IEEE P802.11  
Wireless LANs

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| --- | --- | --- | --- | --- |
| Resolutions for “Obsolete?” BlockAcks  Basic BlockAckReq, Basic BlockAck, NON HT BlockAck and HT Delayed BlockAck | | | | |
| Date: 2017-07 | | | | |
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Abstract

This submission proposes resolutions for CIDs 57, 58, 61 and 70

Green indicates material agreed to in the group,

yellow material to be discussed, red material rejected by the group and

cyan material not to be overlooked.

The “Final” view should be selected in Word.

R2 CIDs 70 and 137 added

R5 has edits by Menzo plus results of discussions Dec 7th 2017

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| CID | Commenter | Clause | Page | Line | Comment | Proposed |
| 57 | Graham Smith | 9.3.1.8.2 | 712 | 8 | Time to remove BlockAckReq? | Remove |
| 58 | Graham Smith | 9.3.1.9.2 | 716 | 14 | Time to remove basic BlockAck variant? | Remove |
| 61 | Graham Smith | 11.5.2.4 | 1802 | 31 | Time to remove Non-HT blockack ? | Remove, also at 2949L25, 2950L6 |
| 70 | Graham Smith | B4.17.1 | 2970 | 8 | HT-delayed block ack obsolete? But I see 50 other instances of HT-delayed Block ack where obsolete is not mentioned. Which is in error? | Is it obsolete or not? Correct |
| 137 | Mark R |  |  |  | We should not include obsolete material | Delete all material described as obsolete |

P711.56

*“DMG STAs use only the Compressed BlockAckReq variant and the Extended Compressed BlockAckReq variant.”*

So no worries there then.

No other reference to this outside of 9.3.1.8.2

CID 57 BlockAckReq variant and CID 58 Basic Block Ack variant

9.3.1.8.2 “The use of the **basic BlockAckReq variant is obsolete**. Consequently, this subclause might be removed in a

later revision of the standard.”

9.3.1.9.2 “The use of the **basic BlockAck variant is obsolete**. This subclause might be removed in a later revision of the

standard.

9.3.1.8 “BlockAckReq frame format”

This describes the BlockAckReq of which there are 5 variants. One of those variants is the “**Basic** BlockAckReq variant”. This, and only this is to be deleted.

“9.3.1.8.2 Basic BlockAckReq variant”

The term “BlockAckReq is used generally so we need to be careful.

**712.5 “NOTE—Reference to “a BlockAckReq” frame without any other qualification from other subclauses applies to any of the variants, unless specific exclusions are called out.”**

The term “Basic BlockAck” is used to refer to the “Basic BlockAckReq variant”

***So we need to remove all “Basic BlockAck”references*** as well as Basic BlockAckReq.

We do note that PSMP appears to use the basic variant.

At 1564.54 we read:

“Within a PSMP-DTT or PSMP-UTT between STAs where one is not an HT STA, BlockAckReq and BlockAck frames shall be exchanged through the use of an immediate block ack agreement and shall be the basic variants, i.e., Basic BlockAckReq and Basic BlockAck, respectively.”

In this case it is referring to the case where one STA is NOT an HT STA. As non-HT block ack is obsolete, I am assuming that this sentence can be deleted.

CID 61 Non-HT block ack agreement and CID 70 HT-delayed block ack

11.5.2.4. Table 11-4

“NOTE 1—**Non-HT block ack agreement is obsolete**. Support for this mechanism might be removed in a later revision of the standard.”

“NOTE 2—**HT-delayed block ack agreement is obsolete**. Support for this mechanism might be removed in a later revision of the standard.”

In response to CID 70, I take the view that as it stated here, and in the PICS (2970.9), that the HT-Delayed block ack is indeed obsolete.

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Discussed in Berlin as part of document 17/0989

General consensus to remove but need to check Basic BlockAckReq and Basic BlockAck

Also required detailed editor instructions.

This submission 17/1137 was therefore prepared to consider removing these block acks.

