IEEE P802.11
Wireless LANs

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| LB 200 Comment Resolution for Clauses 8.4.2.170c and 9.42e |
| Date: 2014-09-14 |
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Abstract

This submission proposes resolution for comments in clause 8.4.2.170c with CID 3401 and subclause 9.42e of TGah Draft 2.1 with the following CIDs: 3132, 3398, 3402, 3552, 3861, 3863, and 4149.

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| **CID** | **Clause** | **Page** | **Line** | **Comment** | **Proposed Change** | **Resolution** |
| 3132 | 9.46 | 288 | 30 | "An AP shall not include the bit" which bit? | Clarify that it is the bit in the partial virtual bitmap that corresponds to the AID of the STA. | RevisedTGah editor to make the changes showin in 11-14/1182r0 under all headings that include CID 3132 |
| 3398 | 9.46 | 289 | 33 | delete" and access medium for uplink traffic" | as the comment suggests. | RevisedTGah editor to make the changes showin in 11-14/1182r0 under all headings that include CID 3398 |
| 3402 | 9.46 | 288 | 45 | A value of 31 is reserved in the Page Slice Number field of the TIM element for STAs that do not support page slicing. This restricts an AP to schedule a maximum of 30 TIMs (instead of 31 stated in Page 130, Line 47) within a beacon interval with Page Slice Count field value limited to 1-30 and value 0 being reserved. | The reserved value "0" in the Page Slice Count field may be used by an AP to indicate 32 TIMs being scheduled within the beacon interval. | RevisedPlease refer to the revision made for CID 3401 for subclause 8.4.2.170c Page Slice element in this document.  |
| 3552 | 9.46 | 288 | 64 | "A STA that is not an S1G STA shall not set dot11PageSlicingSupported to true." OK this makes sense, but what about a S1G STA? 'May' it set it to true or 'shal'l it set it to true? Is this a mandatory feature, or not? | Add either "An S1G STA shall set dot11PageSlicingSupported to true." OR ""An S1G STA may set dot11PageSlicingSupported to true to indicate support of Page Slicing." | RevisedTGah editor to make the changes showin in 11-14/1182r0 under all headings that include CID 3552 |
| 3861 | 9.46 | 289 | 26 | Shouldn't DTIM Beacon/Beacon be used to replace Beacon/Short Beacon in the figure? | Change the figure | RevisedTGah editor to make the changes showin in 11-14/1182r0 under all headings that include CID 3861 |
| 3863 | 9.46 | 288 | 43 | Page Slice equal to 31 shall be separated with this subclause since Page Slice 31 is mandatory behavior and Page Slice 0-30 are optional. | As in comment. | AcceptedAgreed in principle; the normative text is already separated for Page Slice Number equal to 31 from the text related to Page Slice Numbers from 0-30. No changes needed. |
| 4149 | 9.46 |  |  | Per this clause, in order to receive unicast data frame from AP, the STA has to wake up twice at a beacon with DTIM count equal to 0 and one of following beacons. If there are buffered data for the other STA within same AID block, but the STA won't wake up and receive the data, our STA has to wake up twice every DTIM period even though there is no buffered data for our STA. If S1G BSS use RPS and RA feature additionally, the STA has to wake up 3 times for receiving unicast data frame!!. When considering most of S1G STA would be a sensor type STA, this feature would be a big drawback in terms of power consumption. If the Page Slice element is not changed dynamically, (I could not find any clue about that), it would be better to give the fixed page slice element to STA when to be associated. With the fixed Page Slice element, STA only has to wake up at beacons with the page slice number assigned to the STA. | as comments | RejectedComment: The commenter posed a problem but did not propose specific changes to be incorporated. Moreover, all STAs have to receive Beacons with DTIM Count equal to 0. There is a Page Bitmap field that indicates blocks within a page slice having downlink buffered data. So, STAs that may not have buffered data and with their AIDs in a block with indication of 0 corresponding to that block in Page Bitmap may not wake up in a Short Beacon.   |

**CIDs 3132, 3398, 3402, 3552, 3861, 3863, 4149**

**Instruction to TGah Editor: Change the existing text in subclause 9.42e with the text indicated with respect to indicated CIDs:**

**9.42e Page Slicing**

**~~#~~CID3552**

***Please change the existing paragraph in Page 290 Line 60 with the following paragraph:***

A STA that is not an S1G STA shall not set dot11PageSlicingSupported to true while an S1G STA shall set dot11PageSlicingSupported to true if it supports page slicing.

