IEEE P802.11  
Wireless LANs

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| Minutes for REVmd - May 2019 - Atlanta | | | | |
| Date: 2019-05-16 | | | | |
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Abstract

Minutes for the 802.11md (REVmd) meetings held during the May 2019 802 Wireless Interim Session held at the Grand Hyatt Atlanta, Atlanta, GA, USA.

6 Slot times were used during the week

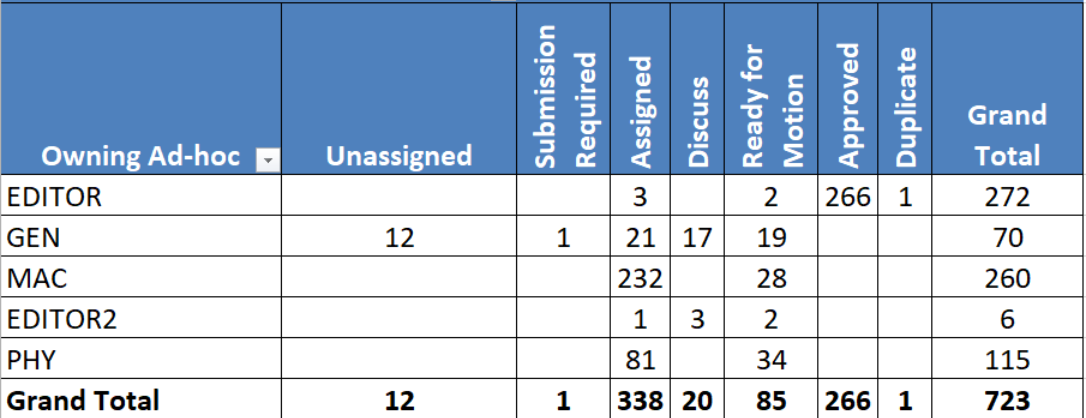
Thanks to Michael Montemurro for assistance with the minutes.

1. **802.11md (REVmd) Meetings – May 2019 IEEE 802 Wireless Interim – Atlanta - Monday PM1 13:30-15:30** 
   1. **Called to order** at 1:31 pm by the chair, Dorothy STANLEY (HPE)
   2. **Review patent policy**
      1. No issues noted.
   3. **Review Participation slide**:
      1. <https://mentor.ieee.org/802-ec/dcn/16/ec-16-0180-05-00EC-ieee-802-participation-slide.pptx>
   4. **Review Agenda**
      1. Review 11-19/568r2
         1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0568-02-000m-2019-may-tgmd-agenda.pptx>
      2. Adjustment to the Agenda was captured in 11-19/568r3
         1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0568-03-000m-2019-may-tgmd-agenda.pptx>
      3. **Motion #A1:** Move to approve Agenda presented in 11-19/568r3.
         1. Moved Jon ROSDAHL 2nd: Emily QI
         2. Results: Unanimous
      4. **Approved Agenda**:
         1. **Monday PM1**

* Chair’s Welcome, Policy & patent reminder, Approve agenda
* Status, Review of Objectives, Editor Report 11-17-0920
* 11-19-0260 - MDR results review
* CID 2256 – 11-19-723 – Edward AU, 11-19-781 Yunsong YANG
* CIDs 2312 and 2313 – 11-19-261 – Yujin NOH
* 11-19- 0733 – SAE fixes – Dan HARKINS
* CID 2320, 2321, 2322, 2421 – Mark RISON
* CID 2459, 2529, 2532, 2445 – Mark RISON
  + - 1. **Tuesday AM2**
* 19/420r1 CR 2693 Mirrored SCS (r0 in March) [20 mins]
* 19/556r2 Transmit power related CIDs (R1in ad-hoc) [15 min]
* 19/630r1 Active scan figure CID (new) [15 min]
* 19/720r0 Individually addressed probes CID2216 (new) [15 min]
* CIDs 2530, 2280, 2488, 2596, 2601 – Mark RISON
* Protected TWT and RSN – 11-19-114r3 – Yunsong YANG
  + - 1. **Tuesday PM1**
* WEP/TKIP Obsolete/deprecate, see next slide
* CIDs 2656, 2718 – 11-19-306, 11-19-348 - Matthew FISCHER
* 11-19-0473 – Sean COFFEY
  + - 1. **Wednesday PM1**
* CID 2530, 2280, 2488, 2596, 2601 – Mark RISON
* 19/586r1 PMKSA caching and MAC randomization (r0 at adhoc) [30 mins]
* 11-19-286, MAC address policy/ANQP – Roger MARKS, Antonio DELGADO
* MDR identified text fix – Dan HARKINS
* CID 2640 – 11-19-574 – RISON/STEPHENSON
* CID 2366 – direction of resolution? – Mark HAMILTON
* Motions
  + - 1. **Thursday AM2**
* CID 2676 – 19-0512 – Abhishek PATIL (Qualcomm)
* CID 2004-2007 – 11-19-405 – Abhishek PATIL (Qualcomm)
* CID 2115 – 11-19-660 – Ganesh VENKATESAN
* Mesh CIDs – 11-19-429 – Kaz SAKODA
* 11-19-857 – Youhan KIM
  + - 1. **Thursday PM1**
* S1G CIDs – 11-19-549 – Yongho SEOK
* 11-19-396 – Multiple BSSID – Abhishek PATIL (Qualcomm)
* 11-19-610 – Emily QI
* 11-19-841 - Carlos CORDEIRO
* Motions
* Plans for March – May 2019
* Adjourn
  1. **Review Schedule**
     1. Do not believe we will be ready for a recirculation Letter Ballot this week.
     2. We will need to make July to increase probability of completion in 2020.
     3. Draft 3 should be our target for the unchanged WG ballot, so we need to come to consensus sooner than later.
  2. **Editor Review** – Emily QI (Intel)
     1. 11-17/0920r16
     2. <https://mentor.ieee.org/802.11/dcn/17/11-17-0920-16-000m-802-11revmd-editor-s-report.ppt>
     3. Review Status of REVmd Draft:



* + 1. Reference Documents:
       1. **Draft: P802.11REVmd D 2.2 (members’ area)**
* [Draft P802.11REVmd\_D2.2.pdf](http://www.ieee802.org/11/private/Draft_Standards/11md/Draft%20P802.11REVmd_D2.2.pdf)
* [Draft P802.11REVmd\_D2.2 Redline Compared to D2.1.pdf](http://www.ieee802.org/11/private/Draft_Standards/11md/Draft%20P802.11REVmd_D2.2%20Redline%20Compared%20to%20D2.1.pdf)
  + - 1. **D2.0 word docs are also available (member’s area) for preparing submissions.**
* [Draft P802.11REVmd\_D2.2.rtfs-complete.zip](http://www.ieee802.org/11/private/Draft_Standards/11md/Draft%20P802.11REVmd_D2.2.rtfs-complete.zip)
  + - 1. **LB236 Comments**
* <https://mentor.ieee.org/802.11/dcn/18/11-18-0611-18-000m-revmd-wg-ballot-comments.xls>
  + - 1. **MDR**
* <https://mentor.ieee.org/802.11/dcn/19/11-19-0260-14-0000-revmd-mdr-report.docx>
  + 1. **LB236 Comment Ad-hoc Groups Status**



* + 1. **Mandatory Draft Review (MDR) Status**
       1. MDR items were implemented in REVmd D2.2, as indicated in [https://mentor.ieee.org/802.11/dcn/19/11-19-0260-14-0000-revmd-mdr-report.docx .](https://urldefense.proofpoint.com/v2/url?u=https-3A__mentor.ieee.org_802.11_dcn_19_11-2D19-2D0260-2D14-2D0000-2Drevmd-2Dmdr-2Dreport.docx&d=DwMFAg&c=C5b8zRQO1miGmBeVZ2LFWg&r=NTHtA_KHOOrju0kuqznMMhn2PgeiJdiVcWeUfvVgSN4&m=kTk-p_BpJp8WOeIibOpLVpHdx-sX9a6rQcUkp9da1JE&s=yLUwYM12nSXmB4nY1KhDzhqDVekbKkjfKAQozxhmWyo&e=)
       2. For approved MDR items (approved in March), we implemented and tagged them with “(M101)” in REVmd D2.2. (M101 = Motion 101).
       3. For unapproved (or remaining) MDR items (discussed in the April Ad hoc meeting), we implemented and tagged with “(MDR2)” in REVmd D2.2.
       4. Plan to have a motion to approve unapproved (remaining) MDR items, as:

“Approved the text changes tagged with “(MDR2)” in Draft P802.11REVmd\_D2.2.pdf. “

* + - 1. Some MEC items (minor) that were reported by the IEEE publication editor will be addressed in the July meeting.
      2. Discussion on the 9.6 title and the level 3 titles not consistent, question if that should be addressed in the MDR. A submission is needed to address that issue.
  1. **Review doc 11-19-723** – Edward AU (Huawei)
     1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0723-00-000m-proposed-resolution-for-cid2256.docx>
     2. CID 2256 (EDITOR2)
        1. Review Comment
        2. Redrew the figure and created new Visio Source.
        3. Discussion on the strange search results.
        4. Proposed Resolution: Revise; Incorporate the changes in 11-19/723r1 <<https://mentor.ieee.org/802.11/dcn/19/11-19-0723-01-000m-proposed-resolution-for-cid2256.docx>> which redraws the figure, adjusts the font size and removes the spurious search result.
        5. Mark Ready for Motion
  2. **Review doc 11-19/781r0** Yunsong YANG (Huawei)
     1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0781-00-000m-issues-in-revmd-d2-2-related-to-ccmp-for-pv1-mpdu.doc>
     2. Abstract:

Some issues in REVmd D2.2 are found, related to the CCMP text for PV1 MPDU (11ah). These issues are not covered by any LB236 CIDs. However, they are editorial in nature. Therefore, text changes to REVmd D2.2 are proposed to resolve these issues.

