### IEEE P802.11Wireless LANs

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| 11ax D0.1 Comment Resolution and Spec Text for TXOP Duration field |
| Date: 2016-07-24 |
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Abstract

This submission contains spec text to be incorporated in P802.11ax D0.01 related to CID 2596 and document 16/0951.

Revision History:

* Rev 0: Initial version of the document
* Rev 1: Revise the texts of first note based on the suggestion from Young Hoon. Changes are highlighted in green.

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 D0.1 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 or insert 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** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 2596 | Young Hoon Kwon | 39.39 | 10.3.2.1 | TXOP duration information is included in HE-SIG-A field. Therefore, NAV can also be set based on duration information in HE-SIG-A field. | At the end of the paragraph (line 43), add the following text: "Additionally, the duration information is also carried in the HE-SIG-A field of a HE PPDU." | Revised –11ax has agreed to include TXOP Duration field in the HE-SIG-A to set the NAV. Hence, agree to add corresponding description in 10.3.2.1. Revise the sentence as “The duration information may also be available in the RXVECTOR parameter TXOP\_DURATION of received HE PPDUs”. |

**TGax Editor: *Instruction:***

**Discussion:** *None.*

**Propose:**

Revised for CID 2596 per discussion and editing instructions in 11-16/0953r0.

***TGax editor: Modify the paragraph on page 39 line 35 as the following marked in red:***

A first(11ah) virtual CS mechanism shall be provided by all MAC entities, and an additional second virtual
CS mechanism shall be provided by an S1G MAC entity(11ah). The first mechanism is referred to as the
NAV. The NAV maintains a prediction of future traffic on the medium based on duration information that is
announced in RTS/CTS frames by non-DMG STAs, MU-RTS/CTS by HE STAs as defined in 10.3.2.8a,
and RTS/DMG CTS frames by DMG STAs prior to the actual exchange of data. The duration information is
also available in the MAC headers of all frames sent during the CP other than PV1 MAC frames and PS-Poll frames and during the BTI, the A-BFT, the ATI, the CBAP, and the SP. The duration information may also be available in the RXVECTOR parameter TXOP\_DURATION of received HE PPDUs.

**Propose:**

Propose texts for 16/0951.

**TGax Editor: Insert the following subclause, 25.11a, after 25.11**

**25.11a TXVECTOR parameters TXOP\_DURATION for** **an HE PPDU**

TXOP Duration field is carried in the TXVECTOR parameter TXOP\_DURATION of an HE PPDU and indicates duration information for NAV setting and protection of TXOP.

A STA that transmits an HE SU PPDU, HE extended range SU PPDU, or HE MU PPDU may indicate no duration information for NAV setting by setting the TXVECTOR parameter TXOP\_DURATION to all 1s.

If a STA transmits an HE SU PPDU, HE extended range PPDU, or HE MU PPDU that carries a PS-Poll frame, the STA shall set the TXVECTOR parameter TXOP\_DURATION to all 1s.

A TXOP responder that transmits an HE trigger-based PPDU shall set the TXVECTOR parameter TXOP\_DURATION to all 1s if the RXVECTOR parameter TXOP\_DURATION of the soliciting PPDU is set to all 1s.

A TXOP responder that transmits an HE trigger-based PPDU shall not set the TXVECTOR parameter TXOP\_DURATION to all 1s if any one of the following condition is met

* the RXVECTOR parameter TXOP\_DURATION of the soliciting PPDU is not set to all 1s
* the RXVECTOR parameter FORMAT of the soliciting PPDU is not equal to HE\_SU, HE\_MU, or HE\_EXT\_SU

If the TXVECTOR parameter TXOP\_DURATION of an HE PPDU is not set to all 1s, and there exists Duration field in the MAC header of the HE PPDU, the duration information indicated by the TXVECTOR parameter TXOP\_DURATION is determined based on the duration information indicated by the Duration field in the MAC header and shall indicate the largest feasible duration information that is smaller than or equal to the duration information indicated by the Duration field.

NOTE 1 – Except PS-Poll frame, ~~there exists~~ a Duration/ID field in a data frame, a management frame, and a control frame indicates duration information.

NOTE 2 – For a TXOP responder, the Duration field in the MAC header of the responding PPDU is set based on the Duration field in the MAC header of the soliciting PPDU as described in 9.2.5.7 (Setting for control response frames) or 9.2.5.8 (Setting for other response frames).

For a TXOP responder that transmits an HE trigger-based PPDU carrying a PS-Poll frame, if the TXOP responder does not set the TXVECTOR parameter TXOP\_DURATION of the HE trigger-based PPDU to all 1s, the TXOP responder first calculates potential 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 trigger-based PPDU and the end of the HE trigger-based PPDU. If the calculated potential duration information includes a fractional microsecond, the potential duration information is rounded up to the next higher integer. Then the duration information indicated by the TXVECTOR parameter TXOP\_DURATION is determined based on the calculated potential duration information and shall indicate the largest feasible duration information that is smaller than or equal to the calculated potential duration information.

The encoding of TXVECTOR/RXVECTOR parameter TXOP\_DURATION for indicating duration information is defined in Table 26-1 (TXVECTOR and RXVECTOR parameters).