IEEE P802.11  
Wireless LANs

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| Comment resolutions for miscellaneous CIDs in clause 9 | | | | |
| Date: 2020-03-01 | | | | |
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Abstract

This submission proposes resolutions for multiple comments related to TGax D6.0 with the following CIDs (7 CIDs):

* 24299, 24361, 24421, 24422, 24464, 24492, 24493.

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: Updated after presentation, fixing inconsistencies found during presentation.
* Rev 2: No changes compared to Rev 1, except for providing the update in the revisions tag and resolving CID 24492 inline with suggestions received by Mark and Matt via e-mai. Changes in green in the proposed resolution tag.

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

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

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

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| **CID** | **Commenter** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 24299 | RISON, Mark |  | "of all MSDUs and A-MSDUs buffered at the STA". A STA does not buffer A-MSDUs. The things it receives via MA-UNITDATA.request are MSDUs, and those are the things it buffers prior to transmission Change the cited text to "of all MSDUs buffered at the STA" | In 9.4.2.5.6 change "The queue size value is the approximate total size, rounded up to the nearest multiple of 256 octets  and expressed in units of 256 octets, of all MSDUs and A-MSDUs buffered at the STA (excluding  the MSDU or A-MSDU of the present QoS Data frame) in the delivery queue used for MSDUs and  A-MSDUs with TID values equal to the value in the TID subfield of this QoS Control field." to "The queue size value is the approximate total size, rounded up to the nearest multiple of 256 octets  and expressed in units of 256 octets, of all MSDUs buffered at the STA (excluding  the MSDU(s) of the present QoS Data frame) in the delivery queue used for MSDUs and  A-MSDUs with TID values equal to the value in the TID subfield of this QoS Control field." and "The queue size, QS, is the approximate total size in octets, of all MSDUs and A-MSDUs buffered at the STA  (including the MSDUs or A-MSDUs in the same PSDU as the frame containing the Queue Size subfield) in  the delivery queue used for MSDUs and A-MSDUs with TID values equal to the value in the TID subfield  of this QoS Control field." to "The queue size, QS, is the approximate total size in octets, of all MSDUs buffered at the STA  (including the MSDUs in the same PSDU as the frame containing the Queue Size subfield) in  the delivery queue used for MSDUs and A-MSDUs with TID values equal to the value in the TID subfield  of this QoS Control field.". In 9.2.4.6a.4 change "The queue size values in the Queue Size High and Queue Size All subfields are the total sizes, rounded up to  the nearest multiple of SF octets, of all MSDUs and A-MSDUs buffered at the STA (including the MSDUs  or A-MSDUs in the same PSDU as the frame containing the BSR Control subfield) in the delivery queues  used for MSDUs and A-MSDUs with AC(s) that are specified in the ACI High and ACI Bitmap subfields,  respectively." to "The queue size values in the Queue Size High and Queue Size All subfields are the total sizes, rounded up to  the nearest multiple of SF octets, of all MSDUs buffered at the STA (including the MSDUs  in the same PSDU as the frame containing the BSR Control subfield) in the delivery queues  used for MSDUs and A-MSDUs with AC(s) that are specified in the ACI High and ACI Bitmap subfields,  respectively." | Rejected –  Whether MSDUs are buffered internally as MSDUs or A-MSDUs is indeed an implementation detail. However, there is no technical reason to not expose it (even though it is not exposing anything because as the spec stands so far the STA can chose to do either of the two.  Providing information of the queue size, including A-MSDUs, is also beneficial because the STA may be transmitting these MSDUs as A-MSDU, so the reporting would include the A-MSDU subframe headers, which is better from the reporting perspective because the AP will account for these extra bytes when triggering the STA. |
| 24361 | RISON, Mark | 91.05 | "The RU Allocation subfield indicates the resource unit (RU) assigned for transmitting the HE TB PPDU  response and the encoding is defined in Table 9-31h (B7-B1 of the RU Allocation subfield)." -- but Table 9-31h only covers 7 bits. Either state that b0 is always 0 (i.e. TRS Control not used for 80+80/160 secondary segment) or specify that it indicates the segment, for 80+80/160 | As it says in the comment | Revised –  Agree in principle with the comment. Proposed resolution specifies that the setting of B0 is the same as for Trigger frames (i.e., allowed to have 80 plus 80/160 solicitation). Essentially the proposal is to refer to the general subclause which covers all bits of the RU allocation rather than the table which covers only bits 1 to 7.  TGax editor: Please replace “is defined in Table 9-31h (B7–B1 of the RU Allocation subfield)” with “is defined in 9.3.1.22.1 (General)”. |
| 24421 | RISON, Mark | 90.41 | [Resubmission of comment withdrawn on D5.0] It is not clear how an A-Control field containing just padding is distinguished from an A-Control field containing a TRS Control all of whose fields are 0 (which is legal: 1 Data field symbol, 26-tone RU1, -20 dBm / 20 MHz AP tx power, -90 dBm target RSSI, HE-MCS 0) | Set b25 of the TRS Control to 1 (rather than being reserved) so it can be distinguished | Rejected –  A STA cannot send an A-Control field that only contains padding i.e., it always follows another Control subfield (which will at least contain one nonzero bit, since TSR Control field is the only one that may contain all zeroes bits but when TRS Control field is added then no padding is added as the length is already filled). As such if a sequence of all zeroes is present in the A-Control field that is a clear indication that it is a TRS Control field with all bits set to 0. |
