IEEE P802.11  
Wireless LANs

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| LB271 CR on WNM Sleep Mode Response | | | | |
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Abstract

This submission contains proposed comment resolutions to comments on P802.11be D3.0. The following 6 CIDs are resolved:

15380 17770 17771 17772 15381 17773

Revisions:

- Rev 0: Initial version of the document.

- Rev 1: Revise the resolution of CID 15380.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | Clause | Page.  Line | Comment | **Proposed Change** | **Resolution** |
| 15380 | John Wullert | 9.6.13.20 | 313.52 | The explanation of the the Key Info, Key Length, and RSC fields should include a reference to where they are defined. | Rephrase as "The Key Info, Key Length, and RSC fields are as defined for GTK subelement in 9.4.2.47 (FTE)." | Revised  Agree in principle. Rephrase as "The Key Info, Key Length, and RSC fields are as defined for the GTK subelement in Figure 9-1167 (WNM Sleep Mode GTK subelement format).  TGbe editor, please make changes as shown in doc 11-23/ 0695r1 tagged as 15380 |
| 17770 | Brian Hart | 9.6.13.20 | 313.33 | " the Link ID subfield carried in the subelement." misses the middle step | Try "the Link ID subfield in the Link ID Info field carried in the subelement." BUT, for consistency with L48 and compactness, actually instead try "the Link ID Info field carried in the subelement." Ditto P314L1, P314L25, P314L48 | Revised  Agree in principle. For consistency, delete the sentence “The Link ID subfield identifies the link on which an AP affiliated with an AP MLD is operating on (see 35.3.3.2 (Link ID)).” in P313L48.  TGbe editor, please make changes as shown in doc 11-23/ 0695r1 tagged as 17770 |
| 17771 | Brian Hart | 9.6.13.20 | 313.52 | Missing article | "the GTK subelement" | Revised  TGbe editor: Please replace “GTK subelement” with “the GTK subelement”. |
| 17772 | Brian Hart | 9.6.13.20 | 314.18 | Missing verb and article | "The Key ID and PN fields \*are\* as defined for \*the\* IGTK subelement. | Revised  TGbe editor: Please replace as “The Key ID and PN fields are ad defined for the IGTK subelement”. |
| 15381 | John Wullert | 9.6.13.20 | 314.17 | The text "The Key ID and PN fields as defined for IGTK subelement" is not a sentence and should include a a more precise indication of where they are defined because there are multiple IGTK subelements in the baseline spec. | Rephrase as "The Key ID and PN fields are as defined for the WNM Sleep Mode IGTK subelement format, shown in Figure 9-1171 (WNM Sleep Mode IGTK subelement format)." | Revised  Agree in principle. Revise this sentence as “The Key ID and PN fields are as defined for the IGTK subelement in.Figure 9-1168 (WNM Sleep Mode IGTK subelement format)”.  TGbe editor, please make changes as shown in doc 11-23/ 0695r1 tagged as 17772 |
| 17773 | Brian Hart | 9.6.13.20 | 314.50 | Missing article | "for \*an\* MLO ... update" | Revised  TGbe editor: Please replace “for MLO” with “for an MLO ”. |

TGbe editor: Change the following subclause as follows:

**9.6.13.20 WNM Sleep Mode Response frame format**

## Change the sixth paragraph and [Table 9-509 (Optional subelement IDs for WNM Sleep Mode](#bookmark264) [parameters)](#bookmark264) as follows:

The Key Data field contains zero or more subelements that provide the current GTK, IGTK and BIGTK to the STA. The format of these subelements is shown in Figure 9-939 (WNM Sleep Mode GTK subelement format), Figure 9-940 (WNM Sleep Mode IGTK subelement format), ~~and~~ Figure 9-941 (WNM Sleep Mode BIGTK subelement format), [Figure 9-1162a (WNM Sleep Mode MLO GTK subelement format)](#bookmark265), [Figure 9-](#bookmark266) [1162b (WNM Sleep Mode MLO IGTK subelement format)](#bookmark266), and [Figure 9-1162c (WNM Sleep Mode MLO](#bookmark267) [BIGTK subelement format)](#bookmark267). The subelement IDs for these subelements are defined in [Table 9-509 (Optional](#bookmark264) [subelement IDs for WNM Sleep Mode parameters)](#bookmark264). When management frame protection is not used, the Key Data field is not present.

