### IEEE P802.11 Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 11ax D7.0 CR for Miscellaneous CIDs in SA2 | | | | |
| Date: 2020-09-24 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Po-Kai Huang | Intel Corporation | 2200 Mission College Blvd, Santa Clara, CA 950542200 |  | po-kai.huang@intel.com |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

Abstract

This submission proposes resolutions for the following CIDs:

25045, 25048, 25065, 25070, 25093

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: Revision after offline discussion with the commenter.

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 D7.0 Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGax D7.0 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.***

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | **P.L** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 25045 | Seok, Yongho | 337.26 | 26.2.1 | The comment requested by a non-member of this TGax SA Ballot (Young-hoon Kwon).   "can" is not a normative text. | Modify the text "An HE AP can configure a non-AP HE STA …" to "An HE AP may configure a non-AP HE STA …". | Accepted - |
| 25048 | RISON, Mark | 468.06 | 26.14.4 | "The STA switches to the multiple receive chain mode if it responds to the Trigger frame addressed to it" is just duplication of "shall also enable its multiple receive chains if it responds to a Trigger frame [that starts a frame exchange sequence] that satisfies the following conditions" above | Delete "switches to the multiple receive chain mode if it responds to the Trigger frame addressed to it and " | Accepted - |
| 25065 | RISON, Mark | 468.13 | 26.14.4 | "cannot distinguish between a Trig-  ger frames that precedes a MIMO transmission and a Trigger frames that does not precede a MIMO transmission" grammar wrong | Change "frames" to "frame" (2x) | Accepted - |
| 25070 | RISON, Mark | 382.42 | 26.5.2.5 | "NAV is considered" is confusing. You could consider and ignore. The actual requirement is not clearly expressed | At 382.60 change "The intra-BSS NAV is not considered in virtual CS" to "The intra-BSS NAV is not taken into account for the purposes of virtual CS". At 382.63 change "The basic NAV is considered in virtual CS" to "The basic NAV is taken into account for the purposes of virtual CS". At 383.1 change "A NAV is considered in virtual CS" to "The NAV is taken into account for the purposes of virtual CS". At 383.6 change "The intra-BSS NAV is considered in virtual CS" to "The intra-BSS NAV is taken into account for the purposes of virtual CS". At 383.18 change "If no NAV is considered" to "If no NAV is taken into account" | Revised –  In revmd D4.0, “considers the NAV” is used in determining CTS response to RTS frame. As a result, usage of “consider” itself does not mean that the NAV will be ignored. Further explanation about how to determine busy or idle is then described in the following paragraph.  *A STA that receives an RTS frame addressed to it considers the NAV in determining whether to respond with CTS, unless the NAV was set by a frame originating from the STA sending the RTS frame (see 10.23.2.2 (EDCA backoff procedure)).*  After discussion with the commenter, we do editorial change to revise “NAV is considered” as “consider the NAV” to align with the baseline description.  TGax editor to make the changes shown in 11-20/1531r1 under all headings that include CID 25070. |
| 25093 | RISON, Mark | 456.61 | 26.11.5 | "If the calculated dura-  tion information is smaller than 8448 µs, the TXVECTOR parameter TXOP\_DURATION shall be set to the  calculated duration information. Otherwise, the TXVECTOR parameter TXOP\_DURATION shall be set to  8448." duplicates "A STA that transmits a frame with a Duration field in an HE PPDU with the TXVECTOR parameter TXO-  P\_DURATION not set to UNSPECIFIED shall set the TXVECTOR parameter TXOP\_DURATION to the  smaller of the duration information indicated by the Duration field and 8448." just a few lines up | Delete "If the calculated dura-  tion information is smaller than 8448 µs, the TXVECTOR parameter TXOP\_DURATION shall be set to the  calculated duration information. Otherwise, the TXVECTOR parameter TXOP\_DURATION shall be set to  8448." | Rejected –  The sentence “A STA that transmits a frame with a Duration field in an HE PPDU with the TXVECTOR parameter TXOP\_DURATION not set to UNSPECIFIED shall set the TXVECTOR parameter TXOP\_DURATION to the smaller of the duration information indicated by the Duration field and 8448.” is for the case that the frame has a Duration field.  The cited case is for the case that the frame does not have a Duration field, i.e., the Ps-Poll frame. As a result, the cited sentence is still needed and can not be deleted. The full context of the cited text is shown below.  *If a STA transmits either an* ***HE TB feedback NDP*** *or an HE TB PPDU* ***carrying a PS-Poll frame*** *with the TXVECTOR parameter TXOP\_DURATION not set to UNSPECIFIED, it shall calculate the duration information and set the TXVECTOR parameter TXOP\_DURATION for the HE TB feedback NDP or HE TB PPDU to the value of the computed duration information. The TXOP responder shall calculate duration information equal to the duration information indicated by the Duration field of the frame that solicits the response minus the time, in microseconds, between the end of the PPDU carrying the frame that soliciting the HE TB PPDU and the end of the HE TB PPDU. If the calculated duration information includes a fractional microsecond, the duration information is rounded up to the next higher integer. If the calculated duration information is smaller than 8448 µs, the TXVECTOR parameter TXOP\_DURATION shall be set to the calculated duration information. Otherwise, the TXVECTOR parameter TXOP\_DURATION shall be set to 8448.* |

