with multi link operation is not possible then signaling that would rely on it is out of scope. |
| 6665 | Raja Banerjea | 152.64 | "It is set to 1 (Downlink) if the TID-To-Link Mapping element provides the TID-to-link mapping information for frames transmitted on the uplink." Is this text indicating that the mapping is for DL or for UL? | change "Mapping element provides the TID-to-link mapping information for frames transmitted on the uplink.downlink" | Revised –  Agree with comment. Removed the conflicting instances that are in parenthesis.  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 6665. |
| 6666 | Raja Banerjea | 152.62 | "The Direction subfield is set to 0 (Uplink) if the TID-To-link Mapping element provides the TID-to-link mapping information for frames transmitted on the downlink" | change "Mapping element provides the TID-to-link mapping information for frames transmitted on the downlink.uplink" | Revised –  Agree with comment. Removed the conflicting instances that are in parenthesis.  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 6666. |
| 6667 | Raja Banerjea | 153.05 | "The Default Link Mapping subfield is set to 1 if the TID-To-Link Mapping element represents the default TID-to-link mapping. Otherwise, it is set to 0." What is the point of including that TID in the TID to link Mapping element if the mapping will be default. |  | Revised –  This bit allows updating the TID to link mapping from a non-default map to a default map for one or more of the directions and back.  Proposed resolution clarifies the use of the field so that it is a little bit clearer.  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 6667. |
| 6668 | Raja Banerjea | 153.09 | Please define poisition "I" with respect to the bits B8-B15 "A value of 1 in bit position i of the Link Mapping Of TID n field indicates that TID n is mapped to the link associated with the link ID i for the direction as specified in the Direction subfield." |  | Revised –  Agree in principle with the comment. However the reference cannot be the superset field, and in particular not B8 to B15 since the Link Mapping of TID n is 15 bits long. Proposed resolution clarifies that i takes values between 0 and 15).  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 6668. |
| 6759 | Romain GUIGNARD | 152.32 | Why is the bitmap of the Link mapping of TIDx by default of 2 octets? The size of the bitmap may be adjusted to the number of links resulting from the (re)setup. Thereby the bitmap size is infered from the number of link. | Adjust the size of the Link mapping bitmap to the number of setup links | Rejected –  Current format is defined so that the fields presences are obtainable from preceding bits settings, i.e., explicit signaling which is much simpler than implicit signaling that is inferred from some other information. |
| 6888 | Rubayet Shafin | 152.57 | There are 16 possible TID values. Why only 8 bits are reserved for Link Mapping Presence Indicator field in TID-to-Link Control field? | Please provide the justification/rationale | Rejected –  While it is true that there are 16 possible values of TIDs (usable by the higher layer) current MAC only uses 8 of them in all currently defined functionalities (Qos Control, BA sessions, etc). Hence, proposal is to keep the status quo with existing protocols. |
| 7707 | Xiaofei Wang | 153.13 | Is the Link Mapping Presence Indicator subfield needed if the TID to Link mapping is in default mode? Consider remove the subfield when the TID to Mapping is default. | as in comment | Revised –  Agree in principle with the comment. Accounted for the suggestion.  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 7707. |
| 8295 | Zhiqiang Han | 152.63 | The first sentence is for Downlink. The second setence is for Uplink | Please change the words as the suggestion | Revised –  Agree with comment. Removed the conflicting instances that are in parenthesis.  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 8295. |
| **CIDs related to non-action MGMT frames carrying the TID to Link Mapping element** | | | | | |
| 5320 | Jarkko Kneckt | 106.26 | The jointly initiating a TID-to-link mapping negotiation in the Association request and association response is not clear. Which device may initiate the TID-To-Link mapping? What if the TID-to-link mapping cannot befinished during the association signaling. Is the negotiation continued with some frames? | Please clarify that AP MLD may not send Association Response that contains TID-To-Link Mapping element, if it does not receive TID-To-Link mapping element in Association Request. Rewrite with more precise definition the text:" and jointly initiating a TID-to-link mapping negotiation." | Revised –  Agree in principle with the comment. Proposed resolution clarifies this aspect. Also please note that a negotiation that starts with Assoc request cannot conclude with anything else but assoc response. This is baseline 4-way handshake behavior. Made the same changes to the reassoc portions as well.  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 5320. |
| 5681 | kaiying Lu | 106.21 | If two TID-To-Link Mapping elements are present, the Direction subfield in one of the TID-To-Link Mapping elements is set to 0 (Uplink) and the Direction subfield in the other TID-To-Link Mapping element is set to 1 (Downlink) | Please change " set to 0 (Downlink) " to " set to 0 (Uplink)", and change " set to 1 (Uplink) " to " set to 1 (Downlink) " | Revised –  Fixes are provided to the inconsistent text in the information element itself, which at the end is aligned with these settings.  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 5681. |