CIDs 57, 58

RESOLUTION

REVISED

711.40 in Table 9-22 replace “Basic BlockAckReq” in column 4 with “Reserved”

(Note: At 711.28 it says four variants, which was wrong but is now correct.)

715.42 in Table 9-24 replace “Basic BlockAck” in column 4 with “Reserved”

712.8 Delete 9.3.1.8.2 “Basic BlockAckReq variant”

715.26 Delete “The value 1 is not used in a Basic BlockAck frame outside a PSMP sequence.”

716.14 Delete 9.3.1.9.2 (Basic BlockAck variant)

1453.22 delete “other than a Basic BlockAckReq or Basic BlockAck frame”

1453.26 delete lines 26 to 32.

1453.36 delete “But the Basic BlockAckReq and Basic BlockAck frames are subject to fewer restrictions because their use at times mimics a typical data-Ack exchange, where no BSSBasicRateSet rate restriction exists on the Data frame. In addition, the Basic BlockAck frame is significantly larger than the other Control frames.”

1524.33 The originator requests acknowledgment of outstanding QoS Data frames by sending a BlockAckReq frame. The recipient shall maintain a block ack record for the block.

1524.40 Separate the block of QoS data frames and the BlockAckReq frames into separate TXOPs or SPs

1525.12 If the immediate block ack policy is used, the recipient shall respond to a BlockAckReq frame with a BlockAck frame. If the recipient sends the BlockAck frame, the originator updates its own record and retries any frames that are not acknowledged in the BlockAck frame, either in another block or individually.

1525.18 If the delayed block ack policy is used, the recipient shall respond to a BlockAckReq frame with an Ack frame. The recipient shall then send its BlockAck frame response in a subsequently obtained TXOP. Once the contents of the BlockAck frame have been prepared, the recipient shall send this frame in the earliest possible TXOP using the highest priority AC. The originator shall respond with an Ack frame upon receipt of the BlockAck frame. If delayed block ack policy is used and if the HC is the recipient, then the HC may respond with a +CF-Ack frame if the BlockAckReq frame is the final frame of the polled TXOP’s frame exchange. If delayed block ack policy is used and if the HC is the originator, then the HC may respond with a +CF-Ack frame if the BlockAck frame is the final frame of the TXOP’s frame exchange

1525.46 The subsequent BlockAckReq frame’s starting sequence number shall be higher than or equal to the starting sequence number of the immediately preceding BlockAckReq frame for the same TID.

1525.60 If there is no response (i.e., neither a BlockAck frame nor an Ack frame) to the BlockAckReq frame, the originator may retransmit the BlockAckReq frame within the current TXOP or SP (if time

1526.56 The BlockAckReq frame shall be discarded if all MSDUs..

1564.54 10.29 (PSMP operation), Delete “Within a PSMP-DTT or PSMP-UTT between STAs where one is not an HT STA, BlockAckReq and BlockAck frames shall be exchanged through the use of an immediate block ack agreement and shall be the basic variants, i.e., Basic BlockAckReq and Basic BlockAck, respectively.”

1570.1 (PSMP ack rules) Acknowledgment for data transmitted under an immediate or HT-immediate block ack agreement may be requested implicitly using PSMP Ack setting of the Ack Policy field in Data frames or explicitly with a Multi-TID BlockAckReq frame. An AP that transmits Data frames with the Ack Policy field equal to PSMP Ack or that transmits a Multi-TID BlockAckReq frame addressed to a STA in a PSMP-DTT shall allocate sufficient time for the transmission of a Multi- TID BlockAck frame, respectively, in a PSMP-UTT allocated to that STA within the same PSMP sequence. A STA that has received a PSMP frame and that receives a QoS Data frame with the Ack Policy field equal to PSMP Ack or that receives a Multi-TID BlockAckReq frame shall transmit a Multi-TID BlockAck frame, respectively, in the PSMP-UTT of the same PSMP sequence.

1570.19 An AP that receives a QoS Data frame with the Ack Policy field equal to PSMP Ack during a PSMP-UTT shall transmit a response that is a Multi-TID BlockAck frame in the next PSMPDTT that it schedules for that STA, except if it has transmitted a BlockAck frame for such TIDs to the STA outside the PSMP mechanism.