**Table 9-509—Optional subelement IDs for WNM Sleep Mode parameters**

|  |  |
| --- | --- |
| **Value** | **Contents of subelement** |
| 0 | GTK |
| 1 | IGTK |
| 2 | BIGTK |
| 3 | MLO GTK |
| 4 | MLO IGTK |
| 5 | MLO BIGTK |
| ~~3~~6–255 | Reserved |

## Insert the following paragraphs after NOTE 2 (“Management frame protection is used to ...”):

The MLO GTK subelement contains the GTK for the AP operating on the link identified by the Link ID (#17770)Info field carried in the subelement. The format of the MLO GTK subelement is shown in [Figure 9-1162a (WNM](#bookmark265) [Sleep Mode MLO GTK subelement format)](#bookmark265).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Subelement ID | Length | Link ID Info | Key Info | Key Length | RSC | Key |

Octets: 1 1 1 2 1 8 5 to 32

**Figure 9-1162a—WNM Sleep Mode MLO GTK subelement format**

The Length field is defined in 9.4.3 (Subelements).

The format of the Link ID Info field is as defined in [9.4.1.75 (Link ID Info field)](#bookmark105). (#17770)

The Key Info, Key Length, and RSC fields are as defined for (#17771)the GTK subelement(#15380) in Figure 9-1167 (WNM Sleep Mode GTK subelement format).

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

The MLO IGTK subelement contains the IGTK for the AP operating on the link identified by the Link ID (#17770)Info field carried in the subelement. The format of the MLO IGTK subelement is shown in [Figure 9-1162b](#bookmark266) [(WNM Sleep Mode MLO IGTK subelement format)](#bookmark266).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Subelement ID | Length | Link ID Info | Key ID | PN | Key |

Octets: 1 1 1 2 6 16

**Figure 9-1162b—WNM Sleep Mode MLO IGTK subelement format**

The Length field is defined in 9.4.3 (Subelements).

The format of the Link ID Info field is as defined in [9.4.1.75 (Link ID Info field)](#bookmark105).

(#17772)The Key ID and PN fields are as defined for the IGTK subelement(#15380) in Figure 9-1168 (WNM Sleep Mode IGTK subelement format).

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

The MLO BIGTK subelement contains the BIGTK for the AP operating on the link identified by the Link ID (#17770)Info field carried in the subelement. The format of the MLO BIGTK subelement is shown in [Figure 9-](#bookmark267) [1162c (WNM Sleep Mode MLO BIGTK subelement format)](#bookmark267).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Subelement ID | Length | Link ID Info | Key ID | BIPN | Key |

Octets: 1 1 1 2 6 16 or 32

**Figure 9-1162c—WNM Sleep Mode MLO BIGTK subelement format**

The Length field is defined in 9.4.3 (Subelements).

The format of the Link ID Info field is as defined in [9.4.1.75 (Link ID Info field)](#bookmark105).

The Key ID and BIPN fields are as defined for the BIGTK subelement(#15380) in Figure 9-1169 (WNM Sleep Mode BIGTK subelement format).

The Key field is the BIGTK being distributed for the AP operating on the link identified by the Link 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 Link ID (#17770)Info field identifie the key type and the link to which the key(s) apply, respectively.

NOTE 4—Management frame protection is used to provide confidentiality, replay, and integrity protection for (#17773)an MLO GTK/IGTK/BIGTK update in WNM Sleep Mode Response frames.