| 6540 | Pascal VIGER | 71.07 | According to 9.4.2.295d TID-To-Link Mapping element section, TID values are only between 0 to 7. According to REVme, the TID subfield (9.2.4.5.2) can take values up to 15, in order to identify a TC or TS. Such values > 7 can be useful to identify latency sensitive streams (either TS or SCSID) | Update Table 9-12 TID Subfield, such that it also includes SCSID for allowed values in range 8-15. | Rejected –  TID and SCSIDs are independent identifiers which don’t have any predefined mapping one to one that would need to be added in the TID field of the QOS Control field. Also please note that among the 16 possible values of the TID only 8 of them (TCs) are used by EHT STAs for traffic classification of MSDUs. |
| 6638 | Pooya Monajemi | 110.64 | It is possible that that AP cannot accept an association on the link on which it receives the request but is open to accepting a request on another link. (Per current spec it seems that the link on which request is sent is always accepted) We need a status code to signal this. | Add a denied reason code that indicates AP may accept request on another link | Revised –  Agree in principle with the comment. Proposed resolution adds a reason code for this purpose.  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 6638. |
| 7841 | Yonggang Fang | 105.51 | Suggest to change "dot11TIDtoLinkMappingActivated" to "dot11TIDtoLinkMappingNegotiationActivated" as it means the negotiation of TID-to-Link mapping is activated. | See the comment. | Rejected –  The definition of the MIB variable itself and the fact that the functionality relies on the negotiation is already sufficient to indicate that this is a negotiation. Adding the Negotiation part ot the MIB variable does not really add much from this aspect however it does increase the length of the MIB variable. |
| 8265 | Zhiqiang Han | 105.22 | The parameter dot11MultiLinkActivated has added.so it's better to use this parameter to describe the capability. Change the setence to " if dot11MultiLinkActivated is true;" | as in comment. | Revised –  Agree with comment.  TGbe editor: Please replace  “The Basic variant Multi-Link element is present if the AP is affiliated with an AP MLD. Otherwise it is not present.”  with  The Basic variant Multi-Link element is present if dot11MultiLinkActivated is true; otherwise it is not present. |
| 8266 | Zhiqiang Han | 105.44 | The parameter dot11MultiLinkActivated has added.so it's better to use this parameter to describe the capability. Change the setence to " if dot11MultiLinkActivated is true;" | as in comment. | Revised –  Agree with comment.  TGbe editor: Please replace  “The Basic variant Multi-Link element is present if the AP is affiliated with an AP MLD. Otherwise it is not present.”  with  The Basic variant Multi-Link element is present if dot11MultiLinkActivated is true; otherwise it is not present. |
| 8267 | Zhiqiang Han | 106.11 | The parameter dot11MultiLinkActivated has added.so it's better to use this parameter to describe the capability. Change the setence to " if dot11MultiLinkActivated is true;" | as in comment. | Revised –  Agree with comment.  TGbe editor: Please replace  “The Basic variant Multi-Link element is present if the AP is affiliated with an AP MLD. Otherwise it is not present.”  with  The Basic variant Multi-Link element is present if dot11MultiLinkActivated is true; otherwise it is not present. |
| 8268 | Zhiqiang Han | 106.47 | The parameter dot11MultiLinkActivated has added.so it's better to use this parameter to describe the capability. Change the setence to " if dot11MultiLinkActivated is true;" | as in comment. | Revised –  Agree with comment.  TGbe editor: Please replace  “The Basic variant Multi-Link element is present if the AP is affiliated with an AP MLD. Otherwise it is not present.”  with  The Basic variant Multi-Link element is present if dot11MultiLinkActivated is true; otherwise it is not present. |
| 8269 | Zhiqiang Han | 107.13 | The parameter dot11MultiLinkActivated has added.so it's better to use this parameter to describe the capability. Change the setence to " if dot11MultiLinkActivated is true;" | as in comment. | Revised –  Agree with comment.  TGbe editor: Please replace  “The Basic variant Multi-Link element is present if the AP is affiliated with an AP MLD. Otherwise it is not present.”  with  The Basic variant Multi-Link element is present if dot11MultiLinkActivated is true; otherwise it is not present. |
| 8270 | Zhiqiang Han | 107.52 | The parameter dot11MultiLinkActivated has added.so it's better to use this parameter to describe the capability. Change the setence to " if dot11MultiLinkActivated is true;" | as in comment. | Revised –  Agree with comment.  TGbe editor: Please replace  “The Basic variant Multi-Link element is present if the AP is affiliated with an AP MLD. Otherwise it is not present.”  with  The Basic variant Multi-Link element is present if dot11MultiLinkActivated is true; otherwise it is not present. |
| **CIDs related to Action frames carrying the TID to Link Mapping element** | | | | | |
| 5372 | Jay Yang | 161.37 | The EHT Action field is defined in 9.6.34.1 (EHT Action field). please double confirm whether it's EHT Action field or Protected EHT action field | The EHT Action field is defined in 9.6.35.1 (Protected EHT Action field). | Revised –  Agree in principle with the comment. Fixed reference.  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 5372. |