2949.28 (2952), and 2950.9 (2953) (PICS) Delete “9.3.1.8.2 (Basic BlockAckReq variant)”

2949.31 (2952), 2950.12 (2953) (PICS) Delete “9.3.1.9.2 (Basic BlockAck variant)”

CID 61 and 70

RESOLUTION

REVISED

2949.27 (2952), 2950.8 (2953) Delete “Non-HT block ack is obsolete. Support for this mechanism might be removed in a later revision of the standard.”

2949.43 (2952), 2950.24 (2953) Delete in column 3, “10.24.8 HT delayed Block Ack extensions”

154.25 to 154.29 delete all (high-throughput (HT) delayed (HT-delayed) block acknowledgement (Ack))

215.11 delete “HT-delayed block ack,”

687.22 delete “10.24.8.3 (Operation of HT-delayed block ack),”

714.26 Modify as shown in revision marks: The TA field value is the address of the STA transmitting the BlockAck frame.

715.16 Delete “The value 0 is not used for data sent under HT-delayed Block Ack during a PSMP sequence.”

715.22 Delete “The value 1 in a Compressed BlockAck frame indicates HT-delayed block ack. HT-delayed block ack is obsolete and this value might be reserved in a later revision of the standard.”

715.25 Delete “The value 0 is not used for data sent under HT-delayed Block Ack during a PSMP sequence.”

NEED TO CHECK THIS FIELD FOR DMG USE (SEE TABLE 11-5) AND ADD TEXT

784.21 Delete as shown “The Block Ack Policy subfield is set to 1

Add “NOTE: The Block Ack Policy subfield for non-DMG STAs could be set to either one or zero in previous revisions.”

1004.35 Replace text in B10 (HT-delayed Block Ack) with “Reserved”

1005.45 delete entire row (HT-delayed Block Ack)

1394.30 delete entire row (Delayed BlockAcks)

1394.33 delete entire row

1394.38 delete entire row

1395.7 delete entire row (Delayed BlockAcks)

1395.10 delete entire row

1395.19 delete entire row (Delayed BlockAckReqs)

1395.35 delete entire row (Delayed BlockAcks)

1395.44 delete leftmost two columns (Delayed Block Ack Data)

1395.56 delete entire row (Delayed BlockAckReqs)

1404.1, 1404.16, delete “or HT-delayed"

1421.63 modify as shown in revision marks: “NOTE 1—A BlockAck frame is sent in immediate response to the BlockAckReq frame for HT immediate Block Ack.”

1459.45 delete “BlockAck frames in the context of HT-delayed Block Ack,”

NEW WORK

1524 clauses 10.24.3 and 10.24.2 need to be investigated. 10.24.3 may be deleted but does have GCR stuff (unless it is unique – i.e. is it duplicated elsewhere. Look for references to the clause.

Also look for “Immediate Block AC (with no HT in front)”

HT

1528.43 delete “and 10.24.8 (HT-delayed block ack extensions),”

1536.34 Delete 10.24.8 (HT-delayed block ack extensions) in its entirety.

1569.48 Delete “A QoS Data frame transmitted under an HT-delayed block ack agreement during either a PSMP-DTT or a PSMP-UTT shall have the Ack Policy field set to Block Ack”

1570.40 Delete “If a BlockAckReq frame for an HT-delayed block ack agreement is transmitted during a PSMP sequence, the BAR Ack Policy subfield of the BlockAckReq frame shall be set to the value representing No Acknowledgment”

1789.17 delete paragraph

1802.13 Table 11-4 Delete entire first row of Table

1802.18 Table 11-4 Delete entire third row of Table

1802.22 Table 11-4 Delete fourth row of Table

1802.13 Table 11-4 Delete NOTE 1 and NOTE 2

2970.6 (2973) Delete Entire row (HTM5.4)

3252.49 (3255) Delete lines 49 to 61 (dot11RMNeighborReportHTDelayedBlockAck)

3371.16 Delete “or HT-delayed”