IEEE P802.11  
Wireless LANs

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| Minutes for REVmd - July 2018 - San Diego | | | | |
| Date: 2018-07-12 | | | | |
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Abstract

The Minutes for 802.11md - REVmd - meetings at the IEEE 802 Plenary 9-12 July 2018, in San Diego.

1. **802.11md - REVmd – 802 Plenary – San Diego, Monday PM1: 13:30-15:30**
   1. **Call to Order** at 13:31 by the TG Chair, Dorothy STANLEY (HPE)
   2. **Review of Patent Policy**
      1. Call for essential patents – No comments.
   3. **Agenda Review** (document 11-18/1028r1)
      1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1028-01-000m-2018-july-tgmd-agenda.pptx>
      2. Agenda changes will be reflected in 11-18/1028r2.
         1. Monday PM1
2. Chair’s Welcome, Policy & patent reminder
3. Approve agenda
4. Status, Review of Objectives
5. Editor Report – Emily QI (Intel)
6. Update: 11-18-710 - Yujin NOH (Newracom) (10 mins)
7. 11-18-1062 CIDs 1138, 1139, 1013 - Yujin NOH (Newracom)– –
8. 11-18-1071, 1104- FT CNSA, SAE test vector fixes– Jouni/Dan
9. 11-18-1043 CID 1486 - Emily QI (10 mins)
10. 11-17-1807 – Nehru BHANDARU, Thomas DURHAM
    * 1. Motion to approve agenda as document 11-18/1028r2
         1. Moved: Emily QI 2nd: Assaf Kasher
         2. Result: Passes unanimously.
    1. **Review Current REVmd Status** – Dorothy STANLEY (HPE)
       1. Preparing for going to recirculation in September
       2. IEEE 802.11aj-2018 is rolled in.
       3. IEEE 802.11ak-2018 and IEEE 802.11aq-2018 are planned to be rolled in.
    2. **Editor Report** – document 11-18/0920r10 Emily QI (Intel)
       1. <https://mentor.ieee.org/802.11/dcn/17/11-17-0920-10-000m-802-11revmd-editor-s-report.ppt>
       2. Complete 11aq and 11ak roll-in by the September plenary.
    3. **Review 11-18/710r5** – Yujin NOH (Newracom)
       1. <https://mentor.ieee.org/802.11/dcn/18/11-18-0710-05-000m-resolutions-to-txvector-and-rxvector-of-11ah-phy.docx>
       2. CID 1136, 1131, 1132, 1133, 1134 and 1135 PHY
       3. Review the changes to r5
       4. Request for a change of “O – Optionally Present”
       5. Discussion on if S1G\_DUP\_2M is present or not.
       6. Discussion on the Format is S1G\_Dup\_2M is present or not in Beamforming.
       7. There is one open question that being checked on and then if this is resolved, then we can resolve the 6 CIDs with a Revised, resolve with the different resolutions from the document.
       8. Move to a single Comment Group (tab).
    4. **Review 11-18/1062r1** – Yujin NOH (Newracom)
       1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1062-01-000m-resolution-to-cid1138-1139-and-1013.docx>
       2. CID 1138, 1139 and 1013 (PHY)
       3. Review submission
       4. Questions –
          1. PSDU length when the S1G is greater than zero? What does it mean?
             1. Brief discussion but not clear that an answer was found.
          2. Indicates number of octets in A-MPDU, but what happens if an A-MPDU is not present? It says it is always present, but it is not always present in the TXVECTOR. This must be conditional on using aggregation.
             1. Another condition could be added to address this issue.
          3. PSDU\_LENGTH value in an equation would be better than referring to a subclause, i.e. 23.4.3.
          4. Page 5 – the Aggregation “bit” should be “field”
          5. Request to change “equal” to “is set”
          6. Request “with” to a “,”
          7. Page 7 discussion on the format of the sentence structure.
          8. Discussion on removal of “also” – does not add to the sentence.
       5. A few changes are needing to be made and to update the document.
       6. These 3 CIDs will be added to the same Comment Group (Tab).
       7. These 3 CIDs and the previous 6 CIDs will be marked ready for Motion with the updated revision of the respective document and before the motion is made, we will review the final changes to ensure it is complete.
       8. Expect to bring up for Motion on Wednesday PM2.
       9. The reference of 23.4.3 clause is a set of cases and equations, so picking a particular equation may not be needed.
    5. **Review Submission 11-18/1071r0** – Jouni MALINEN (Qualcomm)
       1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1071-00-000m-key-names-with-ft-using-sha-384.docx>
       2. Review the submission
       3. Submission abstract:

IEEE Std 802.11ac-2013 added new AKM suite selectors 00-0F-AC:11 (802.1X, SHA-256), 00-0F-AC:12 (802.1X, SHA-384), and 00-0F-AC:13 (FT, SHA-384) for Suite B compliant options for RSN. Suite B was replaced with CNSA Suite which maintains only the SHA-384 based combinations. The previously defined AKM suite selector 00-0F-AC:12 covers this need with 802.1X/EAP authentication, but the definition of the AKM suite selector 00-0F-AC:13 apparently missed couple of changes to be consistent with algorithm use. In particular, AKM 00-0F-AC:13 did not modify PMKID derivation rules (it ends up defaulting to using SHA-1 now) and PMKR0Name/PMKR1Name derivation (uses SHA-256).

To follow the requirements of the CNSA Suite, these key naming definitions for 00-0F-AC:13 would need to be replaced with consistent use of SHA-384 through all operations. There has been no known (at least to the author) deployments of devices with AKM 00-0F-AC:13 support, so it looks justifiable to address this undesired inconsistency now in REVmd before need for deployment arises. A similar fix was done for PMKID derivation with FILS in REVmd/D1.0. The only known (to the author) implementation of AKM 00-0F-AC:13 is already using the proposed changes to meet the CNSA Suite requirements.

This contribution proposes changes to REVmd/D1.0 to address the identified issues. There is no CID for this change in the D1.0 letter ballot since the issue was discovered during an implementation effort after that ballot closed.

* + 1. Review the 6 changes.
    2. Discussion on possible use of these values by current products.
    3. A Motion will be prepared to incorporate these changes on Wednesday PM2.
  1. **Review doc 11-18/1104r0** - Dan HARKINS (HPE)
     1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1104-00-000m-updated-sae-test-vectors.docx>
     2. Review submission
     3. The test cases just need to be replaced as they are incorrect.
     4. A Motion will be prepared to incorporate these changes on Wednesday PM2.
  2. **Review doc 11=18/1043r0** – Emily QI (Intel)
     1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1043-00-000m-lb232-proposed-resolutions-for-cid1486.doc>
     2. CID 1486 (MAC)
        1. Review comment
        2. Review discussion
        3. Proposed Resolution: REVISED (MAC: 2018-07-09 22:09:42Z): Incorporate the changes in 11-18/1043r0 (https://mentor.ieee.org/802.11/dcn/18/11-18-1043-00-000m-lb232-proposed-resolutions-for-cid1486.doc). This accomplishes the commenter's intent, in the appropriate places (in the draft).
        4. No objection - Mark Ready for Motion
  3. **Review doc 11-18/1807r11** Nehru Bhandaru (Broadcom)
     1. <https://mentor.ieee.org/802.11/dcn/17/11-17-1807-11-000m-defense-against-multi-channel-mitm-attacks-via-operating-channel-validation.docx>
     2. Submission was presented by Thomas DERHAM (Broadcom)
     3. Review changes since last presentation (r10).
     4. Question on range “between zero and 5 TU”?
        1. Which should it be?
        2. Discussion on the value that would be better to use, but it was not obvious to the discussion what value should be used.
     5. TUs scales depending on the version of the Standard being used and when you use S1G, then changing to micro-seconds may not work. Having things in terms of TUs allows the scaling to occur.
     6. We could say “uniformly distributed between zero and 5000 us”.
     7. An R12 will be uploaded and then we can have more discussion offline.
     8. A motion would be considered on Wednesday PM2 on this document.
  4. **Recess at 3:23pm**