| 5895 | Liangxiao Xin | 162.55 | It is not clear which TID-To-Link mapping will be teardown here. If AP initiates a TID-to-Link mapping and non-AP sends a TID-to-Link mapping teardown at the same time on different links, will the both sides end up with the same TID-to-link mapping status? | please clarify the procedure for such race condition | Revised –  There can only be one negotiation between two peer MLDs at any given time. Hence, the tear down tears down THE TID-to-link map. On the race condition, please note that even if there are concurrent negotiations happening for some reason on different links, the tear down will simply lead to a cease to exist negotiation.  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 5895. |
| 5956 | Liuming Lu | 162.01 | Currently specified TID-To-Link Mapping Response frame contains a field of status code, which only includes DENIED\_TID\_TO\_LINK\_MAPPING and SUCCESS for the response to the request. If the response MLD rejects the TID-TO-LINK mapping request sended by the request MLD only the status code of DENIED\_TID\_TO\_LINK\_MAPPING can be used, and the request MLD is still unable to know what TID-to-link mapping can be potentially accepted by the response MLD. The limited types of TID-To-Link Mapping Response and status codes would reduce the efficiency of the TID-to-link mapping negotiation | Suggest to further specify the types of TID-to-link Mapping Response and extend the specification of the field of status codes to increase the efficiency of the TID-to-link mapping negotiation | Rejected –  Currently the specification also provides a STATUS CODE which indicates PREFERRED\_TID\_TO\_LINK\_MAPPING\_SUGGESTED. This code covers the cases mentioned by the commenter. |
| 5957 | Liuming Lu | 161.10 | Currently specified TID-To-Link Mapping Request frame is too simple to be convenient for the TID-to-link mapping negotiation.For example, the request MLD wants to suggest TID-to-link mapping parameters in the request but it still can potentially accept other TID-to-link mapping parameters if the suggested TID-to-link mapping parameters are not satisfied, and currently specified TID-To-Link Mapping Request frame cannnot be used in this case. | Suggest to further specify the types of TID-to-link Mapping request to increase the efficiency of the TID-to-link mapping negotiation | Rejected –  Currently the specification also provides a STATUS CODE which indicates PREFERRED\_TID\_TO\_LINK\_MAPPING\_SUGGESTED. This code covers the cases mentioned by the commenter. |
| 6026 | Liwen Chu | 161.13 | It is MLD negotiates TID-to-link mapping, not STA. | change the draft per comment | Revised –  Agree in principle with the comment. Fixed.  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 6026. |
| 6709 | Rojan Chitrakar | 161.44 | Why require two elements when both UL and DL TID-to-link mapping need to be signaled. Why not allow a single element to signal both and save 3 octets? | Allow both UL and DL TID-to-link mapping to be included in a single TID-To-Link Mapping element. The Data portion of the element can simply be repeated for each direction. | Rejected –  Mainly simplicity. Please note that these elements are only carried in MTMT frames that are sent sporadically (during negotiation) so saving 3 octets does not bring any benefits when compared to the additional parsing complexity that the design would need. |
| 6760 | Romain GUIGNARD | 161.40 | The MLD should avoid the value 0 for the dialog token field in the TID-To-Link mapping request frame otherwise MLD will not be able to determine whether the TID-To-Link Mapping Response frame is a sollicited or unsollicited response frame | The Dialog Token field is a non zero value chosen by the STA sending the TID-To-Link Mapping Request frame to identify the request/response transaction. | Revised –  Agree with the comment. Fixed.  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 6760. |
| 8177 | Yunbo Li | 161.40 | Dialog Token value =0 is used for unsolicited TID-To-Link Mapping, so Dialog Token field shall be chosen from a non-zero value. | as in comment | Revised –  Agree with the comment. Fixed.  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 8177. |
| 8178 | Yunbo Li | 162.42 | "The TID-To-Link Mapping field contains zero, one, or two TID-To-Link Mapping elements as specified in 9.4.2.295d (TID-To-Link Mapping element) in order to suggest a preferred mapping". How zero TID-to-link mapping element could suggest a preferred mapping? | clarify it, or delete zero here. | Revised –  Agree in principle with the comment. Proposed resolution clarifies this aspect further.  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 8178. |
| 8182 | Yunbo Li | 161.26 | "EHT Action" field shoud be "Protected EHT Action" field in Table 9-526q. Same comment for Table 9-526r and Table 9-526s | as in comment | Revised –  Agree in principle with the comment. Fixed reference.  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 8182. |
| 8298 | Zhiqiang Han | 161.37 | The reference should be Protected EHT Action field. | as in comment. | Revised –  Agree in principle with the comment. Fixed reference.  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 8298. |
| 8299 | Zhiqiang Han | 162.30 | The reference should be Protected EHT Action field. | as in comment. | Revised –  Agree in principle with the comment. Fixed reference.  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 8299. |
| 8300 | Zhiqiang Han | 163.11 | The reference should be Protected EHT Action field. | as in comment. | Revised –  Agree in principle with the comment. Fixed reference.  TGbe editor to make the changes shown in 11-21/1894r0 under all headings that include CID 8300. |

