IEEE P802.11
Wireless LANs

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| **Proposed Resolution to CID 7156** |
| **Date:** 2017-01-13 |

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Abstract

This submission proposes resolutions for comment CID 7156 related to TGax D1.0.

NOTE- The proposed changes on this document is based on TGax D1.0

Revisions:

* Rev 0: Initial version of the document.

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| **CID** | **Clause Number** | **Page** | **Line** | **Comment** | **Proposed Change** | **Resolution** |
| 7156 | 11.2.2.8 | 143 | 9 | When an AP sends a broadcast Multi-STA BlockAck, the broadcast Multi-STA BlockAck can not indicate the More Data Information for multi STA since the More Data subfield is in Frame Control field. Suggest to use special TID to indicate that the ACK type subfield represents More Data subfield. | Please clarify it | Revised.Agree in principle with the comment. Proposed resolution to clarify the behavior when the AP sends a broadcast Multi-STA BlockAck to indicate the More Data information for more than one STAs. |

**Discussion**

Abstract

This document provides resolutions for the following CIDs on Clause 25.9.3. The baseline for this comment resolution document is 802.11ax Draft 0.1.

* CIDs: 705, 706

In current draft, “ an HE AP may also set the More Data bit in Frame Control field in a BlockAck or Multi-STA BlockAck frame to 1 to indicate that it has one or more pending BUs buffered for the HE PS STA identified by the RA in the BlockAck or Multi-STA Blockack frame, if the HE PS STA has set the More Data Ack subfield in the QoS Capability element to 1.” This case is only used for individual Multi-STA BlockAck because the indication is in Frame Control field.

The commenter pointed out that it should also be able to indicate the More Data information for one or more STAs when an HE AP sends a broadcast Multi-STA BlockAck. The indication signaling should be defined for broadcast Multi-STA BlockAck.

**Proposed resolution**

***Detailed implementation of the resolution***

Make the following changes to TGax D 1.0.

**9.3.1.9.7 Multi-STA BlockAck variant**

***TGax editor: Change the paragraphs below as follows:***

The TID subfield contains the TID for which the acknowledgment or block acknowledgment contained in the Per AID TID Info subfield applies. When the TID subfield is set to 13, the ACK type subfield of Per AID TID Info field means the More Data subfield and the the Block Ack Starting Sequence Control and Block Ack Bitmap are not present.

**11.2.2.6 AP operation during the CP**

***TGax Editor: Change the paragraph below as follows:***

g)…

An AP may also set the More Data bit in an Ack frame to 1 in response to a QoS Data frame to indicate that it has one or more pending BUs buffered for the PS STA identified by the RA in the Ack frame, if that PS STA has set the More Data Ack subfield in the QoS Capability element to 1. An HE AP may also set the More Data bit in a BlockAck or Multi-STA BlockAck frame to 1 to indicate that it has one or more pending BUs buffered for the HE PS STA identified by the RA in the BlockAck or Multi-STA Blockack frame, if that HE PS STA has set the More Data Ack subfield in the QoS Capability element to 1. When an AP sends a broadcast Multi-STA Blockack frame, the HE AP may also use Per AID TID Info field with the TID subfield set to 13 and the ACK type subfield set to 1 to indicate that it has one or more pending BUs buffered for the HE PS STA identified by the AID subfield in the Per AID TID Info field if the HE PS STA indicated by the AID subfield has set the More Data Ack subfield in the QoS Capability element to 1. An HE AP indicates support of sending Ack, BlockAck, or Multi-STA BlockAck frames with a nonzero More Data subfield by setting the More Data Ack subfield to 1 in the QoS Info field of frames it transmits.

**11.2.2.8 Receive operation for STAs in PS mode during the CP**

***TGax Editor: Change the paragraph below as follows:***

e) …If a STA has set the More Data Ack subfield in QoS Capability element to 1, then if it receives an Ack frame from its AP with the More Data bit equal to 1, the STA shall operate exactly as if it received a TIM with its AID bit equal to 1. If an HE STA has set the More Data Ack subfield in QoS Capability element to 1, then if it receives a BlockAck, or an unicast Multi-STA BlockAck frame from its AP with the More Data bit equal to 1, or a broadcast Multi-STA BlockAck frame from its AP with the TID subfield set to 13 and the ACK type subfield set to 1 identified by the AID subfield in the Per AID TID Info field, the STA shall operate exactly as if it received a TIM with its AID bit equal to 1. For example, a STA that is using the PS-Poll delivery method shall issue a PS-Poll frame to retrieve a buffered BU. See also 10.3.6 (Group addressed MPDU transfer procedure).