IEEE P802.11
Wireless LANs

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| LB 205 Comment Resolution for Subclause 8.4.2.170b |
| Date: 2014-12-02 |
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Abstract

This submission proposes resolutions for multiple comments of TGah Draft 3.0 with the following CIDs: 5004, 5008, 5009, 5010, 5169, 5170, 5171, 5172, and 5173.

Revisions:

- Rev 0: Initial version of the document

- Rev 1: Added discussion

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 TGah Draft. This introduction is not part of the adopted material.

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

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

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| **CID** | **Cl.** | **P.L** | **Comment** | **Proposed change** | **Resolution** |
| 5004 | 8.4.2.170b | 131.24 | Why don't we locate "RAW Type Options subfields" at the very next to "RAW Type subfields'. It has better readibility to locate "RAW Type Options subfield at B2 and B3 than current last postion of B6 and B7. | Change RAW Coontrol subfield format as followings.|RAW Type | RAW Type Options | Start Time Indication |... | **Revised**-TGah editor to make the changes shown in 11-14/1567r0 under the heading CID 5004 |
| 5008 | 8.4.2.170b | 135.37 | When both RAW Start Time and PRAWStartOffset is present in the RPS IE and both are non-zero, the RAW Start Time calculation is not very clear. | Please clarify the relation between RAW Start Time field and PRAWStartOffset field when both are present and non-zero in the RPS element. | **Revised**-TGah editor to make the changes shown in 11-14/1567r0 under the heading CID 5008 |
| 5009 | 8.4.2.170b | 135.29 | Unit for PRAW Periodicity subfield is stated as short beacon interval, but what about the cases where short beacon interval is not in use? | Please clarify what unit should be used when short beacon interval is not in use. | **Revised**-TGah editor to make the changes shown in 11-14/1567r0 under the heading CID 5009, 5010. |
| 5010 | 8.4.2.170b | 135.38 | Unit for PRAW Start Offset subfield is stated as short beacon interval, but what about the cases where short beacon interval is not in use? | Please clarify what unit should be used when short beacon interval is not in use. | **Revised**-TGah editor to make the changes shown in 11-14/1567r0 under the heading CID 5009, 5010. |
| 5169 | 8.4.2.170b | 132.45 | "In the first RAW Assignment, the Start Time Indication equal to 0 indicates that the RAW starts immediately after the S1G Beacon or the (Short) Probe Response frame that includes the RPS element."The decoding of elements are in MAC software. It is difficult to predict the delay between the end of reception of the Beacon/Probe Response and the decodinf of RPS element. So the STAs may miss the allocated slot for them. | Disallow immeidiate RAW after Beacon and Probe Response. | **Rejected**- This feature is still useful. For example, the AP may allocate a non-TIM RAW that does not allow TIM STA to access immediately after the S1G beacon, possibly in a periodic manner.  |
| 5170 | 8.4.2.170b | 133.01 | Actually in non-TIM RAW, RAW group doesn't include any STAs so that no TIM STAs will access the dedium during the non-TIM RAW. So the indication field name should not be "Same Group Indication". It should be "Group Presense Indication". In different RAW, "group not presense" has different meaning, e.g. same group as previous RAW or no STAs in the RAW. | Change the RPS definition per the commment | **Revised**-TGah editor to make the changes shown in 11-14/1567r0 under the heading CID 5170, 5171. |
| 5171 | 8.4.2.170b | 133.04 | Since in AP PM RAW, "Same Group Indication"actually indicates whether the RAW group include STAs or not, the indication field name should not be "Same Group Indication". It should be "Group Presense Indication". In different RAW, "group not presense" has different meaning, e.g. same group as previous RAW or no STAs in the RAW. | Change the RPS definition per the commment | **Revised**-TGah editor to make the changes shown in 11-14/1567r0 under the heading CID 5170, 5171. |
| 5172 | 8.4.2.170b | 134.25 | "The RAW Start Time subfield indicates the duration, in units of 2 TU, from the end of the S1G Beacon or the(Short) Probe Response frame transmission that includes the RPS element to the start time of the RAW."The time of transmission of Beacon/Probe Response is not predictable until the real transmission. This means that the AP doesn't exactly know the start time and the end time of the RAW until the transmission of the Beacon/Probe response. This makes the implementation of RAW complicated. | Change the start time of RAW absolute time pre TSF time. | **Rejected**-The AP only needs to know the RAW allocation within a beacon interval, and the relative indication of RAW start time with respect to Beacon/Probe Response in current form is sufficient.  |
| 5173 | 8.4.2.170b | 135.37 | "The PRAW Start Offset subfield indicates the offset value from the end of the frame that carries the current RPS element to the S1G Beacon frame that the first window of the PRAW appears, in units of short beacon interval."The time of transmission of Beacon/Probe Response is not predictable until the real transmission. This means that the AP doesn't exactly know the start time of the PRAW until the transmission of the Beacon/Probe response. This makes the implementation of PRAW complicated. | Change the start time of PRAW absolute time pre TSF time. | **Rejected**-The PRAW Start Offset is used to indicate the S1G beacon after which the first PRAW window occurs, and the current unit suffices. It is hard for AP to predict the absolute time.  |

**Discussion:**

*CID 5004: Agree in principle. The RAW Type Options subfield is moved next to the RAW Type subfield, and the bit positions in the text are changed to Bit 2 and Bit 3accordingly. Also updated Figure 8-575a4 by changing Same Group Indication to RAW Group Indication, as in CID 5170 and 5171.*

*CID 5008: The PRAW Start Offset indicates the beacon interval where the first PRAW window occurs, and the RAW Start time indicates the relative time of the PRAW window within the beacon interval.The clarification has been added.*