**Discussion:**

**Propose:**

**9.4.1.9 Status Code field**

**TGbe Editor: *Change the table below of this subclause as follows (#CID 6638):***

**Table 9-50—Status codes**

|  |  |  |
| --- | --- | --- |
| **Status code** | **Name** | **Meaning** |
| 133 | DENIED\_TID\_TO\_LINK\_MAPPING | Request denied because the requested TID-to-link map- ping is unacceptable. |
| 134 | PREFERRED\_TID\_TO\_LINK\_MAP- PING\_SUGGESTED | Preferred TID-to-link mapping suggested. |
| <ANA> | DENIED\_MULTI LINK SETUP | Request denied because the link where the multi link setup request is received is unacceptable.*(#6638)* |

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**9.4.2.295b.2 Basic variant Multi-Link element**

**TGbe Editor: *Change the table below of this subclause as follows (#CID 4267):***

**Table 9-322ao—Subfields of the MLD Capabilities field**

|  |  |  |
| --- | --- | --- |
| **Subfield** | **Definition** | **Encoding** |
| TID-To-Link Map- ping Negotiation Sup- ported | Indicates support for TID-to-link mapping negotiation. | Set to 0 if dot11TIDtoLinkMappingActivated is false and TID to link mapping is not supported by the MLD.  Set to 1 if dot11TIDtoLinkMappingActivated is true and the MLD supports the mapping of each TID to the same or different link set.  Set to 2 if dot11TIDtoLinkMappingActivated is true and the MLD only supports the mapping of all TIDs to the same link set.*(#4267)*  The value 3 is reserved.  (See 35.3.6.1.3 (Negotiation of TID-to-link mapping)) |

