IEEE P802.11
Wireless LANs

|  |
| --- |
| Some 11mc comment resolutions (Initial Sponsor Ballot) |
| Date: 2015-06-18 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Sigurd Schelstraete | Quantenna Communications | 3450 W. Warren AveFremont, CA 94538 |  | sigurd@quantenna.com  |
| Dorothy Stanley | HP (Aruba Networks) | 1322 Crossman Ave Sunnyvale, CA 94089 | +1 630-363-1389 | dstanley@arubanetworks.com  |

Abstract

This document contains the proposed resolutions to CIDs 5867, 5869, 5871, 5872, 5873, 5881, 5883

5886, 5885, 5887, 5888, 5889, 5890, 5891, 5893, 5894, 5896, 5897, 5898, 5899, and 5902.

Also 5878, needs discussion.

R1:

CIDs 5903, 5904, 5905, 5906, 5907, 5136, 6449

Also CID 5910, needs discussion (related to 5878)

R1 has some updates following off-line comments on the original version

R2 is updated based on feedback received during presentation.

**CIDs 5867, 5873 - MAC**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 5867 | 595.61 | 8.3.1.2 |  |  | "The TA field is the address of the STA transmitting the RTS frame or a bandwidth signaling TA" should be more specific. It's not just any signaling TA, but the specific signaling TA that is obtained by setting the Individual/Group bit of the address of the transmitting STA to one. | Suggested wording: "The TA field is the address of the STA transmitting the RTS frame or the bandwidth signaling TA that is obtained by setting the Individual/Group bit in that address to one" |
| 5873 | 611.56 | 8.3.1.20 |  |  | "The TA field is set to the address of the STA transmitting the VHT NDP announcement frame or a bandwidth signaling TA" should be more specific. It's not just any signaling TA, but the specific signaling TA that is obtained by setting the Individual/Group bit of the address of the transmitting STA to one. | Suggested wording: "The TA field is set to the address of the STA transmitting the VHT NDP announcement frame or the bandwidth signaling TA that is obtained by setting the Individual/Group bit in that address to one" |

**The cited text is seen in context below:**

****

**And at 611.56:**

****

**The cited text is:**

The TA field is the address of the STA transmitting the RTS frame or a bandwidth signaling TA.

And

The TA field is set to the address of the STA transmitting the VHT NDP Announcement frame or a

bandwidth signaling TA.

**The commenter’s proposed change is:**

The TA field is the address of the STA transmitting the RTS frame or the bandwidth signaling TA that is obtained by setting the Individual/Group bit in that address to one.

The TA field is set to the address of the STA transmitting the VHT NDP Announcement frame or the bandwidth signaling TA that is obtained by setting the Individual/Group bit in that address to one .

**Proposed resolution: Revised**

**Change the text as shown below:**

At 591.61:

The TA field is the address of the STA transmitting the RTS frame or the bandwidth signaling TA of the STA transmitting the RTS frame.

At 611.56:

The TA field is set to the address of the STA transmitting the VHT NDP Announcement frame or the

bandwidth signaling TA of the STA transmitting the VHT NDP Announcement frame.

**CID 5869 - MAC**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 5869 | 603.29 | 8.3.1.9.1 |  |  | Paragraph mentions "four possible BlockAck frame variants". Table 8-24 shows five. | Replace "four" with "five" |

**The Cited text is below:**

****

**The commenter’s proposed change is below:**

The values of the Multi-TID, Compressed Bitmap, and GCR subfields of the BA Control field determine

which of five possible BlockAck frame variants is represented, as indicated in the Table 8-24 (BlockAck

frame variant encoding).

**Discussion:** There are indeed 5: Basic, Compressed, Extended Compressed, Milti-TID, GCR

**Proposed resolution: Revised**

The values of the Multi-TID, Compressed Bitmap, and GCR subfields of the BA Control field determine

which of the possible BlockAck frame variants is represented, as indicated in the Table 8-24 (BlockAck

frame variant encoding).