* + 1. Discussion on the order of the Bullets.
    2. The change of “0 or 2” should be “0 or 6” is an error introduced before.
    3. A separate motion will be prepared to incorporate this correction and change into the draft.
    4. **ACTION ITEM A1**: Dorothy to prepare a motion to incorporate the Text. (*See section 4.10.6 in these minutes, Motion 110. Action item completed.*)
  1. **Review doc 11-19/261r6** Yujin NOH (Newracom)
     1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0261-06-000m-resolutions-to-s1g-phy.docx>
     2. CID 2312 (PHY) and 2313 (PHY)
        1. Review comment.
        2. Review proposed changes.
        3. Discussion on B13 and what it indicates.
        4. Discussion on the “set to 0 otherwise”
        5. The thought is that the proposed text is ambiguous and needed to be changed.
        6. Action Yujin NOH to work offline with others.
  2. **Review doc 11-733r0** – Dan HARKINS (HPE)
     1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0733-00-000m-fixing-some-sae-issues.docx>
     2. Abstract:

Release of the “Dragonblood” paper caused the SAE text in 802.11 to be read very carefully. That resulted in identification of some errors that need correcting.

* + 1. The text on generating a quadradic residue and a quadratic non-residue is backwards.
    2. According to section 12.4.5.2 the scalar will always be greater than 1 but when it is processed the verification check is whether it’s greater than 0. Both RFC 5931 (EAP-pwd) and RFC 7664 (Dragonfly key exchange) verify the scalar as being greater than 1. What is it? > 0 or > 1?
       1. Discussion: It should be > 1. Since a properly formed scalar cannot be the value 1 (per 12.4.5.2) fix the verification text.
    3. **ACTION ITEM A2**: Dorothy to prepare a motion to incorporate the Text. (See 4.10.7 in this document, Motion 111. Action item completed.)
  1. **Review PMKSA Issue** – Dan HARKINS (HPE)
     1. Reference – D2.1 -page 2686 Line 15-17
     2. Suggestion to change the “may not” to something
        1. Discussion on possible “can be kept” or “may be kept”
        2. Discussion on what the bias of the sentence should be crafted.
        3. The sentences being discussed: “If PMKSA caching was not being employed for this failed authentication attempt, the PMKSA shall also be deleted. If PMKSA caching was being used, the cached PMKSA may not be deleted.”
        4. The issue seems to be “may not”.
        5. Need to indicate “the AP” in both sentences.
        6. Change to “may be retained” was the phrase that was agreed.
     3. **ACTION ITEM A3**: Dan HARKINS to create a Submission. (*See 4.8 and 6.4.3 in this document, Motion 114. Document 11-19-893 is the document created. Action item completed.)*
  2. **Review doc 11-19/856r0** Mark RISON (Samsung)
     1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0856-00-000m-resolutions-for-some-comments-on-11md-d2-0-lb236.docx>
     2. CID 2320 (MAC)
        1. Review Comment.
        2. Review discussion:
        3. Proposed Resolution: REVISED

In 9.7.3 A-MPDU contents (D2.1/1654.60), add “or S1G MU PPDU” after “PPDU” in “A VHT MU PPDU does not carry more than one A-MPDU that contains one or more MPDUs soliciting an immediate response.”

In Table 9-535—Ack Policy Indicator(#1415) subfield in the Frame Control field for PV1 frames (D2.1/1660.26), delete “Ack Policy Indicator 0 is limited to at most one MU recipient per MU PPDU.”

Note to the commenter: it is not the case that NOTEs in tables are normative. It’s only footnotes thereto (although only by implication through omission in footnote 17 (155.64 in D2.1)) that are. See 13/0697: “7.5.8 Foot notes to a table are normative, but notes are informative.”

* + - 1. Mark Ready for Motion
    1. CID 2321 (MAC) CID 2322 (MAC)
       1. Review Comment
       2. Review discussion. –
       3. Discussion related to the reason for the rejection reason
       4. Proposed Resolution: REJECTED; The ack policy is the combination of the Ack Policy Indicator subfield and other information (e.g. whether the MPDU is a non-A-MPDU frame). Also, the second statement is not restricted to MPDUs sent under HT-immediate BA. So the second statement is wider than the first (i.e. QoS Data frames in DMG A-PPDUs are apparently more constrained than other QoS Data frames).
       5. Mark Ready for Motion
    2. CID 2421 (MAC)
       1. Review Comment.
       2. Proposed Resolution: REVISED

In Table 9-12—TID subfield (D2.1/790.11), change “Allowed values in bits 0–3 (TID subfield)” to “Allowed values”.

In the header row of Table 9-13—Ack policy (D2.1/791.8), change “Bits in QoS Control field” to “Ack Policy Indicator subfield” and change “Bit 5” and “Bit 6” to “Bit 0” and “Bit 1” respectively, as proposed by the commenter.

In Figure 9-10—Buffered AC subfield (D2.1/795.17), change the top row from “B10 B11 B12 B13” to “B0 B1 B2 B3”.

* + - 1. Mark Ready for Motion
    1. CID 2459 (MAC)
       1. Review comment.
       2. Discussion: The term “MPDU sequence” is not defined and is not used anywhere else.
       3. Discussion of the MPDUExchangeTime usage.
       4. There are 5 instances of “MPDU sequence”, but only one in this context.
       5. TXoP – time you have the right to transmit.
       6. Discussion on how time is expended.
       7. “Frame Exchange Sequence” should be better wording.
       8. Proposed Resolution: Revised; at 1832.15 in D2.2, Change “b) After each successful or unsuccessful MPDU (re)transmission attempt,”

To “b) After each successful or unsuccessful frame exchange sequence,”

At 1832.19 in D2.2 change: “The MPDUExchangTime equals the time required to transmit the MPDU Sequence.” To “The MPDUExchangeTime is the duration of the frame exchange sequence.”

* + - 1. Mark Ready for Motion
    1. CID 2529 (PHY)
       1. Review Comment.
       2. Review discussion.
       3. Proposed Resolution: REVISED (PHY: 2019-05-13 19:15:23Z); Prepend “SAE ” to “Commit message” throughout the NOTE in Subclause 12.4.7.4 (7x), as proposed by the commenter (other instances in the rest of the subclause appear to have been fixed by D2.1).

In Figure 4-34—Example using SAE authentication (D2.1/289.24), change “Commit Message” to “SAE Commit message” (2x) and “Confirm Message” to “SAE Confirm message” (2x).

* + - 1. Mark Ready for Motion
    1. CID 2530 (PHY)
       1. Review Comment.
       2. Review discussion.
       3. Proposed Resolution: REVISED

Change "Element field" to "FFE field" throughout Subclause 12.4.7.4, as proposed by the commenter.

In Table 9-43—Presence of fields and elements in Authentication frames, change the rightmost cell of the SAE 1 row (D2.1/875.43) to

“The Scalar field is present if the Status Code field is zero.

The FFE field is present if the Status Code field is zero.

The Anti-Clogging Token field is present if the Status Code field is 76 or if the Authentication frame is in response to a previous rejection with the Status Code field equal to 76.

The Finite Cyclic Group field is present if the Status Code field is zero or 76.

The Password Identifier element is optionally present if the Status Code field is zero or 123.”

In Table 9-43—Presence of fields and elements in Authentication frames, change the rightmost cell of the first SAE 2 row (D2.1/875.53) to

“The Send-Confirm field is present.

The Confirm field is present.”

In Table 9-43—Presence of fields and elements in Authentication frames, change “if Status Code” to “if the Status Code” (18 instances).

* + - 1. The proposal would be better to have a redline against the D2.2 because this may revert a previous change.
      2. **ACTION ITEM A4**: Mark RISON to prepare Redline and bring back. . (See 2.8 in this document. Document 11-19-856 prepared for this comment. Action item closed.)
    1. CID 2532 (PHY)
       1. Review Comment.
       2. Review discussion.
       3. There are changes in D2.2 that have been made already, the resolution is against D2.1 and so the Editor says it will be ok to determine the final results.
       4. Proposed Resolution: REVISED (PHY: 2019-05-13 19:24:48Z) - In 9.6.7.24 Public Key frame (D2.1/1520.21), change “Group” to “Finite Cyclic Group” throughout (2 instances). In 12.11.2 AP PeerKey protocol (D2.1/2671.6), change “Group field” and “group field” to “Finite Cyclic Group field” (3 instances of first and 2 instances of second).

In the NOTE in 12.4.7.4 Encoding and decoding of SAE Commit messages (D2.1/2539.7), change “Group” to “Finite Cyclic Group” (2 instances), as proposed by the commenter.

* + - 1. Mark Ready for Motion
    1. CID 2445 (PHY)
       1. Review Comment
       2. Review proposed resolution.
       3. Concern with the first paragraph change. After discussion, no one felt a need to change the proposed resolution.
       4. Proposed Resolution: REVISED (PHY: 2019-05-13 19:29:30Z) - In 12.7.2 EAPOL-Key frames j) (D2.1/2620.7), delete “Elements sent in the Key Data field include the Element ID and Length subfields.”

In 12.7.2 EAPOL-Key frames j) (D2.1/2620.7), change “zero or more key data cryptographic encapsulation(s) (KDEs) (such as GTK(s) or PMKID(s))” to “zero or more key data encapsulation(s) (KDEs) (such as the GTK KDE or PMKID KDE(s))”.

In 12.7.2 EAPOL-Key frames, after “The Type field shall be set to 0xdd. The Length field specifies the number of octets in the OUI, Data Type, and Data fields. The OUI field contains either an OUI or CID. The order of the OUI field is described in 9.2.2 (Conventions).” (D2.1/2620.22), insert a “NOTE—The KDE format is a subset of the Vendor Specific element format (see 9.4.2.25). It is generally not possible to distinguish, from the format, a Vendor Specific element and a vendor specific KDE.”

In 12.5.4.4 BIP replay protection (D2.1/2572.63), change “IGTK key data encapsulation (KDE)” to “IGTK KDE”.