**9.4.2.295dTID-To-Link Mapping element**

The TID-To-Link Mapping element indicates links on which frames belonging to each TID can be exchanged. The format of the TID-To-Link Mapping element is shown in [Figure 9-788ead (TID-To-Link](file:///C:\Users\aasterja\AppData\Local\Temp\Temp1_Draft%20P802.11be_D1.2%20-%20Word.zip\TGbe_Cl_09.doc#bookmark152) [Mapping element format)](file:///C:\Users\aasterja\AppData\Local\Temp\Temp1_Draft%20P802.11be_D1.2%20-%20Word.zip\TGbe_Cl_09.doc#bookmark152).

**TGbe Editor: *Change the figure below of this subclause as follows (#CID 7707):***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Element ID | Length | Element ID Extension | TID-To-Link Mapping Control | Link Mapping Of TID 0  (Optional) | … | Link Mapping Of TID 7  (Optional) |

Octets: 1 1 1 1 or 2 0 or 2 0 or 2

**Figure 9-788ead—TID-To-Link Mapping element format***(#7707)*

The Element ID, Length, and Element ID Extension fields are defined in [9.4.2.1 (General)](file:///C:\Users\aasterja\AppData\Local\Temp\Temp1_Draft%20P802.11be_D1.2%20-%20Word.zip\TGbe_Cl_09.doc#bookmark80).

The format of the TID-To-Link Mapping Control field is defined in [Figure 9-788eae (TID-To-Link Control](file:///C:\Users\aasterja\AppData\Local\Temp\Temp1_Draft%20P802.11be_D1.2%20-%20Word.zip\TGbe_Cl_09.doc#bookmark153) [field format)](file:///C:\Users\aasterja\AppData\Local\Temp\Temp1_Draft%20P802.11be_D1.2%20-%20Word.zip\TGbe_Cl_09.doc#bookmark153).

**TGbe Editor: *Change the figure below of this subclause as follows (#CID 7707):***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | B0 B1 | B2 | B3 B7 | B8 |  | B15 |
| Direction | Default Link Mapping | Reserved | Link Mapping Presence Indicator (Optional) | | |
| Bits: | 2 | 1 | 5 |  | 0 or 8 |  |

Figure 9-788eae—TID-To-Link Control field format*(#7707)*

**TGbe Editor: *Change the paragraph below of this subclause as follows (#CID 4021, 5132, 5686, 5687, 6023, 6024, 6369, 6665, 6666, 5681):***

The Direction subfield is set to 0 if the TID-To-link Mapping element provides the TID-to-link mapping information for frames transmitted on the downlink. It is set to 1 if the TID-To-Link Mapping element provides the TID-to-link mapping information for frames transmitted on the uplink. It is set to 2 if the TID-To-Link Mapping element provides the TID-to-link mapping information for frames transmitted both on the downlink and the uplink. The value of 3 is reserved.*(#4021, 5132, 5686, 5687, 6023, 6024, 6369, 5681, 6665, 6666)*

**TGbe Editor: *Change paragraphs below of this subclause as follows (#CID 4022, 4023, 4024, 5133, 5134, 6667, 6668, 7707):***

The Default Link Mapping subfield is set to 1 if the TID-To-Link Mapping element indicates that all TIDs for the direction indicated by the Direction subfield are mapped to all setup links that are enabledOtherwise, it is set to 0.*(#4022,5133, 6667)*

The Link Mapping Presence Indicator subfield indicates whether the Link Mapping Of TID *n* field is present in the TID-To-Link Mapping element (i.e., it identifies the TID(s) for which the mapping is provided in the element)*(#4023)*. A value of 1 in bit position *n* of the Link Mapping Presence Indicator subfield indicates that the Link Mapping Of TID *n* field is present in the TID-To-Link Mapping element. Otherwise, the Link Mapping Of TID *n* field is not present in the TID-To-Link Mapping element. When the Default Link Mapping subfield is set to 1, this subfield is not present*(#7707)*.

