IEEE P802.11
Wireless LANs

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| 11ba D1.0 Comment Resolution for Group ID: Part I |
| Date: 2018-11-12 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Lei Huang | Panasonic Corporation |  |  | lei.huang@sg.panasonic.com |
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Abstract

This submission proposes resolutions for the following comments from the letter ballot on P802.11ba D1.0:

67, 439, 454, 700, 701, 706, 778, 841, 842, 1013, 1015, 1093, 1094, 1095, 1096, 1228

NOTE – Set the Track Changes Viewing Option in the MS Word to “All Markup” to clearly see the proposed text edits.

**Revision History:**

R0: Initial version.

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 TGba D1.0 Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGba D1.0 Draft (i.e. they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

***TGba Editor: Editing instructions preceded by “TGba Editor” are instructions to the TGba editor to modify existing material in the TGba draft. As a result of adopting the changes, the TGba editor will execute the instructions rather than copy them to the TGba Draft.***

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| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **Page.Line** | **Comment** | **Proposed Change** | **Resolution** |
| 700 | 9.4.2.273 | 30.29 | The encoding column of the Group ID List subflied should indicate when this field is present since this depends on the value of the Group ID List Present subfield of the WUR Parameters Control field. | Make the following changes: "The format is shown in Figure 9-751c (Group ID List subfield format). This field is present when the Group ID List Present field is set to 1. Otherwise this field is not present." | Revised – Agree in principle.TGba editor, please make changes as shown in doc 11-18/1823r0 under all headings that include CID 700. |
| 706 | 9.4.2.274 | 33.28 | The following paragraph "Set to 0 to indicate no support for group IDs. Set to 1 to indicate support for 16 group IDs. Set to 2 to indicate support for 32 group IDs. Set to 3 to indicate support for 64 group IDs." is not clear whether a STA supports exactly 16, 32, or 64 group IDs or up to those number of group IDs. Please replace as follows "Set to 0 to indicate group ID is not supported. Set to 1 to indicate the WUR non-AP STA support up to 16 group IDs. Set to 2 to indicate the WUR non-AP STA supports up to 32 group IDs. Set to 3 to indicate the WUR non-AP STA supports up to 64 group IDs." | As shown in the comment. | Revised – Agree in principle.TGba editor, please make changes as shown in doc 11-18/1823r0 under all headings that include CID 706. |
| 778 | 9.4.2.273 | 31.27 | "SGID" is not defines in Clause 3 | Add "SGID" to the list of abbreviations in Clause 3 | Revised – Agree in principle.TGba editor, please make changes as shown in doc 11-18/1823r0 under all headings that include CID 778. |
| 1015 | 9.4.2.273 | 31.15 | Why not change the description into a Table? | As in comment. | Rejected - In 802.11-2016, the field description can be put in the text or in a table. Therefore, the proposed change is unnecessary. |
| 1095 | 9.4.2.273 | 31.30 | The sentence "The Starting Group ID field value is treated as a 12-bit unsigned integer." doesn't belong to this paragraph. Instead it should be moved to the paragraph above. | Move the sentence "The Starting Group ID field value is treated as a 12-bit unsigned integer." to the paragraph above and clarify the statement. | Revised - According to the proposed resolution on CID 619 in 18/1826r0, the group ID space is clearly defined to a subset of consecutive values obtained from the identifier’s space comprising the unsigned integers within [0 4095]. In other words, the sentence "The Starting Group ID field value is treated as a 12-bit unsigned integer.” Is redundant and can be removed.TGba editor, please make changes as shown in doc 11-18/1823r0 under all headings that include CID 1095. |
| 1096 | 9.4.2.273 | 31.30 | The value of field should not be "treated as", instead, it should say what kind of value is contained in a field. | change "The Starting Group ID field value is treated as a 12-bit unsigned integer." into "The Starting Group ID field contains a 12-bit unsigned integer." | Revised - According to the proposed resolution on CID 619 in 18/1826r0, the group ID space is clearly defined to a subset of consecutive values obtained from the identifier’s space comprising the unsigned integers within [0 4095]. In other words, the sentence "The Starting Group ID field value is treated as a 12-bit unsigned integer.” Is redundant and can be removed.TGba editor, please make changes as shown in doc 11-18/1823r0 under all headings that include CID 1096. |
| 454 | 9.4.2.273 | 31.25 | The methodology for calculating the Group ID list is overly complex and confusing. | The method for calculating the Group IDs based upon a bitmap sizing is confusing. The method could be replaced using the following method:Group ID Size Field: 0 for no Group IDs, 1 for 16 IDs to be stored, 2 for 32 IDs to be stored, 3 for 64 IDs to be stored.Starting Group ID Field: Remains the same as defined, contains the starting Group ID which is 12 bits in size and assigned by the WUR AP.The method for creating the Group ID list would be:Space for the Group IDs list would be allocated in memory by multiplying the Group ID Size by 3 bytes (12 bits). Then assign each Group ID using the Starting Group ID field as a starting point, then subsequently each new ID would be calculated by adding a value of one for each new Group ID. Each Group ID would be placed sequentially in the previously allocated memory. This process is repeated until the number of Group IDs, as per the Group ID Size field, are calculated. With this method the existing Group ID Bitmap field would no longer be necessary and can change to a reserved field or be removed.Note: this would also cause a change in Sub-Claus 31.3.3 Group ID, Page 50, Line 15. | Rejected - The current bitmap based method for calculating Group IDs is similar to what is used in 11ac, which is simple and well-proven. According to the current bitmap based method, the number of Group IDs assigned to a WUR STA is not limited to 16, 32 or 64; and the Group IDs assigned to the WUR STAs can be non-consecutive. On the other hand, the proposed method mandates consective 16, 32 or 64 group IDs assigned to a WUR STA, which limits AP’s flexibility in Group ID assignment. |