***# CID 3132***

***Please change the existing paragraph in Page 291 Line 29 with the following paragraph:***

An S1G STA with dot11PageSlicingSupported equal to true shall follow the page slicing rules as described in this subclause. An AP shall not include the bit in the partial virtual bitmap that corresponds to the AID of the ~~corresponding to an~~ S1G STA with dot11PageSlicingSupported equal to false within a TIM element that has a value for the Page Slice Number field that is in the range of 0-30. An AP that has dot11PageSlicingSupported equal to false shall not transmit a TIM element that has a value for the Page Slice Number field that is in the range of 0-30.

***# CID 3398***

***Please change the existing paragraph in Page 292 Line 30 with the following paragraph:***

The Page slice element indicates assignment of STAs in page slices corresponding to their assigned TIMs. STAs within the assigned page slice wake(#3397, 3556) up at corresponding TIM sequentially to receive buffered data from AP ~~and access medium for uplink traffic~~. In order to wake up at the appropriate TBTT to receive the Page Slice element, a STA may compute the page slice assignment to the TIMs using the length of the Page Bitmap field and the value in the Page Slice Length and Page Slice Count fields of the Page Slice element. The length of the page slice that appears in each TIM, except for the last TIM identified by a Page Slice element, is indicated in the Page Slice Length field. The last TIM includes the blocks indicated by the bits of the Page Bitmap field that have not appeared in previous TIMs.

*# CID3861*

***Please edit Figure 9-93 in Page 292 Line 7 by replacing “Beacon” with “DTIM Beacon” and “Short Beacon” with “Beacon.”***

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| **CID** | **Clause** | **Page** | **Line** | **Comment** | **Proposed Change** | **Resolution** |
| 3401 | 8.4.2.170b | 129 | 62 | An AP may not be able to schedule all STAs in 32 blocks within a page with the current page slice definition (the value 0 for the Page Slice Length field is reserved) within the Page Slice element as in Draft 2.0. | The Page Slice element may include the current reserved value of 0 in the Page Slice Length field in order to support STAs in an entire page (i.e., all 32 blocks) within a (short) beacon interval | RevisedAgree in principle with the commenter. Proposed resolution accounts for the suggested change. TGah editor to make the changes showin in 11-14/1182r0 under all headings that include CID 3401. |

**Instruction to TGah Editor: Modifications refer to subclause 8.4.2.170c in Page 132 Line 42:**

**8.4.2.170c Page Slice element**

***Please change the existing paragraph in Page 133 Line 10 with the following paragraph:***

The Page Slice Length field indicates the number of blocks included in each TIM for the associated page except for the last TIM. The number of blocks in each page slice is equal to the value of the Page Slice Length field. The value 0 for the Page Slice Length field is reserved.

***Please change the existing paragraph in Page 133 Line 60 with the following paragraph:***

The Page Slice Count field indicates the number of TIMs scheduled in one page period, except when the value is equal to 0. ~~This field indicates a maximum of 31 TIMs in a page period. The maximum permitted value for the Page Slice Count field is 31. The value 0 for the Page Slice Count field~~ ~~is reserved~~ This field indicates a maximum of 31 TIMs that include page slices in a page period. The Page Slice Count field is set to 0 to indicate signaling that depends on the value of the Page Slice Length field:

* If the Page Slice Length field is greater than 1 a value of 0 in the Page Slice Count field indicates that the 32nd TIM that is scheduled during this DTIM interval can contain DL BU information for non-AP STAs that do not support page slicing and for non-AP STAs whose AID is within the 32nd block of this page and do support page slicing.
* If the Page Slice Length field is equal to 1, a value of 0 in the Page Slice Count field indicates that all non-AP STAs for which the AP has DL BU are included in the only TIM that is scheduled within the DTIM interval.

***Please include the following paragraph in Subclause 9.42e in Page 291 after Line 41:***

An AP with a value of true for dot11PageSlicingSupported that has any STA(s) associated that has a value of true for dot11PageSlicingSupported whose AID is contained in the:

* Final block (32nd block) of a page, and has indicated a Page Slice Count equal to 0 and a Page Length greater than 1 in the Page Slice element shall include in the last S1G Beacon that precedes the next scheduled DTIM Beacon, a TIM element with Page Index field equal to the page index specified in the previously transmitted Page Slice element. The TIM element shall have the Page Slice Number equal to 31 for the indicated page, if there is buffered traffic for at least one of the STA(s) that support page slicing and belong in the final block of the page.
* Any block of a page, and has indicated a Page Slice Count equal to 0 and a Page Length equal to 1 in the Page Slice element shall include in the only S1G Beacon that precedes the next scheduled DTIM Beacon, a TIM element with Page Index field equal to the page index specified in the previously transmitted Page Slice element. The TIM element shall have the Page Slice Number equal to 31 for the indicated page, if there is buffered traffic for at least one of the STA(s) that support page slicing and belong in any block of the page.

The setting of the bits in the virtual bitmap of that TIM for STAs that do not support page slicing follows the rules described in 10.2.2.6 (AP operation during the CP).