The Link Mapping Of TID *n* field (where *n* = 0, 1, ¼, 7 ) indicates the link(s) on which frames belonging to the TID *n* are allowed to be send (i.e., carries a bitmap of the links to which the TID *n* is mapped to)*(#4024)*. A value of 1 in bit position *i* (where i = 0, 1, …, 15)*(#6668)* of the Link Mapping Of TID *n* field indicates that TID *n* is mapped to the link associated with the link ID *i* for the direction as specified in the Direction subfield. A value 0 in bit position *i* indicates that the TID *n* is not mapped to the link associated with the link ID *i*.*(#5134)* When the Default Link Mapping subfield is set to 1, this field is not present.

**9.3.3.5 Association Request frame format**

**TGbe Editor: *Change the table below of this subclause as follows (#CID 5320):***

Table 9-34—Association Request frame body(#1004)(#2246)(#3353)

|  |  |  |
| --- | --- | --- |
| **Order** | **Information** | **Notes** |
| <Last assigned + 3> | TID-To-Link Map- ping | One or two TID-To-Link Mapping elements are present if dot11- MultiLinkActivated is true, dot11TIDtoLinkMappingActivated is true, and a non-AP STA affiliated to a non-AP MLD initiates both a multi-link setup and a TID-to-link mapping negotiation. Otherwise it is not present.  - If two TID-To-Link Mapping elements are present then the Direc- tion subfield in one of the TID-To-Link Mapping elements is set to 0 and the Direction subfield in the other TID- To-Link Mapping element is set to 1. *(#5320)* |

**9.3.3.6 Association Response frame format**

**TGbe Editor: *Change the table below of this subclause as follows (#CID 5320):***

Table 9-35—Association Response frame body

|  |  |  |
| --- | --- | --- |
| **Order** | **Information** | **Notes** |
| <Last assigned + 4> | TID-To-Link Map- ping | One or two TID-To-Link Mapping elements are present if dot11MultiLinkActivated is true, dot11TIDtoLinkMappingActivated is true, and the AP sends an Association Response frame in response to a received Association Request fame that is initiating both a multi- link setup and TID-to-link mapping negotiation. Otherwise it is not present.  - If two TID-To-Link Mapping elements are present then the Direc- tion subfield in one of the TID-To-Link Mapping elements is set to 0 and the Direction subfield in the other TID- To-Link Mapping element is set to 1. *(#5320)* |

**9.3.3.7 Reassociation Request frame format**

**TGbe Editor: *Change the table below of this subclause as follows (#CID 5320):***

Table 9-36—Reassociation Request frame body(#1004)(#2246)(#3355)

|  |  |  |
| --- | --- | --- |
| **Order** | **Information** | **Notes** |
| <Last assigned + 3> | TID-To-Link Map- ping | One or two TID-To-Link Mapping elements are present if dot11- MultiLinkActivated is true, dot11TIDtoLinkMappingActivated is true, and a non-AP STA affiliated to a non-AP MLD initiates both a multi-link setup and a TID-to-link mapping negotiation. Otherwise it is not present.  - If two TID-To-Link Mapping elements are present then the Direc- tion subfield in one of the TID-To-Link Mapping elements is set to 0 and the Direction subfield in the other TID- To-Link Mapping element is set to 1. *(#5320)* |

**9.3.3.8 Reassociation Response frame format**

**TGbe Editor: *Change the table below of this subclause as follows (#CID 5320):***

Table 9-37—Reassociation Response frame body(#1004)(#2246)(#3356)

|  |  |  |
| --- | --- | --- |
| **Order** | **Information** | **Notes** |
| <Last assigned + 4> | TID-To-Link Map- ping | One or two TID-To-Link Mapping elements are present if dot11MultiLinkActivated is true, dot11TIDtoLinkMappingAc- tivated is true, and the AP sends an Association Response frame in response to a received Association Request fame that is initiating both a multi- link setup and TID-to-link mapping negotiation. Otherwise it is not present.  - If two TID-To-Link Mapping elements are present then the Direc- tion subfield in one of the TID-To-Link Mapping elements is set to 0 and the Direction subfield in the other TID- To-Link Mapping element is set to 1. *(#5320)* |

