IEEE P802.11
Wireless LANs

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| Spec text for section 25.4 Block Acknowledgement |
| Date: 2016-11-06 |
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Abstract

This submission is the document for clarifying the texts in subclause 25.4 BA in D0.5.

Revisions:

* Rev 0: Initial version of the document.

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.***

**Discussion:**

In 9.3.1.9.7 Multi-STA BlockAck variant (D0.5),ACK of all MPDUs in an A-MPDU is indicated by Ack Type = 1 and TID subfield = 14 of Multi-STA Block ACK frame. The same concept should also be used in other subclauses (25.4 Block Acknowledgement).

**TGax Editor: *Change the subclause 25.4.2 as follows (D0.5):***

### 25.4.2 Acknowledgement, block acknowledgment or all acknowledgement selection in a Multi-STA BlockAck frame

…

Upon reception of the Multi-STA BlockAck frame the originator performs the following operations for each(#31) Per STA Info field that has an AID field addressed(#Ed) to the originator (i.e., the AID subfield is an AID if the originator is a non-AP STA and is 0 when the originator is an AP):

— If the Ack~~CK~~ Type field is 0(#2185) then the BlockAck Starting Sequence Control, TID and BA Bitmap fields of the Per STA Info field are processed according to 10.24.7 (HT-immediate block ack mechanism), (#1498)25.3 (Fragmentation), and as defined below.

 — If the Ack~~CK~~ Type field is 1(#2185) then the Per STA Info field indicates ~~either~~ the acknowledgement of a single MPDU identified by the value of the TID ~~or of all MPDUs(#1500) carried in the eliciting PPDU as defined by the acknowledgement context~~.

—If the Ack Type field is 1 and the TID subfield of Per AID TID Info field is 14, then the Per STA Info field indicates the acknowledgement of all MPDUs carried in the eliciting PPDU as defined by the acknowledgement context(#1500).

**TGax Editor: *Change the subclause 25.4.4.3 as follows (D0.5):***

### 25.4.4.4 Trigger-based PPDU soliciting a DL SU PPDU response

A non-AP STA that sends a Trigger-based PPDU as a response to a Basic variant Trigger frame that intends to solicit an immediate response shall set the Ack Policy to Normal Ack/Implicit BAR (see 10.3.2.11.4 (MU acknowledgement procedure for an UL MU transmission) for an example of this sequence). If the HE AP intends to send the response in a DL SU PPDU format, then the HE AP shall follow the following acknowledgment procedure:

1. If the HE Trigger-based PPDU carries a VHT Single MPDU from a single STA that solicits an immediate response, then the HE-AP shall respond with either an Ack frame or a Multi-STA Block Ack frame with ACK Type set to 1 carried in a DL SU PPDU format.
2. If the HE Trigger-based PPDU carries an A-MPDU from a single STA that solicits an immediate response, then the HE-AP shall respond with either Compressed BlockAck frame, Multi-STA Block Ack frame with Ack Type set to 1 and the TID set to 14 or a Multi-STA Block Ack frame with Ack Type set to 0 carried in a DL SU PPDU format.
3. If the HE Trigger-based PPDU carries a Multi-TID A-MPDU that solicits an immediate response from a single STA then the HE-AP shall send a Multi-STA BlockAck frame carried in a DL SU PPDU format.

**TGax Editor: *Insert the following text and Table after 9th paragraph of the subclause 9.3.1.9.7 (D0.5):***

The context and the presence of each optional subfields in a Per STA Info subfield in a Multi-STA BlockAck frame is as defined in Table 9-24x (Context of the Per STA Info subfield and presence of optional subfields):

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| Table 9-24x – Context of the Per STA Info subfield and presence of optional subfields |
| Ack Type subfield value | TID subfield values | Presence of optional subfieldsin the Per STA Info field | Context of a Per STA Info field in a Multi-STA BlockAck frame |
| 0 | 0–7 | Block Ack Starting Sequence Control | Present | Block acknolwegment context:* Sent as a response to an A-MPDU that solicits an immediate block acknowledgement or to a BAR frame
 |
| Block Ack Bitmap | Present |
| 1 | 0–7 | Block Ack Starting Sequence Control | Not Present | Acknowledgment context:* Sent as a response to an MPDU or VHT Single MPDU that solicits an immediate acknowledgment
 |
| Block Ack Bitmap | Not Present |
| 0 or 1 | 8 to 13 | N/A | N/A | Reserved |
| 0 | 14 | N/A | N/A | Reserved |
| 1 | 14 | Block Ack Starting Sequence Control | Not Present | All block acknowledgment context:* Sent as a response to an A-MPDU that solicits an immediate response and all MPDUs contained in the A-MPDU are received successfully
 |
| Block Ack Bitmap | Not Present |
| 0 | 15 | N/A | N/A | Reserved |
| 1 | 15 | Block Ack Starting Sequence Control | Not Present | Action Ack frame acknowledgment context:* Sent as a response to an Action Ack frame carried in an A-MPDU that solicits an immediate acknowledgment
 |
| Block Ack Bitmap | Not Present |