* + - 1. Mark Ready for Motion
  1. Recess at 3:30pm

1. **802.11md (REVmd) Meetings – May 2019 IEEE 802 Wireless Interim – Atlanta - Tuesday AM2 103:30-12:30** 
   1. **Called to order** at 10:30 am by the chair, Dorothy STANLEY (HPE)
   2. **Review patent policy**
      1. No issues noted.
   3. **Review Agenda** 11-19/568r3
      1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0568-03-000m-2019-may-tgmd-agenda.pptx>

**Tuesday AM2**

* 19/420r1 CR 2693 Mirrored SCS (r0 in March) Thomas DERHAM (Broadcom) [20 mins]
* 19/556r2 Transmit power related CIDs (R1in ad-hoc) Thomas DERHAM (Broadcom) [15 min]
* 19/630r1 Active scan figure CID (new) [15 min]
* 19/720r0 Individually addressed probes CID2216 (new) [15 min]
* CIDs 2530, 2280, 2488, 2596, 2601 – Mark RISON
* Protected TWT and RSN – 11-19-114r3 – Yunsong
  + 1. No changes requested.
  1. **Review doc 19/420r1** CR 2693 Mirrored SCS (r0 in March) [20 mins]
     1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0420-03-000m-cr-2693-mirrored-scs.docx>
     2. Abstract: This document provides comment resolutions for REVmd letter ballot CID 2693, by defining a Mirrored SCS capability. The document is based on REVmd D2.1.

R0: Initial draft

R1: Addressed comments – introduced stream timeout so that AP does not need to continue to maintain state for tracking old streams, introduced ability for AP to suggest parameters when tearing down / rejecting an MSCS request, revised text to clarify how UPs of streams are determined, updated and additional examples in the discussion, various clean-up. Redline is with respect to R0

R2: Addressed offline comment regarding MSDU reordering

R3: Addressed offline comment to add MLME primitives and clarify MSDU classification occurs above the MAC (similar to TS operation)

* + 1. CID 2693 (MAC)
       1. Review Comment.
       2. Review Submission and proposed changes.
       3. Discussion on making sure that the MIB entry was sufficiently described.
       4. Discussion on the UP mirror uplink, and the Downlink maybe different QoS requirements.
       5. Other than Changes to PICs changes that are not there, we need to update the doc and a motion to
       6. Proposed resolution: Revised; incorporate the changes in 11-19/420r4 which resolves the Comment in the direction of the commenter’s proposal
       7. Mark Ready for Motion
  1. **Review doc 11-19/556r2** Thomas DURHAM (Broadcom)
     1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0556-02-000m-transmit-power-related-cids.docx>
     2. CID 2698 (MAC)
        1. Review Comment.
        2. Review Discussion.
        3. Discussion on which fields you can trust in the frames being exchanged.
        4. Country String may be a field that could be spoofed.
        5. Review Minutes from the Portland AdHoc – 11-19/596r1

8.7.5 CID 2698 (MAC)

8.7.5.1 Review Comment

8.7.5.2 Review Discussion

8.7.5.3 Review proposed changes.

8.7.5.4 Discussion on what the consequences of ignoring the unprotected frames. Regulatory groups may not like having these elements ignored.

8.7.5.5 There are lots of devices that count on the country element to know the regulatory rules.

8.7.5.6 Concern that you cannot protect just elements, but rather frames.

8.7.5.7 The “implication” to the existing implantation is questioned, but there are mostly should/may.

8.7.5.8 The fundamental question is do we want text that allows some information to be ignored in the case of non-protected frames.

8.7.5.9 Discussion on the limits for these conditions.

8.7.5.10 The group did not seem to have a consensus on the direction proposed and the author will come back with an updated proposal.

* + - 1. The discussion on if you could ignore if it was not protected, but if it is protected, you should not ignore it. The concern is for legacy devices, so the debate was if we should ignore a field or not.
      2. Straw poll: Do you support the text as written?
         1. Results: 0-3-9 – No consensus to adopt the proposal.
      3. More discussion on the way forward will be needed. The way the comment is written, the comment can be rejected with the “Insufficient detail” reason.
  1. **Review doc 11-19/630r1** Thomas DURHAM (Broadcom)
     1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0630-01-000m-active-scan-figure-cid.docx>
     2. CID 2691 (MAC) and 2008 (MAC)
        1. Review comments.
        2. Review discussion and proposed changes.
        3. The changes needed to the figures are described, but not shown in the proposal. The Editor can provide a VISO file to have Thomas make the changes to ensure the proper edits as proposed are made.
        4. Typo in Figure 11-4 could be corrected in conjunction with the proposed changes.
        5. Discussion on changing “non-wildcard” to “specific”.
        6. Discussion on removing “DA=”.
        7. Upload an R2 that has the VISO updates and the two changes. The new revision should be done and uploaded today.
        8. Proposed Resolution: Revised; incorporate the changes in 11-19/630r2 which resolves the Comment in the direction of the commenter’s proposal.
        9. No objection - Mark Ready for Motion
  2. **Review doc 11-19/114r4** -Protected TWT and RSN – 11-19-114r4 – Yunsong YANG (Huawei)
     1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0114-04-000m-text-proposal-for-protecting-twt-action-frames.doc>
     2. Abstract:

This document proposes text changes to P802.11 REVmd D2.0 for adding integrity-protected version of some TWT action frames. This text proposal also addresses LB236 comments CIDs 2715 and 2716.

Revision history:

R0: initial submission in January 2019.

R1: update based on feedback received in January 2019 and add Protected TWT Information frame.

R2: made various editorial changes based on feedback from Mark RISON; discussed three options of way forward; provided two versions of text proposal based on the first two options (the third option doesn’t require text changes in REVmd).

R3: removed Option 3; revised Option 2 to using a new RSN Extension element.

R4: editorial changes suggested by Jouni MALINEN.

* + 1. CID 2715 (MAC) and CID 2716 (MAC)
       1. Review comment and the updates to the submission.
       2. The updated changes are highlighted in yellow to show what changed from a previous version.
       3. Point out the differences between Option 1 and Option 2
       4. RSNXE was chosen as an abbreviation to avoid “RXNEE” which someone may believe is a typo.
       5. The Two Choices are a bit in the capability bit field vs a new extension element.
       6. Discussion on how to protect the extended capabilities element later.
       7. Discussion on how we could make the changes and which option would be more popular.
       8. Stronger support was noted for option 2 Extended capabilities element.
       9. New Element, so we need to determine if the element comes out of the base name space or from the extended name space. There are only 10 left in the base name space.
       10. We will need to have a motion in the WG on Friday to allocate the ID from the base name space.
       11. The Document will need to update to use the 243-case subject to WG approval. Change the 243 to “ANA-ID” until the actual number that will be allocated is determined. There will be an R5 of this submission.
       12. Discussion continued the option 2 text.
       13. In R5, Option 1 will be removed and the editorial changes for
       14. Proposed Resolution CID 2715 and 2716: Revised incorporate the changes in 11-19/114r5 which resolves the Comment in the direction of the commenter’s proposal.
       15. No objection - Mark Ready for Motion
  1. **Review doc 11-19/856r1** – Mark RISON (Samsung)
     1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0856-01-000m-resolutions-for-some-comments-on-11md-d2-0-lb236.docx>
     2. CID 2530 (PHY)
        1. Review comment – note that we talked about this yesterday
        2. This shows the specific changes in this revision.
        3. Proposed resolution: REVISED (PHY: 2019-05-14 16:00:06Z) -
        4. Make the changes shown under “Proposed changes” for CID 2530 in https://mentor.ieee.org/802.11/dcn/19/11-19-0856-01-000m-resolutions-for-some-comments-on-11md-d2-0-lb236.docx, which address the issues raised by the commenter.
        5. No objection - Mark Ready for Motion
     3. CID 2280 (MAC)
        1. Review Comment
        2. Review discussion
        3. Proposed Resolution: REVISED

In Table 9-535—Ack Policy Indicator(#1415) subfield in the Frame Control field for PV1 frames(11ah), change “Where the frame does not contain a fragment, or either the originator or the addressed recipient does not support the fragment BA procedure:” (D2.1/1660.18) to “Otherwise:”. In Table 9-13—Ack policy(#1415), delete “Where the frame does not contain a fragment, or either the originator or the addressed recipient does not support the fragment BA procedure.” (D2.1/791.19), insert a comma after “The addressed recipient returns an NDP BlockAck or BAT frame after a SIFS” and change “Where the frame contains a fragment where both the originator and the addressed recipient support the fragment BA procedure:” (D2.1/791.10) to “Where the frame contains a fragment and both the originator and the addressed recipient support the fragment BA procedure:”.

This addresses editorial point 2. Regarding technical points 1 and 3, these are rejected because:

* Fragment BA is only used in S1G BSSes (10.3.2.12: “Non-S1G STAs shall not use the fragment BA procedure described in this subclause.”)
* aSIFSTime in S1G BSSes is 160 µs (Table 23-37—S1G PHY characteristics)
* This should be sufficient time for the receiver to check the originator capabilities (looking up the TA) and examine the MAC header to determine whether a fragment is present (More Fragments set or Fragment Number non-zero)
* If this isn’t the case the receiver can simply not declare support for fragment BA (see Fragment BA Support subfield in S1G Capabilities Information field in S1G Capabilities element and dot11FragmentBAOptionImplemented)
  + - 1. No objection - Mark Ready for Motion
    1. CID 2488 (EDITOR)
       1. Review comment
       2. Review discussion and proposed changes.
       3. Concern with the definition of “mesh STA” –The definition should be corrected but may be done in a future. The changes in IBSS changes are what is being proposed today, and the MBSS can be addressed later.
       4. Discussion on the idea of having the “members of the same IBSS” included, but not sure if this is something to change now or not.
       5. Proposed Resolution: REVISED

Note to the commentor: “member of a mesh BSS/MBSS” is not the same as “MBSS STA”, since the latter is defined as a STA that implements mesh, not a STA that is actually doing mesh. (Whether this is a good idea is a separate issue…)

In 3.1 add a definition “independent basic service set (IBSS) station (STA): A STA that has started or joined an IBSS.”

Change “a STA that is a member of an IBSS” to “an IBSS STA” in 5.2.5.2 Semantics of the service primitive.

Change “STA that is a member of an IBSS” to “IBSS STA” in Table 9-31—STA Info subfields and 10.37.5.2 Rules for VHT sounding protocol sequences (2x).

Change “a member of an IBSS” to “an IBSS STA” in 9.3.2.1.2 Address and BSSID fields; 10.28.2 Protection mechanism for non-ERP receivers (3x); 11.5.2.2 Procedure at the originator; 11.15.1 Rules for operation in 20/40 MHz BSS; 11.15.2 Basic 20/40 MHz BSS functionality; 11.39.4 Channel switching methods for a VHT BSS (2x), C.3 for dot11QMFActivated (2x).