**9.6.35 Protected EHT Action frame details**

**9.6.35.2 TID-To-Link Mapping Request frame format**

**TGbe Editor: *Change the paragraph below of this subclause as follows (#CID 6026):***

A an MLD*(#6026)* uses the TID-to-link Mapping Request frame to negotiate a TID-to-link mapping for setup links with a peer MLD. The Action field of the TID-to-link Mapping Request frame contains the information shown in [Table 9-526q (TID-To-Link Mapping Request frame Action field format)](file:///C:\Users\aasterja\AppData\Local\Temp\Temp1_Draft%20P802.11be_D1.2%20-%20Word.zip\TGbe_Cl_09.doc#bookmark180).

**TGbe Editor: *Change the table below of this subclause as follows (#CID 5372, 8182, 8298, 8299, 8300):***

**Table 9-526q—TID-To-Link Mapping Request frame Action field format**

|  |  |
| --- | --- |
| **Order** | **Information** |
| 1 | Category |
| 2 | Protected EHT Action*(#5372, 8182, 8298, 8299, 8300)* |
| 3 | Dialog Token |
| 4 | TID-To-Link Mapping (see [9.4.2.295d (TID-To-Link Mapping](file:///C:\Users\aasterja\AppData\Local\Temp\Temp1_Draft%20P802.11be_D1.2%20-%20Word.zip\TGbe_Cl_09.doc#bookmark151) [element)](file:///C:\Users\aasterja\AppData\Local\Temp\Temp1_Draft%20P802.11be_D1.2%20-%20Word.zip\TGbe_Cl_09.doc#bookmark151)) |

The Category field is defined in [9.4.1.11 (Action field)](file:///C:\Users\aasterja\AppData\Local\Temp\Temp1_Draft%20P802.11be_D1.2%20-%20Word.zip\TGbe_Cl_09.doc#bookmark67).

**TGbe Editor: *Change the paragraph below of this subclause as follows (#CID 5372, 8182, 8298, 8299, 8300):***

The Protected EHT Action field is defined in 9.6.35.1 (Protected EHT Action field). *(#5372, 8182, 8298, 8299, 8300)*

**TGbe Editor: *Change the paragraph below of this subclause as follows (#CID 6760, 8177):***

The Dialog Token field is set to a nonzero value chosen by the STA sending the TID-To-Link Mapping Request frame to identify the request/response transaction.

The TID-To-Link Mapping field contains one or two TID-To-Link Mapping elements as specified in

[9.4.2.295d (TID-To-Link Mapping element)](file:///C:\Users\aasterja\AppData\Local\Temp\Temp1_Draft%20P802.11be_D1.2%20-%20Word.zip\TGbe_Cl_09.doc#bookmark151). When it contains two TID-To-Link Mapping elements, the

Direction subfield in one of the TID-To-Link Mapping elements is set to 0 and the Direction

subfield in the other of the TID-To-Link Mapping elements is set to 1 . *(#6760, 8177)*

**9.6.35.3 TID-To-Link Mapping Response frame format**

The TID-To-Link Mapping Response frame is sent by a STA affiliated to an MLD in response to a TID-To-Link Mapping Request frame to accept or reject a proposed TID-to-link mapping, or sent by a STA affiliated to an MLD to suggest a preferred TID-to-link mapping. The Action field of the TID-To-Link Mapping Response frame contains the information shown in [Table 9-526r (TID-To-Link Mapping Response frame](file:///C:\Users\aasterja\AppData\Local\Temp\Temp1_Draft%20P802.11be_D1.2%20-%20Word.zip\TGbe_Cl_09.doc#bookmark181) [Action field format)](file:///C:\Users\aasterja\AppData\Local\Temp\Temp1_Draft%20P802.11be_D1.2%20-%20Word.zip\TGbe_Cl_09.doc#bookmark181).

