IEEE P802.11  
Wireless LANs

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  | | --- | --- | --- | --- | --- | | Originator Block Ack State | | | | | | Date: 2020-05-19 | | | | | | Author(s): | | | | | | Name | Affiliation | Address | Phone | email | | Matthew Fischer | Broadcom |  |  | [Matthew.fischer@broadcom.com](mailto:Matthew.fischer@broadcom.com) | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |

Abstract

Proposed language to modify some confusing text in the description of the originator behaviour in the BlockAck section.

The proposed changes is based on CID 4155 from LB SA1 of TGmd draft D3.0

Changes are referenced to TGmd D3.2.

**REVISION NOTES:**

**R0**:

initial

**R1**:

Correct a spelling error

Update to D3.1

Change CID of reference

**R2**:

Modify wording for consistent naming of status

Update doc references

**R3**:

Update to D3.2

Update doc references

**R4**:

Changed, roughly, “MPDU corresponding to a block ack agreement”, to “MPDU under a block ack agreement”

Changed order of new bullet in 10.25.6.8 with reference to the first NOTE in that subclause (i.e. swapped order to keep the first note immediately after the first bulleted item)

Add to the discussion section a comment about the 10.25.6.6.3 change

10.25.6.8:

Change wording of paragraph one

Changed “block ack status” to “status”

Add “The originator shall” as a syntax correction

Changed some indentations to be consistent

Add “is equal to SSN or” in the status update section

Added clarifying text in the last note

Update doc references

**R5**:

10.25.6.8:

Slight modification to wording of second bullet

Eliminated an extraneous bullet

Update doc references

**R6**:

10.25.6.8:

Changed to standard word usage “between SSN and blah”

Merged middle and last bullets

Update doc references

**R7**:

10.25.6.8:

Changed SSN to SSN – 1, because “between” includes SSN and in this case, we do not want to include SSN

Update doc references

**R8**:

10.25.6.8:

Add “the”

Remove “and”

Change “failed reception of” to “lack of reception of”

Change “acknowledged” and “not acknowledged” to “*acknowledged*” and “*not acknowledged*”

Update doc references

**END OF REVISION NOTES**

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 TGmd Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGmd Draft (i.e. they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

***TGmd Editor: Editing instructions preceded by “TGmd Editor” are instructions to the TGmd editor to modify existing material in the TGmd draft. As a result of adopting the changes, the TGmd editor will execute the instructions rather than copy them to the TGmd Draft.***

**CIDs**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | **Clause** | **Page** | **Comment** | **Proposed Change** | **Resolution (Proposed)** |
| 4155 | Fischer, Matthew | 10.25.6.8 | 1887.00 | The text is not straightforwad. | Make changes to clarify the behavior. See, for example, 11-19-1564 | Revise - TGmd editor to make changes as shown in 11-19/1564r8 that are marked with CID 4155 which generally agree with the commenter’s suggestion to clarify some fo the block ack language. |

**Discussion:**

The change to 10.25.6.6.3 is needed because neither of the existing two equations capture the case of SSN == WinStartB

**Proposed Changes to TGmd D3.2:**

***TGmd editor: within TGmd D3.2, in 10.25.6.6.3 Operation for each received BlockAckReq, change the text as shown, noting that the change is to modify the less than operator to a less than or equal to operator:***

**10.25.6.6.3 Operation for each received BlockAckReq**

b) If WinstartB + 2^11  SSN  WinstartB, do not make any changes to the receive reordering buffer record.

***TGmd editor: within TGmd D3.2, in 10.25.6.8 Maintaining block ack state at the originator, change the text as shown:***

**10.25.6.8 Maintaining block ack state at the originator**

If an originator receives a BlockAck frame, the originator updates the status of MPDUs in its transmit buffer that have the same TID as the BlockAck frame, RA equal to the TA of the BlockAck frame and TA equal to the RA of the BlockAck frame. Status update is performed as follows::

* The originator shall not update the status of MPDUs with Sequence Number subfield values between *WinStartO* and *SSN*  *1* of the received BlockAck frame, and

NOTE—It is possible for the Starting Sequence Number subfield value (*SSN*) of the received BlockAck frame to be greater than *WinStartO* because of the lack of reception of a nonzero number of MPDUs beginning with the MPDU with Sequence Number subfield value equal to *WinStartO* at a recipient that is using partial-state operation.

* For each MPDU for which the status is *not acknowledged*, and for which the corresponding bit of the received bitmap contains a value of 1, and for which the Sequence Number subfield value is between SSN of the received BlockAck frame and *WinStartO*  *WinSizeO*  *1*, the originator shall change its status to *acknowledged*, except that the originator shall not update the status of MPDUs that have a status of *acknowledged*.

NOTE—This second rule means that if an originator successfully delivered an MPDU and received the

BlockAck frame in one TXOP and then receives a BlockAck frame in a later TXOP in which the MPDU is not

indicated as received (i.e. the corresponding bit of the received bitmap is 0 because the partial state has been reset), the originator knows not to retry the MPDU.

**End of proposed changes.**