Change “operating as a member of an IBSS” to “an IBSS STA” in 10.3.9 Determination of PLME aCWmin characteristics.

Change “sent by a STA that is a member of an IBSS to a STA or STAs that are members of an IBSS” to “sent by an IBSS STA to one or more IBSS STAs” in 10.22 Group ID, partial AID, Uplink Indication, and COLOR in S1G PPDUs.

Change “member of an IBSS” to “IBSS STA” in 10.23.5 Operation with coverage classes.

Change “A STA that is a member of an IBSS” to “An IBSS STA” in 10.28.3.1 General (under 10.28.3 Protection mechanisms for transmissions of HT PPDUs).

Change “members of an IBSS” to “IBSS STAs” in 9.3.3.1 Format of Management frames.

* + - 1. No objection - Mark Ready for Motion
    1. CID 2596 (MAC)
       1. Review comment
       2. Review discussion.
       3. Discussion on which paragraph may need to be edited.
       4. The one paragraph has a “shall” the 2nd has a “may”. The discussion if the STA is allowed to reject
       5. Admission Control discussion.
       6. More time to digest the proposal, so we will revisit on Wednesday.
    2. CID 2601 (PHY)
       1. Previously marked as Rejected and Ready for Motion (4-12-19 telecon).
          1. Current Proposed Resolution: REJECTED (PHY: 2019-04-12 15:05:56Z) - The comment does not adequately explain why the current text is unclear. The group finds that the current text is clear and that no further explanation is necessary.
       2. Review comment and discussion
       3. Removal of the word “valid” is the overall issue.
       4. Discussion on the previous solution with CID 1468, and now this CID is looking for a different solution.
       5. Discussion on detect vs validation.
       6. More time was asked to review the proposed change, and we will review on Wednesday Review.
       7. Proposed Resolution: REVISED (PHY: 2019-05-14 16:31:19Z) -

In the table in 6.5.4.3 When generated (in the aCCATime row), in 17.3.10.6 CCA requirements, in 18.4.6 CCA performance, in 19.3.19.5.4 CCA sensitivity in 20 MHz, in 19.3.19.5.5 CCA sensitivity in 40 MHz (2x), in 20.4.4.2.2 CCA, in 20.5.4.2.2 CCA, in 24.4.4.2.2 CCA, in 24.5.4.2.2 CCA, 25.4.6.2.2 CCA, 25.5.7.2.2 CCA, 25.6.9.3.2 CCA: change “a valid” to “a” or “an”, as appropriate for the starting sound of the following word.

* + - 1. Will be moved to PHY Motion E comment group in the comment database
      2. We will review prior to motion tomorrow.
  1. Recess at 12:33pm

1. **802.11md (REVmd) Meetings – May 2019 IEEE 802 Wireless Interim – Atlanta - Tuesday PM1 13:30-15:30** 
   1. **Called to order** at 1:30 pm by the chair, Dorothy STANLEY (HPE)
   2. **Review patent policy**
      1. No issues noted.
   3. **Review Agenda** 11-19/568r3
      1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0568-03-000m-2019-may-tgmd-agenda.pptx>
      2. **Tuesday PM1**

* WEP/TKIP Obsolete/deprecate, see next slide
* CIDs 2656, 2718 – 11-19-306, 11-19-348 - Matthew FISCHER
* 11-19-0473 – Sean Coffey
  + 1. No change to the planned agenda
  1. **WEP – TKIP Obsolete/deprecate**
     1. Review 11-09/1034r13 – Editorial Style Guide
        1. <https://mentor.ieee.org/802.11/dcn/09/11-09-1034-13-0000-802-11-editorial-style-guide.docx>
        2. - 2.5 Removal of functions and features

Functions and features described in the published 802.11 standard shall not be removed unless they have been marked “obsolete and subject to removal in a subsequent revision of this standard.” in a previous revision.

Functions and features might also be “deprecated”, such as “The use of the dual CTS mechanism is deprecated.”

These terms have slightly different functions. “Obsolete” is used as a route to remove unused and useless mechanisms. “Deprecated” is used as a method to indicate that implementations should stop using a feature, but acknowledges that the feature has been used and might still be used by existing implementations, and does not imply a feature’s future removal from the standard

* + 1. WEP/TKIP deprecated/obsolete: CIDs 2140, 2141, 2243
       1. Current draft text is not consistent – both deprecated and obsolete are indicated
    2. Drafted resolutions reflect April 2019 TGmd straw poll: both WEP/TKIP obsolete
       1. May 2018 Straw polls considered WEP/TKIP removal and TKIP Obsolete, see <https://mentor.ieee.org/802.11/dcn/18/11-18-0616-00-000m-minutes-revmd-may-2018-warsaw.docx>
       2. Reviewed minutes from May 2018 and the straw polls indicated at that time to “do nothing”
       3. Clause 12 in D2.0 shows TKIP and WEP as deprecated.
    3. Discussion on the definition from the Editorial Style Guide and the uses of TKIP and WEP in products in the market today.
    4. The Standard is inconsistent in the markings.
    5. Discussion on the pros and cons of marking Obsolete/Deprecated and if WEP or TKIP should be marked one way or the other.
    6. Discussion on the reasons for marking obsolete or Deprecated in regard to Security should be called out as an exception in the Style Guide.
    7. Proposed wording to add to the Editorial Style Guide:
       1. If a security feature is found to be insecure, it can be marked as “obsolete and subject to removal in a subsequent revision of this standard” even if the feature has been used by existing implementations.
    8. Straw poll: Mark WEP as (a) Obsolete, (b) Deprecated
       1. Result:13 - 3
    9. Straw poll: Mark TKIP as (a) Obsolete, (b) Deprecated
       1. Result: 10-8
    10. So the direction would be to make WEP Obsolete, and TKIP as Deprecated as the support to change TKIP from Deprecated to Obsolete is not strong (55%).
    11. **ACTION ITEM A5**: Michael MONTEMURRO will check and prepare the final resolutions and bring on Wednesday. (*See 4.10.3 in this document, motion 107. Action item completed.*)
  1. **Review 11-19-348r1** - CIDs 2656, 2718 – Matthew FISCHER
  2. <https://mentor.ieee.org/802.11/dcn/19/11-19-0348-01-000m-default-qmf-policy-additions.docx>
  3. Abstract: This document presents proposed draft edit instructions and accompanying discussion regarding the inclusion of default QMF policy values for various Action frames that do not currently have a default QMF policy value.

The proposed changes address CID 2718 of LB236 on TGmd D2.0.

Changes are referenced to TGmd D2.1.

* + 1. CID 2718 (MAC)
       1. Review Comment.
       2. Review discussion.
       3. Discussion on the Proposed AC level and the changes were captured in r2 of the submission.
       4. Discussion on the Flow Control QMF access category.
       5. Discussion on the S1G device and noted that the flow-control may be more important to occur with more priority.
       6. TGax is creating action frames, and they should assign the proper access category when they create the action frames.
       7. Any not listed Action frames should be AC\_BE (best effort).
       8. Request that the MDR list include a check on any new Management Frames that the Access category is set.
          1. The discussion on process was stopped and the group returned to the discussion on Matthew’s submission.
       9. The QMF table should not include AC\_BE in general, but this comment is not geared to remove the AC\_BE. There is a statement just ahead of the table that says if not in the table, then it uses AC\_BE.
       10. Discussion on why there are some AC\_BE and not others, is the table only for indicating the AC\_BE?
       11. Thought that the AC\_BE rows may have been set as something else and then moved.
       12. So the primary goal is to add the Non AC\_BE Action frames to the table.
       13. Review of the Discussion table to ensure that the values were all captured.
       14. For the FILS Action frame action field 34, it should be AC\_VO.
       15. For Action Frames not listed, they are default AC\_BE, but we can move them up if requisite.
       16. Changes to the submission include S1G Table changes, flow Control Changes, FILS Discovery to AC\_VO. And FILS IP Address negotiation (1101 – 26 – 0) make it AC\_V0. Interworking Frames to AC\_V? (many implementations use AC\_VO).. All of these changes are captured in 11-19/348r2.
       17. The GAS Interworking frames were added by TGu and do we have any indication if the frames were implemented by AC\_VO, and so we should add them into the table. The discussion of what should values to be added to the table was discussed.
       18. Proposed Resolution: Incorporate the changes in 11-19/348r2 which address the issues raised by the commenter.
       19. No objection - Mark Ready for Motion
  1. **Review doc 11-19/0473r1** – Sean COFFEY (Realtek)
     1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0473-01-000m-lb236-comment-resolution-for-phy-cca.docx>
     2. CID 2179 (PHY)
        1. Review Comment.
        2. Review discussion.
        3. Discussion on the Proposed resolution.
        4. Proposed Resolution: REVISED (PHY: 2019-05-14 19:20:16Z).

In 15.4.6.3 (Receiver maximum input level), at D2.0 2857.58, change “The receiver” to “If the STA is NonERP, the receiver”.

In 15.4.6.5 (CCA), at D2.0 2858.25, add new first paragraph “Requirements in this subclause are applicable to non-ERP DSSS STAs.””.

(Same place) change “The DSSS PHY” to “The non-ERP DSSS STA”.

In 16.3.8.3 (Receiver maximum input level), at D2.0 2888.3, change “The receiver” to “If the STA is non-ERP, the receiver”.

In 16.3.8.5 (CCA), at D2.0 2888.33, add new first paragraph “Requirements in this subclause are applicable to non-ERP HR/DSSS STAs.””.

(Same place) change “The HR/DSSS PHY” to “The non-ERP HR/DSSS STA”.

In 18.1.2 (Introduction), at 2936.17-25, add new sentence after first sentence: “An ERP STA shall comply with all normative requirements of Clause 16.”

In 18.3.4 (CCA), at D2.0 2942.12, change “17.3.2 (PPDU format)” to “18.3.2 (PPDU format)”.

In 18.4.6 (CCA performance), at D2.0 2943.30, change “valid ERP-DSSS/CCK sync symbols” to “valid DSSS, HR-DSSS, ERP-DSSS or ERP-CCK sync symbols”.