| 24422 | RISON, Mark | 90.41 | [Resubmission of comment withdrawn on D5.0] It is not clear how an A-Control field containing just padding is distinguished from an A-Control field containing a TRS Control all of whose fields are 0 (which is legal: 1 Data field symbol, 26-tone RU1, -20 dBm / 20 MHz AP tx power, -90 dBm target RSSI, HE-MCS 0) | Add a para at the end of the referenced subclause "A TRS Control field specifying zero for all fields is not used." | Rejected –  A STA cannot send an A-Control field that only contains padding i.e., it always follows another Control subfield (which will at least contain one nonzero bit, since TSR Control field is the only one that may contain all zeroes bits but when TRS Control field is added then no padding is added as the length is already filled). As such if a sequence of all zeroes is present in the A-Control field that is a clear indication that it is a TRS Control field with all bits set to 0. |
| 24464 | RISON, Mark |  | "MSDUs and A-MSDUs buffered at the STA" -- the STA does not buffer A-MSDUs, it buffers MSDUs because these are the things received at the MAC SAP. Any buffering of A-MSDUs is an internal implementation detail that should not be exposed. CID 4462 on REVmd/D3.0 has been raised to fix this issue in the baseline | "In 9.2.4.5.6 change ""all MSDUs and A-MSDUs buffered at the STA (excluding  the MSDU or A-MSDU of the present QoS Data frame) in the delivery queue used for MSDUs and  A-MSDUs with TID values equal to the value in the TID subfield of this QoS Control field."" to ""all MSDUs buffered at the STA (excluding  the MSDU(s) in the present QoS Data frame) in the delivery queue used for MSDUs with TID values equal to the value in the TID subfield of this QoS Control field."" and ""The queue size, QS, is the approximate total size in octets, of all MSDUs and A-MSDUs buffered at the STA  (including the MSDUs or A-MSDUs in the same PSDU as the frame containing the Queue Size subfield) in  the delivery queue used for MSDUs and A-MSDUs with TID values equal to the value in the TID subfield  of this QoS Control field."" to ""The queue size, QS, is the approximate total size in octets, of all MSDUs buffered at the STA  (including the MSDUs in the same PSDU as the frame containing the Queue Size subfield) in  the delivery queue used for MSDUs with TID values equal to the value in the TID subfield  of this QoS Control field."". In 9.2.4.6a.4 change ""all MSDUs and A-MSDUs buffered at the STA (including the MSDUs  or A-MSDUs in the same PSDU as the frame containing the BSR Control subfield) in the delivery queues  used for MSDUs and A-MSDUs"" to ""all MSDUs buffered at the STA (including the MSDUs  in the same PSDU as the frame containing the BSR Control subfield) in the delivery queues  used for MSDUs""" | Rejected –  Whether MSDUs are buffered internally as MSDUs or A-MSDUs is indeed an implementation detail. However, there is no technical reason to not expose it (even though it is not exposing anything because as the spec stands so far the STA can chose to do either of the two.  Providing information of the queue size, including A-MSDUs, is also beneficial because the STA may be transmitting these MSDUs as A-MSDU, so the reporting would include the A-MSDU subframe headers, which is better from the reporting perspective because the AP will account for these extra bytes when triggering the STA. |
| 24492 | RISON, Mark |  | CID 20460, 22356. The Queue Size, to be useful, needs to include traffic queued above the MAC SAP. This was rejected on the basis that "The comment fails to identify a technical issue", which is spurious and that "Please note that the MAC does not know what resides above the MAC SAP. It only knows what is provided to it via the MAC SAP" which is valid. If the traffic queued above the MAC SAP is not accounted for in the Queue Size, then the AP will receive misleading information as to the amount of data the STA has queued | "In 9.2.4.5.6 Queue Size subfield, after NOTE 2, add ""The queue size may additionally include the approximate total size in octets, of MSDUs buffered above the MAC SAP with priority values equal to the value in the TID subfield  of this QoS Control field. The mechanism by which the MAC is informed of this is outside the scope of this standard.""" | Rejected –  There is no reason for upper layers to defer passing MSDUs to the MAC through the MAC SAP as soon as they are available for transmission, as the interface is a logical abstraction (see 4.4 (Logical service interfaces)), with no expectation for implementing it and as such, there are no physical requirements, such as timing constraints on the execution of each SAP. Additionally, there is no MAC SAP or MIB-based MSDU flow control or buffer capacity indication or any other explicit indication of a limitation of buffering capacity of the MAC transmission process and given the multiple aggregation mechanisms and Qos mechanisms defined in the MAC, immediate transfer of MSDUs to the MAC when they become available above the MAC facilitates the maximization of aggregation which contributes to improved system efficiency and allows the MAC to perform QoS functions which make relative distinctions in the handling of MSDUs of different priority. |
| 24493 | RISON, Mark |  | CID 20460, 22356. The Queue Size, to be useful, needs to include traffic queued above the MAC SAP. This was rejected on the basis that "The comment fails to identify a technical issue", which is spurious and that "Please note that the MAC does not know what resides above the MAC SAP. It only knows what is provided to it via the MAC SAP" which is valid. If the traffic queued above the MAC SAP is not accounted for in the Queue Size, then the AP will receive misleading information as to the amount of data the STA has queued | "In 9.2.4.5.6 Queue Size subfield, after NOTE 2, add ""The queue size may additionally include the approximate total size in octets, of MSDUs buffered above the MAC SAP with priority values equal to the value in the TID subfield  of this QoS Control field."" and add a MLME-PENDINGUNITDATA.indication to allow the MAC to find out how much data is pending above it" | Rejected –  Please note that the MAC does not know what resides above the MAC SAP. It only knows what the MAC SAP is indicating. Hence referring to what is being provided via the MAC SAP is correct. |

**Discussion: *None.***