| 842 | 9.4.2.273 | 31.25 | Clarify that the first bit of Group ID Bitmap cooresponds to bit position 0. | As in comment. | Revised – Agree in principle.TGba editor, please make changes as shown in doc 11-18/1823r0 under all headings that include CID 842. |
| 1013 | 9.4.2.273 | 29.31 | "Group ID" is used by 11ac and 11ah. It is better to differentiate the name such as to WUR Group ID. | Change all the "Group ID"s appearing to describe those used for WUR operation to "WUR Group ID"s. | Revised – It is reasonable to rename “Group ID” to “WUR Group ID” since “Group ID” has been used in 11ac/11ah. However, in order to differentiate “WUR Group ID” from “WUR ID” used in 11ba, it is better to change “WUR ID” to “WUR STA ID”.TGba editor, please make changes as shown in doc 11-18/1823r0 under all headings that include CID 1013. |
| 701 | 9.4.2.273 | 31.15 | The following sentence, "The Group ID Bitmap Size field is set to 0 to indicate that the Group ID Bitmap field is not present, ..." is redundent because when a Group ID is not present, the Group ID List should not be present in the first place and this can be indicated by the Group ID List Present bit in the WUR Parameters Control field. Instead, the spec currently doesn't define a way to signal a single Group ID efficiently. Currently a signel Group ID can be only signaled by setting the Group ID Bitmap Size field = 1, set the Starting Group ID = Group ID value, and include the 16-bit Group ID Bitmap and set the first-bit position n=0 to 1, which is very inefficient. | Replace P31L21"The Starting Group ID field contains the value of the first group ID of the Group ID Bitmap field if the Group ID Bitmap Size field is set to a non-zero value. Otherwise, the Starting Group ID field is reserved."with the following:"The Starting Group ID field contains the value of the first group ID of the Group ID Bitmap field if the Group ID Bitmap Size field is set to a non-zero value. If the Group ID Bitmap field is set to 0, the Starting Group ID field contains a single group ID assigned by the WUR AP to the WUR STA." | Revised – Agree in principle.TGba editor, please make changes as shown in doc 11-18/1823r0 under all headings that include CID 701. |
| 1228 | 9.4.2.273 | 31.23 | The sentence "Otherwise, the Starting Group ID field is reserved." doesn't make a sense. If the Group ID Bitmap Size field is set to zero and the Starting Group ID field is reserved, there is no useful information carried in the Group ID List subfield. Then, it would be better that the Group ID List subfield isn't included in the element at all. The original intent of allowing the Group ID Bitmap Size field be zero is that when there is only one group ID assigned by the AP to the STA, the Group ID Bitmap Size field is set to zero and the Starting Group ID field carries the assigned Group ID, therefore, saving the unnecessary overhead of the bitmap. | Change "The Starting Group ID field contains the value of the first group ID of the Group ID Bitmap field if the Group ID Bitmap Size field is set to a non-zero value. Otherwise, the Starting Group ID field is reserved." to "The Starting Group ID field contains the value of the group ID assigned to the STA, if the Group ID Bitmap Size field is set to value zero, and otherwise, contains the value of the first group ID of the Group ID Bitmap field." | Revised – See the resolution on CID 701.TGba editor, please make changes as shown in doc 11-18/1823r0 under all headings that include CID 1228. |
| 1093 | 9.4.2.273 | 31.15 | It is better to bring this long sentence into several sentences. | Break the first sentence into four sentences with each sentence addressing a particular value of the Group ID Bitmap Size field | Revised – Agree in principle.TGba editor, please make changes as shown in doc 11-18/1823r0 under all headings that include CID 1093. |
| 1094 | 9.4.2.273 | 31.21 | Would the Starting Group ID field contain the value of the first group ID of the Group ID bitmap field even if the Group ID Bitmap Size field is set to 4 to 15? | Please address the case where the "Group ID bitmap size field" is set to 4 to 15. | Revised – Proposed text update clarifies the Starting Group ID field is reserved when the Group ID Bitmap Size field is set to an invalid value.TGba editor, please make changes as shown in doc 11-18/1823r0 under all headings that include CID 1094. |
| 67 | 9.4.2.273 | 30.26 | Confused by the signaling. If the Bitmap Size field is 0 it means that the Starting Group ID is reserved. But if the Starting Group ID is reserved it means that these 2 bytes (GID, and SGID) are basically 0. But then why not simply not include the Group ID list subfield in the element? Please clarify. | As in comment. | Rejected – According to the proposed resolution on CIDs 701, 1228, if the Group ID Bitmap Size field is set to 0, the Starting Group ID field indicates a single Group ID assigned by the WUR AP to the WUR non-AP STA. As a result, the issue raised by this CID no longer exists. |
| 439 | 9.4.2.273 | 31.22 | The following text is a little ambiguous: "If the Group ID Bitmap size is set to zero, Starting Group ID is reserved." What is that case? It's no meaning/usage case. In that case, AP can simply set the Group ID List present to 0. | As per comment | Rejected – According to the proposed resolution on CIDs 701, 1228, if the Group ID Bitmap Size field is set to 0, the Starting Group ID field indicates a single Group ID assigned by the WUR AP to the WUR non-AP STA. As a result, the issue raised by this CID no longer exists. |
| 841 | 9.4.2.273 | 31.15 | If the Group ID bitmap size field is set to 0, Group ID Bitmap field is not present, and Starting Group ID field is reserved. In this case, Group ID List subfield shall not be even present. | Change the indication of Group ID Bitmap Size field. 0 indicates 16-bit bitmap, 1 indicates 32-bit bitmap, and 2 indicates 64-bit bitmap. | Rejected – According to the proposed resolution on CIDs 701, 1228, if the Group ID Bitmap Size field is set to 0, the Starting Group ID field indicates a single Group ID assigned by the WUR AP to the WUR non-AP STA. As a result, the issue raised by this CID no longer exists. |

