IEEE P802.11
Wireless LANs

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| LB 275: CR for CID 19851 |
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Abstract

This submission proposes comment resolution(s) for the following 1 CID(s) received in LB 275 on TGbe D4.0 related to the Multi-link Traffic Indication in subclause 35.3.12.4.

CIDs:

19851

Revisions:

* Rev 0: Initial version of the document.

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| **CID** | **Commenter** | **Clause Number** | **Page.****Line** | **Comment** | **Proposed Change** | **Resolution** |
| 19851 | Vishnu Ratnam | 35.3.12.4 | 543.46 | A mechanism should be provided in the traffic indication procedure, for an AP affiliated with an AP MLD to recommend one or more non-AP MLD(s) with default TTLM to wake up STAs operating on all links to receive BUs when the traffic buffer at AP MLD is large. | When a non-AP MLD that is in the default mapping mode detects that the bit corresponding to its AID is equal to 1 in the TIM element and the Multi-Link Traffic Indication element is present in a Beacon frame and the Multi-Link Traffic Indication element includes a Per-Link Traffic Indication Bitmap n subfield that corresponds to the non-AP MLD, the non-AP MLD shall operate as follows: (i) if all bits of the Per-Link Traffic Indication Bitmap n subfield are set to 0, all non-AP STAs affiliated with the non-AP MLD should issue a PS-Poll frame, or a U-APSD trigger frame if the STA is using U-APSD and all ACs are delivery enabled, to retrieve buffered BU(s) from the AP MLD. (ii) if not all bits of the Per-Link Traffic Indication Bitmap n subfield are set to 0, any non-AP STA affiliated with the non-AP MLD that operates on the link(s) indicated as 1 in the Per-Link Traffic Indication Bitmap n subfield may issue a PS-Poll frame, or a U-APSD trigger frame if the STA is using U-APSD and all ACs are delivery enabled, to retrieve buffered BU(s) from the AP MLD. | Revised.A mechanism to wake up STAs operating on other links affiliated with a non-AP MLD was discussed in the previous round but no consensus could be reached. Please see doc: 11-22/1201r6. However, clarification on the Per-link traffic indication bitmap n subfield encoding when the AP MLD does not have a link recommendation for a non-AP MLD with default T2LM has now been provided. TGbe editor to make changes with the CID tag #19851 in doc: IEEE 802.11-23/2080r0.  |

**Discussion:**

Note that currently for default mapping the MLTI element is only used for performing link recommendations. There are two issues here:

* The spec is unclear about the encoding of Per-Link Traffic Indication Bitmap *n* subfield corresponding to an AID of a non-AP MLD with default TTLM, if the AP MLD does not have a link recommendation for that non-AP MLD.
* The behavior of a non-AP MLD with default TTLM mapping, when it receives a MLTI element with the Per-Link Traffic Indication Bitmap *n* subfield corresponding to its AID set to all 0s is not clear.

This document clarifies that the AP shall use all 0’s encoding of Per-Link Traffic Indication Bitmap *n* subfield if it doesn’t intend to provide a link recommendation. Necessary changes of text for non-AP MLD operation rules are also added.

**TGbe Editor to make the following changes in Subclause 35.3.12.4 (Traffic indication) in TGbe D4.0: (#19851)**

**35.3.12.4 Traffic indication**

*TGbe editor, please add the following note after the 9th paragraph in this subclause as shown below:*

If a non-AP MLD is in the default mapping mode (see 35.3.7.2.2 (Default mapping mode)) or all TIDs are mapped to all enabled links, the bit position *i* of the Per-Link Traffic Indication Bitmap *n* subfield that corresponds to the link with the link ID equals to *i* on which a non-AP STA affiliated with the non-AP MLD is operating may be set to 1 to indicate to the non-AP MLD a link on which buffered BU(s) should be retrieved.

[#19851]Note: In a Per-Link Traffic Indication Bitmap *n* subfield of a Multi-Link Traffic Indication element corresponding to a non-AP MLD in default mapping mode, all bits are set to 0 to indicate to the non-AP MLD that any of its affiliated STA(s) operating on enabled link(s) may be used to retrieve the BU(s).

*TGbe editor, please update the 13th paragraph in this subclause as shown below:*

When a non-AP MLD that is in the default mapping mode (see 35.3.7.2.2 (Default mapping mode)) detects that the bit corresponding to its AID is equal to 1 in the TIM element and the Multi-Link Traffic Indication element is not present in a Beacon frame or the Multi-Link Traffic Indication element is present in a Beacon frame but the Multi-Link Traffic Indication element does not include a Per-Link Traffic Indication Bitmap *n* subfield that corresponds to the non-AP MLD [#19851]or the Multi-Link Traffic Indication element is present in a Beacon frame and Multi-Link Traffic Indication element includes a Per-Link Traffic Indication Bitmap *n* subfield that corresponds to the non-AP MLD with all bits set to 0, any non-AP STA affiliated with the non-AP MLD may issue a PS-Poll frame, or a U-APSD trigger frame if the STA is using U-APSD and all ACs are delivery enabled, to retrieve buffered BU(s) from the AP MLD.