**CIDs 5871, 5872 (MAC)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 5871 | 606.02 | 8.3.1.9.5 |  |  | Replace "MSDUs and A-MSDUs" with "MSDUs or A-MSDUs" | See comment |
| 5872 | 606.49 | 8.3.1.9.5 |  |  | Replace "MSDUs and A-MSDUs" with "MSDUs or A-MSDUs" | See comment |

**The cited text is below**

****

**And**

****

**The commenter’s proposed change is:**

The Block Ack Bitmap subfield is 8 octets in length and is used to indicate the received status of up to

64 MSDUs or A-MSDUs.

**Proposed resolution for both comments: Revised.**

Modify the text as follows:

The Block Ack Bitmap subfield is 8 octets in length and is used to indicate the received status of up to

64 entries, where each entry represents an MSDU or an A-MSDU.

**Same change at 605.2.**

**CID 5881 – MAC**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 5881 | 1241.06 | 9.2.4.2 |  |  | Text refers to Figure 9.22.2.8. This should be Clause 9.22.2.8. | Correct |

**The cited text is below:**

****

**Proposed Resolution: Revised**

At 1241.06 change as shown below:

9.22.2.8 (TXOP limits).

**CID 5883 – MAC – Same as editorial CID 6497, already resolved by the editor**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 5883 | 1285.57 | 9.5 |  |  | This note seems out of place. It refers to "The three MSDUs ...", which are not mentioned before.It is possible that this note belongs in section 9.6, line 58 of page 1286. | Clarify or remove note |

**The cited text is below:**

****

**Discussion:**

**The text is out of place; propose moving to 1286 to follow description of defragmenting 3 frames:**

****

**Proposed resolution: Revised**

Move the note at 1285.57 to 1286.58, to follow the paragraph beginning “ A STA shall support the concurrent reception of fragments of at lease three MSDUs….”

**Note to editor: Same as CID 6497, already resolved by the editor**

**CID 5887, 5888, 5889, 5890, 5885, 5886 - MAC**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 5887 | 1315.28 | 9.14 |  |  | Replace "An HT STA shall not transmit a PPDU ..." with "A STA shall not transmit an HT PPDU ..." | See comment |
| 5888 | 1315.29 | 9.14 |  |  | There are multiple values of aPPDUMaxTime. | Refer to Table 20-25 for the value that is relevant for HT PPDUs |
| 5889 | 1315.29 | 9.14 |  |  | There are multiple values of aPPDUMaxTime. | Refer to Table 21-31 for the value that is relevant for DMG PPDUs |
| 5890 | 1315.31 | 9.14 |  |  | Replace "An DMG STA shall not transmit a PPDU ..." with "A STA shall not transmit an DMG PPDU ..." | See comment |
| 5885 | 1311.48 | 9.13.2 |  |  | Lines 48-55 deal with the maximum PPDU duration. This text belongs in Clause 9.14 (PPDU duration constraint), which contains similar text for HT and DMG STAs. | Move lines 48-55 to Clause 9.14 |
| 5886 | 1311.51 | 9.13.2 |  |  | NOTE is incorrect. The LENGTH field in L-SIG is limited to 4095 because it is 12 bits long. It is the max value of the LENGTH field that determines the max VHT PPDU size, not the other way round. | Delete NOTE |

**The cited text is below:**

**CIDs 5887-5890:**

****

**And CID 5885:**

****

**The commenter’s proposed changes are shown below:**

**9.14 PPDU duration constraint**

An STA shall not transmit an HT PPDU that has a duration (as determined by the PHY-TXTIME.confirm

primitive defined in 6.5.8 (PLME-TXTIME.confirm)) that is greater than aPPDUMaxTime (see Table 20-25).

