IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Resolution for CID 2469 | | | | |
| Date: March 23, 2021 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Gaurang Naik | Qualcomm Inc. |  |  | gnaik@qti.qualcomm.com |
| Abhishek Patil | Qualcomm Inc. |  |  | appatil@qti.qualcomm.com |
| George Cherian | Qualcomm Inc. |  |  | gcherian@qti.qualcomm.com |
| Alfred Asterjadhi | Qualcomm Inc. |  |  | aasterja@qti.qualcomm.com |
| Duncan Ho | Qualcomm Inc. |  |  | dho@qti.qualcomm.com |
| Yanjun Sun | Qualcomm Inc. |  |  | yanjuns@qti.qualcomm.com |
| Payam Torab | Facebook |  |  | torab@ieee.org |

Abstract

This submission proposes resolutions for following CID received for TGbe CC34: 2469

**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.***

**Discussion**

The 11be draft 0.4 states the following about “Link ID”:

* Page 113, line 6: “NOTE 2—The link identifier is unique to an AP within an AP MLD.”

Further, draft 0.4 also has the following statement:

* Page 197, lines 8-9: “An AP of an AP MLD shall have a unique Link ID that shall not change during the lifetime of the AP MLD.”

Considering the above statements, the use of the term “AP ID” in place of “Link ID” seems more appropriate, as it is used to uniquely identify an AP affiliated with an AP MLD. This replacement also shortens and simplifies several statements as shown in the following pages of this document. For example:

* (9.6.13.20(WNM Sleep Mode Response frame format)) “The Key field is the IGTK being distributed for the AP operating on the link identified by the Link ID subfield.” will simplify to “The Key field is the IGTK being distributed for the AP identified by the AP ID subfield.”
* (35.3.4.2 (Use of ML probe request and response)) “the Link ID of the AP is equal to the value in the Link ID field in a Per-STA Profile subelement in the Multi-Link element in the Probe Request frame.” will simplify to “the AP ID of the AP matches the AP ID field in a Per-STA Profile”

In addition, the term “link” is often used for an entity that connect two endpoints, and from that perspective an AP can terminate several links, which makes the phrase “the link” in sentences such as the following weak:

The Key field is the IGTK being distributed for the AP operating on the link identified by the Link ID subfield.

In contrast, the revised statement reads much clearer.

The Key field is the IGTK being distributed for the AP identified by the AP ID subfield.

**SP1: Do you agree to replace the field Link ID with AP ID in the 11be draft?**

* Yes
* No
* Abstain

***NOTE: The following changes apply only if SP1 receives majority support***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | **Pg/Ln** | **Section** | **Comment** | **Proposed Change** | **Resolution** |
| 2469 | Payam Torab Jahromi | 75/45 | 9.4.2.295b.2 | The field currently labeled as "Link ID" actually specifies an AP STA within an AP MLD, with the AP STA terminating several links (link is a non-AP/client concept) | Rename Link ID to AP ID in ML element and all related references to this field including similarly named in other elements. | **Revised**  Agree with the commenter. If the members agree to the change, the list of changes to be made in the current draft (D0.4) have been identified. A note to the editor has been inserted to replace all remaining instances of Link ID in the draft with AP ID.  **TGbe editor please implement changes as shown in doc 11-21/xxxr0 tagged as 2469.** |

***TGbe editor: Please note that the baseline for this document is 11be D0.4***

**9.4.2.170.2 Neighbor AP Information field**

***TGbe editor: Please revise the following text on page 113, line 1 as shown below***

**…**

The AP ID subfield identifies the reported AP within the AP MLD to which the reported AP is affiliated. The AP ID subfield is set to 15 if the reported AP is not part of an AP MLD, or if the reporting AP does not have that information.

NOTE 2 – The AP identifier is unique to an AP within an AP MLD.

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

***TGbe editor: Please revise the text below Figure 9-788ej (Per-STA Control field format) as follows***

The AP ID subfield specifies a value that uniquely identifies the AP that operates on the link where the reported STA is operating on.

**9.6.13.20 WNM Sleep Mode Response frame format**

***TGbe editor: Please revise the text below Table 9-429 (Operational subelement IDs for WNM Sleep Mode parameters) as follows***

The MLO GTK subelement contains the GTK for the AP identified by the AP ID subfield carried in the subelement. The format of the MLO GTK subelement is shown in Figure 9-941a (WNM Sleep Mode MLO GTK subelement format).

***TGbe editor: Please revise the text below Figure 9-941b (Link Info field format) as follows***

The AP ID subfield identifies the AP of the AP MLD.

The Key Info, Key Length, and RSC fields are as defined for GTK subelement.

The Key field is the GTK being distributed for the AP identified by the AP ID subfield.

The MLO IGTK subelement contains the IGTK for the AP identified by the AP ID subfield carried in the subelement. The format of the MLO IGTK subelement is shown in Figure 9-941c (WNM Sleep Mode MLO IGTK subelement format).

***TGbe editor: Please revise the text on page 133, lines 41-47 as follows***

The Key field is the IGTK being distributed for the AP identified by the AP ID subfield.

The MLO BIGTK subelement contains the BIGTK for the AP identified by the AP ID subfield carried in the subelement. The format of the MLO BIGTK subelement is shown in Figure 9-941d (WNM Sleep Mode MLO BIGTK subelement format).

***TGbe editor: Please revise the text on page 133, lines 64-65 as follows***

The Key field is the BIGTK being distributed for the AP identified by the AP ID subfield.

NOTE 3-There might be multiple MLO GTK, multiple MLO IGTK, and multiple MLO BIGTK subelements if a group rekeying is in process for one or more links when the non-AP MLD wakes up from WNM sleep mode. The Subelement ID field and AP ID subfield identifies the key type and the link to which the key(s) apply.

**12.7.2 EAPOL-Key frames**

***TGbe editor: Please revise the text below Figure 12-36a (MLO GTK KDE format) as follows***

…

The AP ID field contains the identifier of the AP that operates on the link this GTK applies.

***TGbe editor: Please revise the text below Figure 12-42a (MLO IGTK KDE format) as follows***

The AP ID field contains the identifier of the AP that operates on the link this IGTK applies.

***TGbe editor: Please revise the text below Figure 12-47b (MLO BIGTK KDE) as follows***

…

The AP ID field contains the identifier of the AP that operates on the link this BIGTK applies.

**35.3.4.2 Use of ML probe request and response**

***TGbe editor: Please revise the text on page 195, lines 1-2 as follows***

* the AP ID of the AP matches the AP ID field in a Per-STA Profile subelement in the Multi-Link element in the Probe Request frame.

***TGbe editor: Please revise the text on page 195, lines 21-26 as follows***

If the (Extended) Request element is present in a Per-STA Profile subelement of a Probe Request variant Multi-Link element of a Probe Request frame, then the (Extended) Request element requests the partial information for the reported AP that is identified by the AP ID field of the Per-STA Control field in the Per-STA Profile subelement. In this case, the Complete Profile subfield of the Per-STA Control field in the Per-STA Profile subelement is set to 0.

***TGbe editor: Please replace all other instances of “Link ID” or “link ID” in D0.4 with “AP ID” including in Figure 9-632b, 9-788ej, 9-941b, 12-36a, 12-42a, 12-47b, and 35-1***

**SP2: Do you agree to the proposed resolution for CID 2469?**

* Yes
* No
* Abstain