* + - 1. We do not have to do this change, it does set a precedence to make similar statements going forward. If this change will cause more comments going forward, then this should not be done.
      2. Straw Poll: Should we make the changes? Yes/no/abstain
         1. Results: 6-0-11
      3. We can motion this separately. Or along with CID 2180.
      4. No objection Mark Ready for Motion
    1. CID 2180 (PHY)
       1. Review Comment
       2. Proposed Resolution: REVISED (PHY: 2019-05-14 19:22:00Z) -

In 15.4.6.5 (CCA), at D2.0 2858.34, add new paragraph before current first paragraph: “Requirements in this subclause are applicable to non-ERP DSSS STAs.”."

In 15.4.6.5 (CCA), at D2.0 2858.47, change “The value” to “For a non-ERP DSSS STA, the value “.

In 16.3.8.5 (CCA), at D2.0 2888.32, add new paragraph before current first paragraph: “Requirements in this subclause are applicable to non-ERP HR/DSSS STAs.”."

In 16.3.8.5 (CCA), at D2.0 2888.58, add at beginning of line “For a non-ERP HR/DSSS STA, “.

* + - 1. No objection Mark Ready for Motion
    1. CID 2182 (PHY)
       1. Review Comment
       2. Proposed Resolution: REVISED (PHY: 2019-05-14 19:23:30Z)

In 18.1.2 (Introduction), at 2936.17-25, add new sentence after first sentence: “An ERP STA shall comply with all normative requirements of Clause 16.”

(Same proposed resolution as for CID 2179 above.)

* + - 1. No objection – Mark Ready for Motion
    1. CID 2187 (PHY)
       1. Review Comment
       2. Proposed Resolution: REVISED (PHY: 2019-05-14 19:25:09Z) -
       3. In 19.1.1 (Introduction to the HT PHY), at D2.0 2949.23, add new paragraph "An HT STA that operates in the 5 GHz band shall comply with all normative requirements of Clause 17. An HT STA that operates in the 2.4 GHz band shall comply with all normative requirements of Clause 18.”
       4. No objection – Mark Ready for Motion
    2. **ACTION ITEM A6:** Move CID 2187, 2182, 2180, and 2179 to a single PHY comment group for separate motion for these 4 CIDs.
  1. **Review agenda** for Wednesday
  2. **Recess 3:30pm**

1. **802.11md (REVmd) Meetings – May 2019 IEEE 802 Wireless Interim – Atlanta – Wednesday PM1 13:30-15:30** 
   1. **Called to order** at 1:32 pm by the chair, Dorothy STANLEY (HPE)
   2. **Review patent policy**
      1. No issues noted.
   3. **Review Agenda** 11-19/568r4
      1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0568-04-000m-2019-may-tgmd-agenda.pptx>
      2. No objections for approving
      3. Updated agenda posted as 11-19/568r5
         1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0568-05-000m-2019-may-tgmd-agenda.pptx>
   4. **Review doc 11-19/056r1** – Mark RISON (Samsung)
      1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0856-01-000m-resolutions-for-some-comments-on-11md-d2-0-lb236.docx>
      2. CID 2596 (MAC)
         1. Discussion on solution direction
         2. Mark RISON to update 11-19/0845r1 for CID 2596 in the direction of the agreed resolution.
      3. CID 2640 (MAC)
         1. Discussion on when to use EIFS – the direction of the comment resolution.
         2. REVISED: Make the changes shown under “Proposed changes” for CID 2640 in <https://mentor.ieee.org/802.11/dcn/19/11-19-0856-01-000m-resolutions-for-some-comments-on-11md-d2-0-lb236.docx>, which clarify that EIFS is only used immediately following the medium going idle at a frame error.
         3. Mark Ready for Motion
   5. **Presentation of document 11-19/586r3** – Thomas DERHAM (Broadcom)

* + 1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0586-03-000m-pmksa-caching-and-mac-randomization.docx>
    2. The contribution addresses CID 2689 (PHY)
    3. The PMKID construction was heavily debated throughout the IEEE 802.11i and IEEE 80211r development.
    4. Request that additional security experts review this proposal.
    5. The assumptions behind PMKID caching were a heavily debated in the IEEE 802.11 and IEEE 802.11r assumption that the PMKSA is bound to the supplicant and authenticator in previous years.
    6. There are no authentication frames used for association in the 60 GHz band. The text needs to be updated to address the 60 GHz case.
    7. **ACTION ITEM A7**: Chair to request Russ Housley to see if he can review the contribution. (*Status: email sent, awaiting response. Action item completed.*)
    8. **ACTION ITEM A8**: Thomas DERHAM to split the FT changes of the document from the randomized MAC changes. (*Document 11-19-0919 is the new document containing the FT changes. See 5.10 and 6.4.6, Motion 117 in this document. Action item completed.)*
  1. **Presentation of document 11-13/730r1**– Thomas DERHAM (Broadcom)
     1. <https://mentor.ieee.org/802.11/dcn/13/11-13-0730-01-000m-neighbor-report-info-when-auth-assoc-denied.docx>
     2. This presentation will be deferred to a future session, likely a teleconference.
  2. **Presentation of document 11-19/286r6** – Roger MARKS (EthAirNet Associates)
     1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0286-06-000m-mac-address-policy-anqp-and-beacon-element.docx>
     2. This contribution addresses CID 2685 (PHY)
     3. ANQP is an optional feature of the standard so the requirement should not be a “shall” and likely be a “should”
     4. There can be out-of-band means for the STA to determine a MAC address policy for a BSS.
     5. If there’s no advertised policy, then there is no need to use the ANQP protocol to advertise the MAC address policy.
     6. When prefix octets are added for MAC address randomization, the probability of selecting a duplicate MAC address increases.
     7. There are other models for MAC address assignment, for instance, using the ELI space. This element allows the local administrator to advertise the CID.
     8. The use of bit 4 would drastically increase the probability of a MAC address collision.
     9. A MAC address could be created from a concatenation of the network prefix and a hash of a unique identifier for the device.
     10. Discussion on the use of bit 1 vs bit 4. Concern that the use of bit 4 opens a high probability of collisions.
     11. Discussion on the use of bit 1 vs bit 4. Concern that the use of bit 4 opens a high probability of collisions.
     12. This is not a policy associated with a locally administered LAN. The network is managed. This mechanism is no longer simple.
     13. The Chair encourages offline discussions to address concerns with the contribution.
  3. **Presentation of document 11-19/893r0** by Dan HARKINS (HPE)
     1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0893-00-000m-may-or-may-not-that-is-the-question.docx>
     2. This only addresses the FILS cases for PMKSA caching.
     3. Dan HARKINS to upload a revision and a motion will be made during tomorrow’s session.
  4. **Presentation of document 11-19/907r0** by Jouni MALINEN (Qualcomm)
     1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0907-00-000m-fils-association-response-rsne.docx>
     2. This addresses an issue which affects interoperability for FILS Authentication.
     3. There’s no way of fixing the OWE errata with this contribution.
     4. In all other cases, there are mechanisms in place to verify the RSNE.
     5. Given FILS is being implemented today, it would be good to adopt this change.
     6. A motion to approve this document will be held during the session tomorrow.
  5. **Motions**
     1. **MOTION #105** – **telecon, ad-hoc CIDs**
        1. Approve the comment resolutions in the

“Motion-EDITOR-L”, Motion-EDITOR-M” tabs in <https://mentor.ieee.org/802.11/dcn/19/11-19-0142-08-000m-revmd-wg-lb236-comments-for-editor-ad-hoc.xls>

“Motion-EDITOR2-I” tab in <https://mentor.ieee.org/802.11/dcn/19/11-19-0143-11-000m-revmd-editor2-lb236-comments.xlsx>

“Motion MAC-AA” and “Motion MAC-AB” tabs in [https://mentor.ieee.org/802.11/dcn/17/11-17-0927-37-000m-revmd-mac-comments.xls except for 2081, 2082](https://mentor.ieee.org/802.11/dcn/17/11-17-0927-37-000m-revmd-mac-comments.xls%20except%20for%202082), 2083 and 2088, and for CID 2684, change “Number of Hash Functions field “to “Number Of Hash Functions field”

“PHY Motion D”, “PHY Motion E” tabs in <https://mentor.ieee.org/802.11/dcn/19/11-19-0156-07-000m-lb236-revmd-phy-sec-comments.xlsx> except for CID 2601

and incorporate the indicated changes into the TGmd draft.

* + - 1. Moved: Emily QI - 2nd: Michael MONTEMURRO
      2. **Result Motion #105: 11-0-0 - Motion Passes**
    1. **Motion #106** - **Deprecated maintenance**
       1. Approve the comment resolutions in the

“Deprecated-Maintenance-Motion” tab in <https://mentor.ieee.org/802.11/dcn/19/11-19-0156-07-000m-lb236-revmd-phy-sec-comments.xlsx>

and incorporate the indicated changes into the TGmd draft.

* + - 1. Moved: Emily QI - 2nd: Michael MONTEMURRO
      2. **Result Motion #105**: 8-1-4 - Motion Passes
    1. **Motion #107-** **WEP/TKIP**
       1. **Approve the comment resolutions in the**

“WEP-TKIP-Motion” tab in <https://mentor.ieee.org/802.11/dcn/19/11-19-0156-07-000m-lb236-revmd-phy-sec-comments.xlsx>, marking CID 2243 as “REVISED”

and incorporate the indicated changes into the TGmd draft.

* + - 1. Moved: Michael MONTEMURRO 2nd: Jouni MALINEN
      2. **Result Motion #107**: Unanimous – Motion Passes
    1. **Motion #108 – Additional PHY Edits**
       1. Incorporate the changes indicated under the heading “Additional changes” in <https://mentor.ieee.org/802.11/dcn/19/11-19-0336-02-000m-cids-2709-2710-2711.docx> into the TGmd draft.
       2. Moved: Graham SMITH 2nd: Michael MONTEMURRO
       3. Result Motion #108: Unanimous – Motion Passes
    2. **Motion #109 – MDR edits in D2.2**
       1. Approved the text changes tagged with “(MDR2)” in Draft P802.11REVmd\_D2.2.pdf

Notes:

Approved MDR items (approved in March) were implemented and tagged with “(M101)” in REVmd D2.2. (M101 = Motion #101).