A STA shall not transmit a DMG PPDU that has a duration (as determined by the PHY-TXTIME.confirm primitive defined in 6.5.8 (PLME-TXTIME.confirm)) that is greater than aPPDUMaxTime (see Table 21-31).

**Commenter also suggests moving the following text from 9.1.13.2 to 9.14:**

A STA shall not transmit a VHT PPDU if the PPDU duration exceeds aPPDUMaxTime defined in Table 22-29

(VHT PHY characteristics).

NOTE—This restriction limits the maximum value in the LENGTH field in the L-SIG field of a VHT PPDU to 4095.

A STA shall not transmit a VHT PPDU in TVWS bands if the PPDU duration exceeds aPPDUMaxTime

(defined in Table 23-25 (TVHT PHY characteristics)).

**Commenter in CID 5886 proposes to delete the note in the text above text. Propose to accept this comment, as (a) the restriction cited in the note is not clear, (b) It is the max value of the LENGTH field that determines the max VHT PPDU size, not the other way round.**

**Proposed resolution to CID 5886: Accepted**

**Proposed resolution to CIDs 5885, 5887, 5888, 5889, 5890: Revised**

Change the text in 9.14 as shown below and delete lines 1311.48 through 1311.55

**9.14 PPDU duration constraint**

An STA shall not transmit an HT PPDU that has a duration (as determined by the PHY-TXTIME.confirm

primitive defined in 6.5.8 (PLME-TXTIME.confirm)) that is greater than aPPDUMaxTime defined in Table 20-25.

A STA shall not transmit a DMG PPDU that has a duration (as determined by the PHY-TXTIME.confirm primitive defined in 6.5.8 (PLME-TXTIME.confirm)) that is greater than aPPDUMaxTime defined in Table 21-31.

A STA shall not transmit a VHT PPDU that has a duration (as determined by the PHY-TXTIME.confirm

primitive defined in 6.5.8 (PLME-TXTIME.confirm)) that is greater than aPPDUMaxTime defined in Table 22-29

(VHT PHY characteristics).

A STA shall not transmit a VHT PPDU in TVWS bands that has a duration (as determined by the PHY-TXTIME.confirm primitive defined in 6.5.8 (PLME-TXTIME.confirm)) that is greater than aPPDUMaxTime

defined in Table 23-25 (TVHT PHY characteristics).

**CID 5891 - MAC**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 5891 | 1315.59 | 9.15 |  |  | There are multiple values of aPPDUMaxTime. | Refer to Table 21-31 for the value that is relevant for DMG PPDUs |

**The cited text is below:**

****

**The commenter’s proposed change is shown below:**

The transmission duration of an A-PPDU shall be no greater than aPPDUMaxTime as defined in Table 21-31.

**Proposed resolution: Revised**

Change the text at the cited location as shown below to insert reference:

The transmission duration of an A-PPDU shall be no greater than aPPDUMaxTime (see Table 21-31).

**CID 5893, 5136, 6449 - MAC**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 5893 | 1323.61 | 9.22.2.2 |  |  | The sentence refers to "reason c), d) or e) above ". There is no e) in the bullet list on lines 19-35. Is anything missing here? | Clarify |
| 5136 | 1323.37 | 9.22.2.2 |  |  | This para should be part of the previous list | Change this para to become list item e) of the previous para. |
| 6449 | 1323.37 | 9.22.2.2 |  |  | This sentence does not make sense on its own | Make it an item e) at the end of the list immediately above it |

**The cited text is below:**

****

**Proposed resolution to all 3 CIDs: Revised**

Make the paragraph at 1323L37 into bullet e) of the list that starts at line 20.

**CID 5894 - MAC**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 5894 | 1329.14 | 9.22.2.7 |  |  | The words "followed after SIFS by a PPDU containing one or more VHT Compressed Beamforming frames" belong with the second sub-bullet | Second sub-bullet should be: "a Beamforming Report Poll frame followed after SIFS by a PPDU containing one or more VHT Compressed Beamforming frames" |

**The cited text is below:**

****

**Proposed resolution: Revised**

The words “followed after SIFS by a PPDU containing one or more VHT Compressed Beamforming frames” apply to both sub-bullets. The formatting is somewhat confusing though. Proposed to make this more explicit by duplicating for each bullet.