**Discussion:** *None.*

**Propose:**

***TGax editor: Change 26.5.2.5 UL MU CS mechanism as follows (track change on):***

* UL MU CS mechanism

The ED-based CCA and virtual CS functions are used to determine the state of the medium if CS is required before responding to a received Trigger frame. ED-based CCA for the UL MU CS mechanism is defined in 27.3.20.6.4 (CCA sensitivity for signals not occupying the primary 20 MHz channel) and virtual CS is defined in 10.3.2.1 (CS mechanism).

If the CS Required subfield in a received Trigger frame is 0 or a frame that includes a TRS Control subfield and solicits a response is received, then the non-AP STA may respond without regard to the busy/idle state of the medium.

NOTE—Responding without regard to the busy/idle state of the medium means that a non-AP STA can respond without the need to check the medium indication from physical CS and virtual CS (i.e., basic NAV and intra-BSS NAV).

A non-AP STA does not consider the intra-BSS NAV in virtual CS in determining whether to respond to a Trigger frame sent by the AP with which the non-AP STA is associated.(#25070)

A non-AP STA considers the basic NAV in virtual CS in determining whether to respond to a Trigger frame sent by the AP with which the non-AP STA is associated.(#24232) (#25070)

A non-AP STA considers the NAV in virtual CS in determining whether to respond to a Trigger frame sent by an AP with which the non-AP STA is not associated, through the UORA procedure (see 26.5.4 (UL OFDMA-based random access (UORA))) unless the NAV was set by a frame originating from the AP sending the Trigger frame.(#25070)(#24232)

NOTE 1—A non-AP STA associated with an AP considers the intra-BSS NAV in virtual CS in determining whether to respond to a Trigger frame with RU allocations for unassociated STAs sent by another AP. (#25070)

NOTE 2—The details of how a non-AP STA is solicited by the Trigger frame for transmission are described in 26.5.2.2.4 (Allowed settings of the Trigger frame fields and TRS Control subfield).

NOTE 3—If a non-AP STA responds to a Trigger frame from an AP with which it is not associated through the UORA procedure, the method to identify that a NAV was set by a frame originating from the AP sending the Trigger frame is implementation specific. For example, the non-AP STA can save the TXOP holder address and match the saved TXOP holder address with the TA field of the Trigger frame.

For a non-AP STA that is solicited by a Trigger frame for transmission, the indication of the virtual CS is described as follows. If the non-AP STA does not consider any NAV in virtual CS, then the virtual CS indicates idle. If all NAVs that the non-AP STA considers have their NAV counter equal to 0, then the virtual CS indicates idle.(#24232) Otherwise, the virtual CS indicates busy. (#25070)

(… existing texts….)