Remaining MDR items (discussed in the April Ad hoc meeting) were implemented and tagged with “(MDR2)” in REVmd D2.2

* + - 1. Moved: Emily QI 2nd: Michael MONTEMURRO
      2. Result Motion #109: Unanimous – Motion Passes
    1. **Motion #110 – 11ah Editorial**
       1. Incorporate the text changes indicated in <https://mentor.ieee.org/802.11/dcn/19/11-19-0781-00-000m-issues-in-revmd-d2-2-related-to-ccmp-for-pv1-mpdu.doc>
       2. Moved: Michael MONTEMURRO 2nd: Menzo WENTINK
       3. Result: Unanimous – Motion Passes
    2. **Motion #111 – SAE fixes**
       1. Incorporate the text changes indicated in <https://mentor.ieee.org/802.11/dcn/19/11-19-0733-00-000m-fixing-some-sae-issues.docx>
       2. Moved: Dan HARKINS 2nd: Jouni MALINEN
       3. Result #111: Unanimous consent Motion Passes
    3. **Motion #112 – PICS Fixes**
       1. Incorporate the text changes indicated in <https://mentor.ieee.org/802.11/dcn/19/11-19-0608-02-000m-pics-cf-items.ppt> and

<https>[://mentor.ieee.org/802.11/dcn/19/11-19-0609-02-000m-pics-pc-items.ppt](https://mentor.ieee.org/802.11/dcn/19/11-19-0609-02-000m-pics-pc-items.ppt) into the TGmd draft.

* + - 1. Moved: Emily QI 2nd: Michael MONTEMURRO
      2. **Result #112:** Unanimous consent Motion Passes
  1. **Recessed 3:30pm**

1. **802.11md (REVmd) Meetings – May 2019 IEEE 802 Wireless Interim – Atlanta - Thursday AM2 103:30-12:30** 
   1. **Called to order** at 10:30 am by the chair, Dorothy STANLEY (HPE)
   2. **Review patent policy**
      1. No issues noted.
   3. **Review Agenda** 11-19/568r6
      1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0568-06-000m-2019-may-tgmd-agenda.pptx>
      2. **Thursday AM2**

* CID 2676 – 19-0512 – Abhishek PATIL (Qualcomm)
* CID 2004-2007 – 11-19-405 – Abhishek PATIL (Qualcomm)
* CID 2115 – 11-19-660 – Ganesh VENKATESAN
* Mesh CIDs – 11-19-429 – Kaz SAKODA
* 11-19-857 – Youhan KIM
* 11-19-306 - Matthew FISCHER
* 11-19-656 – George CALCEV
* 19/720r0 Individually addressed probes CID2216 Thomas DERHAM
  + 1. Minor adjustments to account for those present were made and captured in 11-19/568r7.
       1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0568-07-000m-2019-may-tgmd-agenda.pptx>
  1. **Review Doc 11-19/0512r2** Abhishek PATIL (Qualcomm)
     1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0512-02-000m-resolution-for-cid-2676.docx>
     2. CID 2676 (MAC)
        1. Review Comment.
        2. Review proposed changes.
        3. Proposed Resolution: Revised;

***TGm editor, please make changes to REVmd draft as proposed below:***

* Delete row corresponding to order #73 from Table 9-34 (Beacon frame body)
* Delete row corresponding to order #90 from Table 9-41 (Probe Response frame body)
* Delete row corresponding to order #53 from Table 9-47 (DMG Beacon frame body)
* Delete row corresponding to Active BSSID Count element from Table 9-94 (Element IDs)
* Remove clause 9.4.2.237
* Delete the last sentence from the 2nd paragraph in 11.1.3.8 “An AP may include Active BSSID Count element … ”
  + - 1. No objection- Mark ready for Motion
  1. **Review Doc 11-19/405r0** Abhishek PATIL (Qualcomm) (Qualcomm)
     1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0405-00-000m-resolution-for-cids-2004-2007.docx>
     2. CID 2004 (MAC) and CID 2007 (MAC)
        1. Review Comment
        2. Review proposed changes
        3. Discussion on what the new name and if it represents the details correctly.
        4. The sub-element indicates that it is the same antenna connector.
        5. The frequency bands is not indicated in the definition of the sub-element.
        6. In the current standard, the use of Co-located to mean same device is the common understanding.
        7. The error may not be in the name, but in the description.
        8. More work may be needed before we are sure we have all the issues noted.
        9. The change of the name is just an editorial change, the discussion on the change of the definition is more technical and that should be a different submission.
        10. Discussion on the Neighbor Report IE not having the Co-Located BSSID List included.
        11. Question on adding Co-Located BSSID (new name) into table the extensible column should be filled with “No”, and in table 9-134 it says “yes”. So, we will need to define it as “No” in both.
        12. Discussion on not changing the name.
        13. Two Tables (LCI and Location CIVIC report) should be updated to “No” for extensibility.
        14. **ACTION ITEM A9**: “Abhi will update the submission to include fixing the extensibility column and find a consensus of the name.”
        15. Discussion, do we really mean two different things and therefor need two sub-elements rather than just change the name.
        16. Discussion on plan to resolve, not urgent to resolve today, could take on a telecon and bring back in July.
        17. Where did this sub-element originally come from?
            1. CID 3151 and 3269 in REVmc (see 11-14/1024r1)

<https://mentor.ieee.org/802.11/dcn/14/11-14-1024-01-000m-resolution-to-cid-3151.docx>

* + - * 1. Discussion on what the change of the name may impact the fact that other than FTM is also using the sub-element.
        2. Discussion on same location definition.
        3. We may need to do more discussion offline.
        4. We did add to the Neighbor Report Element as well as.
      1. We will take up on a telecon.
  1. **Review Doc 11-19/857r0** – Youhan Kim (Qualcomm)
     1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0857-00-000m-lb236-phy-cr.docx>
     2. CID 2177 (PHY)
        1. Review comment
        2. Review proposed changes
        3. Proposed resolution: REVISED (PHY: 2019-05-16 15:15:12Z) - There are multiple places in the draft which uses the value “255” as the maximum RSSI value. Hence, propose to replace “RSSI maximum”, “RSSI max” and “8 bits” with “255”.

Instruction to Editor (all PageLine locations are based on D2.2):

Change “RSSI Max” to “255” at P495L16.

Change “8 bits of RSSI” to “255” at P2887L26.

Change “RSSI maximum” to “255” at P2903L35, P2904L32, P2949L60, P2962L56, P3068L12, P3432L48, P3461L18.

* + - 1. No objection - Mark Ready for Motion
      2. There is no unit for the 255, it is a monotonic function.
      3. Beacon RSSI is similar, no unit specifically defined.
    1. CID 2712 (PHY)
       1. Review Comment
       2. Review Discussion and the equations referenced.
       3. Proposed Resolution: REVISED (PHY: 2019-05-16 15:23:21Z). The commenter is correct that Equations (17-6) and (19-8) are not identical. While commenter’s option 2 is a valid approach, updating mathematical equations for PHY should be done with caution and should be avoided if possible. Note that 19.3.10.3.3 has all the necessary information to clearly define the L-STF waveform on its own. Hence, the proposal is to delete the sentence with the phrase “identical”, and instead add a NOTE to inform readers that L-STF sequence of HT-mixed format is essentially the same as that of 11a, except for the scaling difference. Instruction to Editor: Implement the text updates for CID 2712 in 11-19/0857r0 < <https://mentor.ieee.org/802.11/dcn/19/11-19-0857-00-000m-lb236-phy-cr.docx>>.
       4. No objection – Mark Ready for Motion
  1. **Review document 11-19/429r1** Kaz SAKODA (Sony)
     1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0429-01-000m-suggested-resolution-to-mesh-comments.docx>
     2. CID 2206 (PHY)
        1. Review Comment.
        2. Review the pseudo code.
        3. Review proposed changes.
        4. Discussion on if the change to the proposed text is complete or not.
        5. Two new event change descriptions are being added.
        6. Proposed Resolution: CID 2206 (PHY): Revised; Insert two paragraphs after the third paragraph of 14.4.10:

"When an OPN\_RJCT event occurs, the mesh STA shall perform a sndCLS action using the reason code as specified by the OPN\_RJCT event and set the holdingTimer. The finite state machine shall transition to HOLDING state.

When a CNF\_RJCT event occurs, the mesh STA shall perform a sndCLS action using the reason code as specified by the CNF\_RJCT event, and set the holdingTimer. The finite state machine shall transition to HOLDING state."

* + - 1. No objection – Mark Ready for Motion
    1. CID 2334 and 2335 (PHY)
       1. Review Comment.
       2. Proposed Resolution: Revised. Replace “Channel access overhead, which includes frame headers, training sequences, access protocol frames, etc." with “Channel access overhead (in µs), which should include:
* the expected time from the start of the first PPDU in the TXOP to the end of the PHY header of the first PPDU in the TXOP that carries a QoS Data frame that requires immediate acknowledgment, and
* SIFS plus the expected duration of the immediate response to the first PPDU in the TXOP that carries a QoS Data frame

and may include:

* the expected channel access delay, i.e., AIFS plus average random backoff duration
  + - 1. Discussion on the value of the added text.
      2. Discussion on if the list of overhead items are a “should” or “shall”.
      3. Discussion on the possibility to not make a change.
         1. The current text is compact, and the proposed change gives more text and adds a more detail.
      4. Table 14-4 referenced where the change is being made.
      5. The Bt field should have definition clarified that it is the payload.
      6. Straw Poll:
         1. Choice: No Change to the O parameter except for units and clarify the Bt entry.
         2. Kaz Proposed Change: (text in 11-19/429r1)
         3. Results Straw Poll: 9-1-9
         4. **ACTION ITEM A10**: Kaz to work offline with Mark R and Guido and bring back a simpler (clarifications only) change.
    1. CID 2331 (PHY)
       1. Review Comment.
       2. Review proposed changes.
       3. Discussion on consolidation or not.
          1. No one objected to consolidation.
       4. The Text will need to be updated to match align with the CIDs 2334 and 2335 (PHY).
       5. Subclauses should not refer to themselves…better to say “This subclause”
       6. **ACTION ITEM A11**: Kaz to work offline to update the resolution and bring back.
    2. CID 2333 (PHY)
       1. Review comment.
       2. Discussion: 14.9.2 airtime link metric is intended for low PHY rate i.e., 1 Mbps with number of hops. If we use this metric for high PHY rate link beyond 1.7Gbps, the metric value will be rounded to 0 (pointed out by 11-17/1448r1). It is not suggested to use this metric for PHY rate that provides higher MCS beyond 54Mbps. However, changing the unit of the airtime link metric should not be encouraged, as it should cause backward compatibility issue. So, we have added high PHY rate airtime link metric with x1024 finer resolution.
       3. Proposed Resolution: REJECTED (PHY: 2019-05-16 16:08:23Z) Changing the unit of the airtime link metric is not encouraged, as it could cause backward compatibility issue. Do not apply any changes.