Modify the text as follows:

Either

— a VHT NDP Announcement frame followed after SIFS by a VHT NDP followed after SIFS by a PPDU containing one or more VHT Compressed Beamforming frames, or

— a Beamforming Report Poll frame followed after SIFS by a PPDU containing one or more VHT Compressed Beamforming frames

**CID 5896 - MAC**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 5896 | 1408.33 | 9.3 |  |  | The sentence "The behavior described in this subclause is specific to the use of the HT variant HT Control field" is not clear enough. | Replace with "This subclause applies to PPDUs containing an HT variant HT Control field" |

**The cited text is below:**

****

**Proposed resolution: Revised**

Change the sentence as follows:

This subclause applies only to PPDUs containing an HT variant HT Control field.

**CID 5897 - MAC**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 5897 | 1408.36 | 9.3 |  |  | "A sounding PPDU is a PPDU for which the SOUNDING parameter of the corresponding RXVECTOR or TXVECTOR has the value SOUNDING."Whether a PPDU is a sounding PPDU is determined by TXVECTOR alone. RXVECTOR could erroneously have the value SOUNDING, but that wouldn't make the PPDU a sounding PPDU. | Change "RXVECTOR or TXVECTOR" to "TXVECTOR" |

**The cited text is below:**

****

**The commenter’s proposed text change is:**

A sounding PPDU is a PPDU for which the SOUNDING parameter of the corresponding TXVECTOR has the value SOUNDING. Sounding PPDUs are transmitted by STAs to enable the receiving

STAs to estimate the channel between the transmitting STA and the receiving STA.

**Proposed resolution: Rejected**

Reason for rejection: The Receiver has only the RXVECTOR to work with, so it has no TXVECTOR access.

**CID 5898**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 5898 | 1413.01 | 9.31.3 |  |  | "MFB feedback" should be MFB. MFB already stands for "MCS FeedBack" | Correct |

**The cited text is below:**

****

**The commenter’s proposed resolution is:**

A STA sending unsolicited MFB using the VHT variant HT Control field shall set the Unsolicited

MFB subfield to 1.

**Proposed resolution: Revised**

Delete “feedback” at the cited location.

**CID 5899, 5902 - MAC**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 5899 | 1423.30 | 9.32.3 |  |  | Clarify first paragraph. VHT also uses explicit feedback, but that is described elsewhere. | Replace first paragraph with "The procedures in this section only apply to HT and non-HT PPDUs for which the HT control field, if present, is the HT variant control field" |
| 5902 | 1427.42 | 9.33 |  |  | Clarify first paragraph. | Replace first paragraph with "The procedures in this section only apply to HT and non-HT PPDUs fow which the HT control field, if present, is the HT variant control field" |

**The cited text is below:**





**The commenter’s proposed change is:**

The procedures in this section apply only to HT and non-HT PPDUs for which the HT control

field, if present, is the HT variant HT control field.

**Proposed resolution for CID 5899: Revised**

Change the cited text as shown below:

At 1423.30

The procedures in this subclause apply only to HT and non-HT PPDUs for which the HT Control field, if present, is the HT variant HT Control field.

**Proposed resolution for CID 5902: Revised**

Change the cited text as shown below:

At 1427.42

The procedures in this subclause apply only to HT and non-HT PPDUs for which the HT Control field, if present, is the HT variant HT Control field.