*CID 5009, 5010: Follow the convention in the draft to use (short) beacon etc.*

*CID 5170, 5171: The “Same Group Indication” is changed to “RAW Group Indication” to account for the various meanings for different RAW types. It also follows the RAW Start Time Indication such that when the bit is 0, the RAW Group subfield is not present, and when the bit is 1, the RAW Group subfield is present.*

**8.4.2.170b RPS element**

**CID 5004:**

TGah editor: modify Figure 8-575a4 (RAW Control subfield format) of TGah Draft 3.0 as follows:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ~~B0 B1~~ | ~~B2~~ | ~~B3~~ | ~~B4~~ | ~~B5~~ | ~~B6 B7~~ |
| ~~RAW Type~~ | ~~Start TimeIndication~~ | ~~SameGroup Indication~~ | ~~Channel IndicationPresence~~ | ~~Periodic RAW Indication~~ | ~~RAW Type Options~~ |
| ~~Bits:~~  | ~~2~~ | ~~1~~ | ~~1~~ | ~~1~~ | ~~1~~ | ~~2~~ |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| B0 B1 | B2 B3 | B4 | B5 | B6 | B7 |
| RAW Type | RAW Type Options | Start Time Indication | RAW Group Indication | Channel IndicationPresence | Periodic RAW Indication |
| Bits:  | 2 | 2 | 1 | 1 | 1 1 |

TGah editor: modify Table 8-258a1 (Interpretation of RAW Type and RAW Type Options) of TGah Draft 3.0 as follows:

|  |  |  |
| --- | --- | --- |
| **RAW Type** | **Description** | **RAW Type Options Subfield** |
| 0 | Generic RAW | Bit 0 (Bit ~~6~~2 of RAW Control subfield): Paged STABit 1 (Bit ~~7~~3 of RAW Control subfield: RA Frame |
| 1 | Sounding RAW | 0: SST Sounding RAW1: SST Report RAW2: Sector Sounding RAW3: Sector Report RAW |
| 2 | Simplex RAW | 0: AP PM RAW1: Non-TIM RAW2: Omni RAW3: Reserved |
| 3 | Triggering Frame RAW | Reserved |

TGah editor: modify the paragraph starting from Line 19 of Page 133 of TGah Draft 3.0 as follows:

The definitions of RAW Type Options subfield are specified in Table 8-258a1 (Interpretation of RAW Type and RAW Type Options). The RAW Type Options subfield is interpreted as follows:

* For Generic RAW, Bit 0 of the RAW Type Options (Bit ~~6~~2 of the RAW Control subfield) is Paged STA indication. When it is equal to 0, the RAW can be accessed by any STA (paged or unpaged) within the RAW group specified by the RAW Group subfield. When it is equal to 1, the RAW can only be accessed by paged STAs within the RAW group specified by the RAW Group subfield. Bit 1 of the RAW Type Options (~~B7~~ Bit 3 of the RAW Control subfield) is RA Frame Indication. If it is equal to 1, the AP will transmit a Resource Allocation frame, as defined in 8.8.5.4 (Resource Allocation frame format), at the beginning of the RAW defined by the RAW Assignment field of the RPS element.

**CID 5008:**

TGah editor: insert the following paragraph after the paragraph starting from Line 18 of Page 276 of TGah Draft 3.0 as follows:

The S1G Beacon after which the first window of the PRAW appears is indicated by the PRAW Start Offset subfield of Periodic Operation Parameters of RPS element, and the starting time of the first window of the PRAW with respect to the S1G Beacon is equal to the RAW start time indicated by the same RAW Assignment.

**CID 5009, 5010:**

TGah editor: modify the paragraphs starting from Line 28 of Page 135 of TGah Draft 3.0 as follows:

The PRAW Periodicity subfield indicates the period of current PRAW occurrence in the unit of (short) beacon interval.

The PRAW Validity subfield indicates the number of periods that the PRAW repeats. The value of thePRAW Validity subfield is equal to the number of remaining PRAW occurrences, except when the PRAW Validity subfield is equal to 0 that indicates the PRAW validity value is not determined.

The PRAW Start Offset subfield indicates the offset value from the end of the frame that carries the current RPS element to the S1G Beacon frame that the first window of the PRAW appears, in units of (short) beacon interval.

**CID 5170, 5171:**

TGah editor: modify the paragraphs starting from Line 51 of Page 132 of TGah Draft 3.0 as follows:

The ~~Same~~RAW Group Indication indicates whether the RAW Group subfield is present in the RAW Assignment field and is interpreted as follows:

—When the RAW type is Generic RAW, Sounding RAW, or Triggering Frame RAW, the ~~Same~~RAW Group Indication indicates whether the RAW group defined in the current RAW Assignment is the same RAW group as defined in the previous RAW Assignment. When the ~~Same~~RAW Group Indication bit is equal to ~~1~~0, the RAW group defined in the current RAW Assignment is the same as the RAW group defined in the previous RAW Assignment and the RAW Group subfield is not present in this RAW assignment. When the ~~Same~~RAW Group Indication bit is equal to ~~0~~1, the RAW Group subfield is present in this RAW assignment. The ~~Same~~RAW Group Indication in the first RAW Assignment is set to ~~1~~0 to indicate the RAW group in the first RAW Assignment is the same as the range of AIDs in all the TIM Bitmaps in the S1G Beacon frame.

—When the RAW is non-TIM RAW, the ~~Same~~RAW Group Indication is set to ~~1~~0 and the RAW Group subfield is not present.

—When the RAW is AP PM RAW, the ~~Same~~RAW Group Indication equal to ~~1~~0 indicates that the RAW group does not include any of the non-AP STAs, and the RAW Group subfield is not present. When the ~~Same~~RAW Group Indication is equal to ~~0~~1, the RAW Group subfield is present.