The airtime link metric is intended for low PHY rate i.e., 1 Mbps with number of hops. If we use this metric for high PHY rate link beyond 1.7Gbps, the metric value will be rounded to 0 (pointed out in <https://mentor.ieee.org/802.11/dcn/17/11-17-1448-01-000m-mesh-high-phy-rate-airtime-link-metric.docx> ). It is not suggested to use this metric for PHY rate that provides higher MCS beyond 54Mbps. However, changing the unit of the airtime link metric should not be encouraged, as it should cause backward compatibility issue. A high PHY rate airtime link metric has been added with x1024 finer resolution.

* + - 1. No objection – Mark Ready for Motion
      2. CID 2475 (MAC)
         1. Review Comment.
         2. Proposed Resolution: ACCEPTED (MAC: 2019-05-16 16:08:33Z)
         3. No objection - Mark Ready for Motion.
      3. Additional proposed Change “Remove ‘Shall’ from clause 4”
         1. Review description of why the change should be made.
         2. Suggestion to incorporate these changes into CID 2331.
  1. **Review doc 11-19-306** - Matthew FISCHER (Broadcom)
     1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0306-01-000m-temporary-limited-connection.docx>
     2. Abstract: Proposed language to create a mechanism in the Block Ack to signal a request by a receiver to Temporarily Limit the Connection.

The proposed changes address CID 2656 of LB236 on TGmd D2.0.

Changes are referenced to TGmd D2.2.

* + 1. CID 2656 (MAC)
       1. Review Comment.
       2. Review submission and proposed changes.
       3. Discussion on “may” vs “should” in 2nd paragraph in 10.26.10a. and the last paragraph change “should not” to some other wording.
       4. Editorial Changes suggested “Block Ack” should be “BlockAck frame”. And the resolution table should have the version updated.
       5. Discussion on “Rate of Transmission” being used. Not used before in the draft.
       6. Discussion on the number of bits to be used in the transmission rate.
       7. Feedback from the discussion can be updated to the document.
       8. Schedule for a telecon
       9. Adhoc Notes: MAC: 2019-05-16 16:27:26Z - Reviewed 0306r1. Recommended some changes, to bring back.
  1. Update from Thomas, the document reviewed before has been split.
  2. **Review Schedule for PM1**
     1. Set Time for motions.
        1. One option was 2:45, but request to just do motions first and then presentations.
     2. Review motions to be made Thursday.
     3. Discussion on the new motion for Thomas to add for doc 919.
  3. **Recessed 12:35pm**

1. **802.11md (REVmd) Meetings – May 2019 IEEE 802 Wireless Interim – Atlanta – Thursday PM1 13:30-15:30** 
   1. **Called to order** at 1:33 pm by the chair, Dorothy STANLEY (HPE)
   2. **Review patent policy**
      1. No issues noted.
   3. **Review Agenda** 11-19/568r8
      1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0568-08-000m-2019-may-tgmd-agenda.pptx>
      2. Thursday PM1

* Motions
* S1G CIDs – 11-19-549 – Yongho SEOK
* 11-19-396 – Multiple BSSID – Abhi PATEL
* 11-19-610 – Emily QI
* 11-19-841 - Carlos CORDEIRO
* CID 2115 – 11-19-660 – Ganesh VENKATESAN
* 11-19-656 – George CALCEV
* 19/720r0 Individually addressed probes CID2216 Thomas DERHAM
* 11-19-306 - Matthew FISCHER
* Plans for May– July 2019
* Adjourn
  + 1. No objection to the final block agenda.
  1. **Motions:**
     1. **Motion #A2: Approve prior TGmd minutes**
        1. Approve the minutes of

Teleconference and ad-hoc minutes:

[https](file:///C:\Users\jr05\Documents\IEEE%20files%20and%20notes\2019%20Meeting%20Folders\2019%20May%20-%20Atlanta\https)[://mentor.ieee.org/802.11/dcn/19/11-19-0575-00-000m-minutes-for-revmd-telecon-march-29-2019.docx](https://mentor.ieee.org/802.11/dcn/19/11-19-0575-00-000m-minutes-for-revmd-telecon-march-29-2019.docx),

<https://mentor.ieee.org/802.11/dcn/19/11-19-0611-03-000m-revmd-telecon-minutes-april-may.docx> and

<https://mentor.ieee.org/802.11/dcn/19/11-19-0596-01-000m-minutes-for-revmd-adhoc-april-2-4-portland.docx>

* + - 1. Move: Emily QI 2nd: Jon Rosdahl
      2. **Results Motion #A2:** Unanimous – Motion approved.
      3. Minutes for March will be considered in July as they were posted late last Saturday.
    1. **Motion: #113: - – Mirrored SCS**
       1. **Incorporate the text changes indicated in** 11-19/420r4 <[**https://mentor.ieee.org/802.11/dcn/19/11-19-0420-04-000m-cr-2693-mirrored-scs.docx**](https://mentor.ieee.org/802.11/dcn/19/11-19-0420-04-000m-cr-2693-mirrored-scs.docx)> **into the TGmd draft.**

AND resolve CID 2693 as “Revised” with a a resolution of :Incorporate the text changes in 11-19/420r4 <[**https://mentor.ieee.org/802.11/dcn/19/11-19-0420-04-000m-cr-2693-mirrored-scs.docx**](https://mentor.ieee.org/802.11/dcn/19/11-19-0420-04-000m-cr-2693-mirrored-scs.docx)>

* + - 1. Moved: Thomas DERHAM 2nd: George CALCEV
      2. **Results Motion #113:** 7-0-4 - Motion passes
    1. **Motion #114: May/may not fix**
       1. Incorporate the text changes indicated in 11-19/893r1 < <<https://mentor.ieee.org/802.11/dcn/19/11-19-0893-01-000m-may-or-may-not-that-is-the-question.docx> > into the TGmd draft.
       2. Moved: Dan HARKINS 2nd: Jouni Malinen
       3. **Results Motion #114:** Unanimous - Motion passes
    2. **Motion #115: – FILS fix**
       1. Incorporate the text changes indicated in 11-19/907r0 <<https://mentor.ieee.org/802.11/dcn/19/11-19-0907-00-000m-fils-association-response-rsne.docx>> into the TGmd draft.
       2. Moved: Jouni MALINEN 2nd: George CALCEV
       3. **Results Motion #115:** Unanimous - Motion passes
    3. **Motion #116: – Protected TWT**
       1. Resolve CIDs 2715 (MAC) and 2716 (MAC) as

REVISED” With a resolution of “Incorporate the changes in 11-19/114r6 <<https://mentor.ieee.org/802.11/dcn/19/11-19-0114-05-000m-text-proposal-for-protecting-twt-action-frames.doc>> which resolves the Comment in the direction of the commenter’s proposal.”

* + - 1. Moved: Jouni MALINEN 2nd: Michael MONTEMURRO
      2. **Results Motion #116**: 9-0-4 - Motion passes
      3. **ACTION ITEM A12:** This one requires action during the WG closing plenary, the chair indicated that a motion was being prepared to follow-up.
    1. **Motion #117:** - **FT/Cached PMKIDs (from 586r3)**
       1. Incorporate the text changes in11-19/919r0 <<https://mentor.ieee.org/802.11/dcn/19/11-19-0919-00-000m-ft-initial-md-association-using-cached-pmksa.docx> **>**
       2. Moved: Thomas DERHAM 2nd: Jouni MALINEN
       3. **Results Motion #117**: 8-0-5 Motion Passes
    2. **Motion #118** - **– Remove Active BSSID Count element**
       1. Resolve CID 2676 (MAC) as “REVISED; With a resolution of

*“TGm editor, please make changes to REVmd draft as proposed below:*

Delete row corresponding to order #73 from Table 9-34 (Beacon frame body)

Delete row corresponding to order #90 from Table 9-41 (Probe Response frame body)

Delete row corresponding to order #53 from Table 9-47 (DMG Beacon frame body)

Delete row corresponding to Active BSSID Count element from Table 9-94 (Element IDs)

Remove clause 9.4.2.237

Delete the last sentence from the 2nd paragraph in 11.1.3.8 “An AP may include Active BSSID Count element … ”

which resolves the Comment in the direction of the commenter’s proposal.”

* + - 1. Moved: Jouni MALINEN 2nd: Jerome HENRY
      2. **Results Motion #118**: 11-0-2 Motion Passes
    1. Motion #--(no number assigned) - **– Active scan fixes**
       1. Incorporate the text changes indicated in 11-19/630r2 <[https://](NULL)[mentor.ieee.org/802.11/dcn/19/11-19-0630-02-000m-active-scan-figure-cid.docx](https://mentor.ieee.org/802.11/dcn/19/11-19-0630-02-000m-active-scan-figure-cid.docx)> into the TGmd draft.
       2. Request to delay the motion until later. There is another submission on the agenda that may be related,
       3. Request was granted. So, no Motion # assigned.
  1. **Review Doc 11-19.509r0** Younho SEOK (Mediatek)
     1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0549-00-000m-lb236-s1g-related-mac-comment-resolutions.docx>
     2. CID 2561 (MAC)
        1. Review comment.
        2. Proposed Resolution: Revised-
        3. In 9.8.2 (General PV1 frame format), the spec says,

“The first three fields (Frame Control, A1 and A2) and the last field FCS are always present in PV1 frames. The Sequence Control, A3, A4 and Frame body fields are optionally present.”