**CID 5878, 5910 – Needs Discussion**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 5878 | 1039.41 | 8.4.2.157.2 |  |  | "Maximum MPDU Length" is defined as indicating the maximum MPDU length. It is not clear whether this is a transmit or a receive requirement.For interoperability reasons only receive capability needs to be indicated, so I assume this is receive capability. | Clarify |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 5910 | 1438.19 | 9.34.5.3 |  |  | The NOTE seems to imply that all STAs have to support a Maximum MPDU Length of 11454 as a transmit capability, regardless of their receive capabilitiy (as indicated in Table 8-240). Is that the intention? | Clarify. If so, this should not be in a note, but clearly stated elsewhere. |

**The cited text in CID 5910 is below:**

****

**The cited text in 5878 is below:**

****

**Discussion:**

Assuming that Table 8-240 indicates the receive capability, then there is no statement currently about the required support of transmission capability

**Proposed resolution of CID 5878: Revised**

At 1039.41 in the “Definition” column, first row, change as indicated below:

Indicates the maximum MPDU length that the STA is capable of receiving (see 9.12 (A-MSDU operation)).

**Proposed resolution of CID 5910: Reject**

Reason for rejection: paragraph starting at 1438L14 captures the transmitter capability requirement.

**CID 5903 - MAC**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 5903 | 1431.39 | 9.34.1 |  |  | Clause 9.34.1 applies to HT. This should be clarified in the title. Also, it deals with sounding rather than with NDPs. | Change title from "NDP rules" to "HT Sounding protocol" (compare with 9.34.5) |

 **The cited text is below:**

****

**Proposed resolution: Accepted**

**CID 5904**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 5904 | 1431.53 | 9.34.1 |  |  | Replace "the PPDU is an HT NDP" with "The HT PPDU is an HT NDP" | See comment |

**The cited text is below:**

****

**The commenter’s suggested change is:**

An RXVECTOR LENGTH parameter equal to 0 indicates that the HT PPDU is an HT NDP.

**Proposed resolution: Revised**

At 1431.53, change from “the PPDU” to “an HT PPDU”

**ID 5905 - MAC**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 5905 | 1434.58 | 9.34.5.2 |  |  | Clarify intent of paragraph | Replace with "A VHT NDP shall only be transmitted following a SIFS after a VHT NDP Announcement frame. A VHT NDP Announcement frame shall always be followed by a VHT NDP after SIFS. |

**The cited text is below:**

****

**The commenter’s suggested change is:**

A VHT NDP shall only be transmitted following a SIFS after a VHT NDP Announcement frame. A VHT NDP

Announcement frame shall always be followed by a VHT NDP after SIFS.

**Proposed resolution: Rejected**

The “only” is already present, and “shall” implies/means “always”.

**CID 5906**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 5906 | 1434.61 | 9.34.5.2 |  |  | Order of words | Change first sentence "A VHT beamformer that has not received a VHT Capabilities element from a STA ..." |

**The cited text is below:**

****

**The commenter’s proposed change is:**

A VHT beamformer that has not received a VHT Capabilities element from a STA or where the last VHT Capabilities element received from the STA has the SU Beamformee Capable field set to 0 shall not transmit

either of the following:

**Proposed resolution: Accepted**

**CID 5907**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 5907 | 1435.04 | 9.34.5.2 |  |  | Change "A Beamforming Report Poll frame to the STA" to "A Beamforming Report Poll frame addressed to the STA" | See comment |

**The cited text is below: **

**The commenter’s proposed change is:**

A Beamforming Report Poll frame addressed to the STA

**Proposed resolution: Accepted**

**References:**

[**https://mentor.ieee.org/802.11/dcn/15/11-15-0532-05-000m-revmc-sponsor-ballot-comments.xls**](https://mentor.ieee.org/802.11/dcn/15/11-15-0532-05-000m-revmc-sponsor-ballot-comments.xls)

[**https://mentor.ieee.org/802.11/dcn/15/11-15-0565-03-000m-revmc-sb-mac-comments.xls**](https://mentor.ieee.org/802.11/dcn/15/11-15-0565-03-000m-revmc-sb-mac-comments.xls)