**TGbe Editor: *Change the table below of this subclause as follows (#CID 5372, 8182, 8298, 8299, 8300):***

**Table 9-526r—TID-To-Link Mapping Response frame Action field format**

|  |  |
| --- | --- |
| **Order** | **Information** |
| 1 | Category |
| 2 | Protected EHT Action*(#5372, 8182, 8298, 8299, 8300)* |
| 3 | Dialog Token |
| 4 | Status Code |
| 5 | TID-To-Link Mapping (see [9.4.2.295d (TID-To-Link Mapping](file:///C:\Users\aasterja\AppData\Local\Temp\Temp1_Draft%20P802.11be_D1.2%20-%20Word.zip\TGbe_Cl_09.doc#bookmark151) [element)](file:///C:\Users\aasterja\AppData\Local\Temp\Temp1_Draft%20P802.11be_D1.2%20-%20Word.zip\TGbe_Cl_09.doc#bookmark151)) |

The Category field is defined in [9.4.1.11 (Action field)](file:///C:\Users\aasterja\AppData\Local\Temp\Temp1_Draft%20P802.11be_D1.2%20-%20Word.zip\TGbe_Cl_09.doc#bookmark67).

**TGbe Editor: *Change the paragraph below of this subclause as follows (#CID 5372, 8182, 8298, 8299, 8300):***

The Protected EHT Action field is defined in 9.6.35.1 (Protected EHT Action field). *(#5372, 8182, 8298, 8299, 8300)*

When the TID-To-Link Mapping Response frame is transmitted as a response to a TID-To-Link Mapping Request frame, the Dialog Token field is the value in the corresponding TID-To-Link Mapping Request frame. When the TID-To-Link Mapping Response frame is transmitted as an unsolicited response, then the Dialog token is set to 0.

The Status Code is defined in [9.4.1.9 (Status Code field)](file:///C:\Users\aasterja\AppData\Local\Temp\Temp1_Draft%20P802.11be_D1.2%20-%20Word.zip\TGbe_Cl_09.doc#bookmark65).

**TGbe Editor: *Change the paragraph below of this subclause as follows (#CID 8178):***

The TID-To-Link Mapping field contains one, or two TID-To-Link Mapping elements if the Status Code is set to 134 (PREFERRED\_TID\_TO\_LINK\_MAPPING\_SUGGESTED). Otherwise, it does not contain any TID-To-Link Mapping elements. When it contains two TID-To-Link Mapping elements, the Direction subfield in one of the TID-To-Link Mapping elements is set to 0 and the Direction subfield in the other of the TID-To-Link Mapping elements is set to 1.*(#8178)*

**9.6.35.4 TID-To-Link Mapping Teardown frame format**

**TGbe Editor: *Change the paragraph below of this subclause as follows (#CID 5895):***

The TID-to-link Mapping Teardown frame is sent by a STA affiliated to an MLD to request the teardown of an existing TID-to-link mapping that have beennegotiated with the peer MLD. *(#5895)*

The Action field of the TID-to-link Mapping Teardown frame contains the information shown in [Table 9-526s (TID-To-Link Mapping Tear-down frame Action field format)](file:///C:\Users\aasterja\AppData\Local\Temp\Temp1_Draft%20P802.11be_D1.2%20-%20Word.zip\TGbe_Cl_09.doc#bookmark182)

**TGbe Editor: *Change the table below of this subclause as follows (#CID 5372, 8182, 8298, 8299, 8300):***

**Table 9-526s—TID-To-Link Mapping Teardown frame Action field format**

|  |  |
| --- | --- |
| **Order** | **Information** |
| 0 | Category |
| 1 | Protected EHT Action*(#5372, 8182, 8298, 8299, 8300)* |

The Category field is defined in [9.4.1.11 (Action field)](file:///C:\Users\aasterja\AppData\Local\Temp\Temp1_Draft%20P802.11be_D1.2%20-%20Word.zip\TGbe_Cl_09.doc#bookmark67).

**TGbe Editor: *Change the paragraph below of this subclause as follows (#CID 5372, 8182, 8298, 8299, 8300):***

The Protected EHT Action field is defined in 9.6.35.1 (Protected EHT Action field). *(#5372, 8182, 8298, 8299, 8300)*