Changes the reference of the cited sentence from 9.8 (MAC frame format for PV1 frames(11ah)) to 9.8.2 (General PV1 frame format).

* + - 1. Updated Proposed Resolution: CID 2561 (MAC): REVISED (MAC: 2019-05-16 18:03:29Z): Change the reference of the cited sentence from 9.8 (MAC frame format for PV1 frames(11ah)) to 9.8.2 (General PV1 frame format).
      2. No objection – Mark Ready for Motion
    1. CID 2411 (MAC)
       1. Review Comment.
       2. Proposed Resolution: ACCEPTED (MAC: 2019-05-16 18:04:48Z)
       3. No objection – Mark Ready for Motion
    2. CID 2490 (MAC)
       1. Review Comment.
       2. Proposed Resolution: ACCEPTED (MAC: 2019-05-16 18:06:05Z)
       3. No objection – Mark Ready for Motion
    3. CID 2001 (MAC)
       1. Review Comment.
       2. Review proposed text changes.
       3. Proposed Resolution: REVISED (MAC: 2019-05-16 18:08:38Z): Incorporate the changes as specified in 11-19/0549r0 (<https://mentor.ieee.org/802.11/dcn/19/11-19-0549-00-000m-lb236-s1g-related-mac-comment-resolutions.docx>) for CID 2001, which updates the figure title and description in the direction suggested by the commenter.
       4. No objection – Mark Ready for Motion
    4. CID 2308 (MAC)
       1. Review comment.
       2. Proposed Resolution: Rejected- The spec already has the following definition for the NDP CMAC frame. “null data PPDU (NDP) carrying medium access control information (CMAC) frame: A physical layer (PHY) protocol data unit (PPDU) with no Data field used by the PHY to provide to the medium access control (MAC) the service of carrying MAC information in the SIGNAL field of the sub 1 GHz (S1G) PPDU.” Also, the spec has the related behaviours for each NDP CMAC frame, in clause 10 and 11, not clause 9. But, if you find some behavior texts that are not clearly defined for the NDP CMAC frames, please submit the follow-up comments.
       3. Discussion on convention of “frames” vs “PPDU”.
       4. Updated Proposed Resolution: CID 2308 (MAC): REJECTED (MAC: 2019-05-16 18:13:15Z): The spec already has the following definition fo the NDP CMAC frame: “null data PPDU (NDP) carrying medium access control information (CMAC) frame: A physical layer (PHY) protocol data unit (PPDU) with no Data field used by the PHY to provide to the medium access control (MAC) the service of carrying MAC information in the SIGNAL field of the sub 1 GHz (S1G) PPDU.”

Also, the spec has the related behaviours for each NDP CMAC frame, in clause 10 and 11, not clause 9.

* + - 1. No objection – Mark Ready for Motion
    1. CID 2435 (MAC)
       1. Review Comment
       2. Proposed Resolution: Rejected- Initially, the BlockAck protocol was made before having A-MDPU. If singe frame can feedback receptions of more than one MPDUs, that we can say it as the BlockAck.
       3. Discussion of BlockAck protocol in the standard for the NDP BlockAck Frame vs NDP Ack.
       4. Reviewed p1660 – Table 9-353.
       5. Discussion on if the NDP BlockAck Frame is used only after a fragment.
       6. There seems to be more discussion on this one.
       7. **ACTION ITEM A13**: Mark RISON and Yongho SEOK will work offline and bring back.
    2. CID 2265 (MAC)
       1. Review Comment.
       2. Proposed Resolution: ACCEPTED (MAC: 2019-05-16 18:30:26Z)
       3. No objection – Mark Ready for Motion
    3. CID 2515 (MAC)
       1. Review Comment.
       2. Proposed Resolution: ACCEPTED (MAC: 2019-05-16 18:31:08Z)
       3. No objection – Mark Ready for Motion
    4. CID 2203 (MAC)
       1. Review Comment.
       2. Proposed Resolution: Rejected- Before 11ah, a fragment can’t be sent with the BlockAck ack policy. It seems that the cited text is not a duplicate requirement. The commenter should provide why the cited text is a duplicate requirement.
       3. Discussion on the rationale of the rejection.
       4. Discussion on the BlockAck protocol.
       5. More work off-line.
    5. CID 2405 (MAC)
       1. Review Comment.
       2. Proposed Resolution: ACCEPTED (MAC: 2019-05-16 18:43:19Z): Note to Editor, adjust the preceding articles as needed.
       3. No objection – Mark Ready for Motion
    6. CID 2516 (MAC)
       1. Review Comment.
       2. Review Table 10-7.
       3. Proposed Resolution: CID 2516 (MAC): REVISED (MAC: 2019-05-16 18:45:29Z): In Table 10-7, change

“The ack policy of at least one of the MPDUs in the PPDU is Normal Ack or Implicit BAR.”

to

“At least one of the MPDUs in the PPDU solicits an immediate acknowledgement (e.g., a QoS Data frame whose ack policy is Normal Ack or Implicit BAR; or an Action frame).”

* + - 1. No objection – Mark Ready for Motion
    1. CID 2517 (MAC) and 2518 (MAC)
       1. Review comment
       2. Discussion on the example. Is it needed? This CID needs more review.
    2. CID 2519 (MAC)
       1. Review Comment.
       2. Proposed resolution: REJECTED (MAC: 2019-05-16 18:55:42Z): 10.3.2.11 is an acknowledgement procedure. The procedure is never used for NDP BA.
       3. No objection – Mark Ready for Motion
    3. CID 2315 (MAC)
       1. Review Comment
       2. Discussion on the proposed resolution and a request to include a reference.
       3. A Reference to where SIG Control Frame is “non-NDP” definition is requested.
       4. Proposed Resolution: REVISED (MAC: 2019-05-16 18:57:34Z): Incorporate changes as shown in 11-19/0549r0 (<https://mentor.ieee.org/802.11/dcn/19/11-19-0549-00-000m-lb236-s1g-related-mac-comment-resolutions.docx>) for CID 2315, which are in the direction suggested by the commenter, but does not include "non-NDP" because an S1G Control frame is defined to be non-NDP.
       5. But, the resolution needs a reference to where in the spec it says that. This will not be motioned until July, so a reference can be found and added to the Resolution.
       6. No objection – Mark Ready for Motion
    4. CID 2663 (MAC)
       1. Review Comment.
       2. Discussion of the proposed changes.
       3. Changes made to the proposed changes to move “under the above conditions”.
       4. Proposed Resolution: REVISED (MAC: 2019-05-16 19:05:04Z): Incorporate the changes in 11-19/549r1 (<https://mentor.ieee.org/802.11/dcn/19/11-19-0549-01-000m-lb236-s1g-related-mac-comment-resolutions.docx>) for CID 2663, which makes changes in the direction suggested by the commenter, while disallowing combining subfields triggered from the same relay STA.
       5. No objection – Mark Ready for Motion
    5. CID 2377 (MAC)
       1. Review Comment.
       2. Proposed Resolution: ACCEPTED (MAC: 2019-05-16 19:09:50Z)
       3. No objection – Mark Ready for Motion
    6. CID 2397 (MAC)
       1. Review Comment.
       2. Proposed Resolution: ACCEPTED (MAC: 2019-05-16 19:10:18Z)
       3. No objection – Mark Ready for Motion
  1. **Review doc 11-19-396r0** – Multiple BSSID – Abhishek PATIL (Qualcomm)
     1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0396-00-000m-resolution-for-cids-related-to-multiple-bssid.docx>
     2. CID 2392 (MAC)
        1. Review comment
        2. Proposed Resolution: Revised, Agree with the comment. The 2nd bullet is updated to refer to the SSID and Multiple BSSID-Index element. Also the 1st bullet is updated to refer to appropriate tables based on the type of AP (non-DMG, DMG or S1G)

TGm editor, please make changes as shown in 11-19/0396r0 CID 2392

* + - 1. Updated Resolution: REVISED (MAC: 2019-05-16 19:14:49Z): Incorporate the changes in 11-19/0396r0 (<https://mentor.ieee.org/802.11/dcn/19/11-19-0396-00-000m-resolution-for-cids-related-to-multiple-bssid.docx>) for CID 2392, which makes changes in the direction suggested by the commenter.
      2. No objection – Mark Ready for Motion
    1. CID 2391 (MAC)
       1. Review Comment
       2. An article was deleted that was not supposed to, so there will be an R1 for this CID and those following.
       3. Proposed Resolution: REVISED (MAC: 2019-05-16 19:17:23Z): Incorporate changes as shown in 11-19/0396r1 (<https://mentor.ieee.org/802.11/dcn/19/11-19-0396-01-000m-resolution-for-cids-related-to-multiple-bssid.docx>) for CID 2391, which makes changes in the direction suggested by the commenter.
       4. No objection – Mark Ready for Motion
    2. CID 2002 (MAC)
       1. Review Comment
       2. Review context
       3. Discussion on the form of the proposed resolution. Seems to include discussion as well as the specific changes. There was concern as to why the “k” was deleted and would like to have more information included in the resolution.
       4. This CID is Not done. Discuss on a teleconference.
       5. Need more work.
  1. **Review Presentations for future Telecon**
     1. See Slide 6 of 11-19/568r8
     2. Proposed telecon dates: May 24, 31, June 21, 28 10am ET 2 Hours.
  2. **Adjourned 3:34pm**

**References:**

**Monday PM1**:

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5. [Draft P802.11REVmd\_D2.2.pdf](http://www.ieee802.org/11/private/Draft_Standards/11md/Draft%20P802.11REVmd_D2.2.pdf)
6. [Draft P802.11REVmd\_D2.2 Redline Compared to D2.1.pdf](http://www.ieee802.org/11/private/Draft_Standards/11md/Draft%20P802.11REVmd_D2.2%20Redline%20Compared%20to%20D2.1.pdf)
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14. <https://mentor.ieee.org/802.11/dcn/19/11-19-0261-06-000m-resolutions-to-s1g-phy.docx>
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10. <https://mentor.ieee.org/802.11/dcn/19/11-19-0907-00-000m-fils-association-response-rsne.docx>
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