**Discussion:** *None.*

**Propose:** Revised for CID 700, 706, 1013, 778, 842, 701, 1228, 1093, 1094, 1095, 1096 per discussion and editing instructions in 11-18/1823r0.

***TGba editor: replace “Group ID” and “WUR ID” respectively by “WUR Group ID” and “WUR STA ID” in whole D1.0 (#1013).***

***TGba editor: Insert the following acronym definition in 3.4:***

**3.4 Abbreviations and acronyms**

SGID starting group identifier (#778)

***TGba editor: Change Table 9-318c on P30L30 as follows:***

|  |
| --- |
| * Subfields of WUR Parameters field from WUR AP
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|  |
| **Subfield** | **Definition** | **Encoding** |
| … | … | … |
| Group ID List | Indicates one or more group IDs assigned to the STA | The format is shown in Figure 9-751c (Group ID List subfield format). This field is present if the Group ID List Present subfield of the WUR Parameter Control field is set to 1. Otherwise this field is not present. (#700) |

***TGba editor: Change 9.4.2.273 on P31L15 as follows:***

**9.4.2.273 WUR Mode element**

The Group ID Bitmap Size field is set to 0 to indicate that the Group ID Bitmap field is not present, is set to 1 to indicate that the Group ID Bitmap field contains a 16-bit bitmap. The Group ID Bitmap Size field is set to 2 to indicate that the Group ID Bitmap field contains a 32-bit bitmap. The Group ID Bitmap Size field (#1093) is set to 3 to indicate that the Group ID Bitmap field contains a 64-bit bitmap. The values of 4 to 15 are reserved.

The Starting Group ID field contains the value of the first group ID of the Group ID Bitmap field if the Group ID Bitmap Size field is set to a non-zero non-reserved value. The Starting Group ID field contains a single group ID assigned by the WUR AP to the WUR non-AP STA if the Group ID Bitmap Size field is set to 0 (#701)(#1228). The Starting Group ID field is reserved if the Group ID Bitmap Size field is set to a reserved value (#1094).

The Group ID Bitmap field, together with the Starting Group ID field, indicates the group IDs assigned by the WUR AP to the WUR non-AP STA if the Group ID Bitmap Size field is set to a non-zero non-reserved value. Otherwise the Group ID Bitmap field is not present. The first bit of the Group ID Bitmap field corresponds to bit position 0 (#842). Bit position n of the Group ID Bitmap field, if equal to 1, indicates the group ID with a value equal to (SGID + n) is assigned to the WUR STA, where SGID is the value of the Starting Group ID field. Bit position n of the Group ID Bitmap field, if equal to 0, indicates the group ID with a value equal to (SGID + n) is not assigned to the WUR STA. (#1095)(#1096)

***TGba editor: Change Table 9-318f on P33L28 as follows***

|  |
| --- |
| * Subfields of the WUR Capabilities Information field
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| Subfield | Definition | Encoding |
| … | … | … |
| Group IDs Support | Indicates Group IDs support. | Set to 0 to indicate no support for group IDs. Set to 1 to indicate support for up to 16 group IDs. Set to 2 to indicate support for up to 32 group IDs. Set to 3 to indicate support for up to (#706) 64 group IDs.Reserved for a WUR AP. |
| … | … | … |

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