1. **802.11md - REVmd –Tuesday, July 10, 2018 PM1: 13:30-15:30**
   1. **Called to order** at 13:30 PT by the TG Chair Dorothy STANLEY (HPE)
   2. **Reviewed Patent Policy and Participation Policy**
      1. No items noted
   3. **Review Agenda: 11-18/1028r2**
      1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1028-02-000m-2018-july-tgmd-agenda.pptx>
      * This meeting’s activities:
        + Obsolete CIDs (see next slide, add 1183)
        + Youhan KIM – CID 1374 (15 mins)
        + Sigurd S 11-18-701 CIDs 1359 (15 mins)
        + Sean COFFEY – 11-18-1048 (60 mins)
        + 11-18-0885 – CID 1364
        + 11-18-1247 – Song AN
      1. Added CID 1506 (also in 11-18-0885) for Ganesh Tuesday PM1
      2. Added 11-18/674 Abhi Patil on Wednesday PM1
      3. No objections, with those changes included.
   4. **Obsolete CIDs - Reviewed slide 4 of agenda deck, which shows status of each CID:**
      1. CID 1377: Action item still open
      2. CID 1378: Action item still open
      3. CID 1006, 1410, 1411: Intention is still to take a motion on this, this week.
      4. During May meeting, this (WEP and TKIP) was discussed, and straw poll results ended up keeping this text in the Standard
      5. Believe there are likely more comments requesting for WEP and/or TKIP to be removed from the Standard. Will research off-line, and raise any others (beyond the three listed here).
      6. CID 1412: Will discuss further, in a few minutes.
      7. CID 1504: Already done, per 11-18/480r3
      8. CID 1445: Will discuss at the upcoming ad hoc. Peter E is preparing a presentation.
      9. CID 1183 (PHY): 11-18/1174r1 (Assaf KASHER, Qualcomm):
         1. CID is to fix TXTIME calculation for low power single carrier mode.
         2. Document proposes to resolve by removing Single Carrier Low Power mode (SC LP) of DMG.
         3. Believe there are no implementations of this feature. It doesn’t really save any power.
         4. Proposed resolution is Revised. Add a sentence that low-power SC mode is obsolete, with typical wording.
         5. Slight wording change requested. Will upload an r2.
         6. Revised. Will copy in the text from 11-18/1174r2.
      10. CID 1412 (MAC):
          1. Since this feature is currently marked deprecated, the resolution is to change that sentence to say it is obsolete (and might be removed) instead.
          2. Revised. At 1589.28, delete “The use of the dual CTS mechanism is deprecated.” And insert “The dual CTS mechanism is obsolete. Support for this mechanism might be removed in a later revision of the standard.” Change the last sentence of 11.1.3.2 to “The dual beacon mechanism is obsolete. Support for this mechanism might be removed in a later revision of the standard.”
          3. Ready for motion.
   5. **Review Document 11-18/0879r2** - Youhan KIM (Qualcomm)
      1. <https://mentor.ieee.org/802.11/dcn/18/11-18-0879-02-000m-d1-0-vht-related-cids.docx>
      2. **CID 1374 (MAC):**
      3. The other 3 CIDs in this document were motioned at the prior session. So, only considering CID 1374 this time.
      4. Both the commenter and D1.0 are correct. Accepting the comment works, and makes this more clear.
      5. Accepted.
      6. Ready for motion.
   6. **Review Doc 11-18/1048r2** - Sean COFFEY (Realtek):
      1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1048-02-000m-lb232-comment-resolution-for-phy-cca-part-1.docx>
      2. **CID 1194 (PHY):**
         1. While there is some duplication/commonality to the CCA text across the PHYs, but there are far more differences than similarities.
         2. Propose to reject the comments.
         3. Rejected. The comment does not adequately justify the necessity or desirability of a change to the draft.
         4. Ready for motion
      3. **CID 1468 (PHY):**
         1. The comment is not clear.
         2. Believe the draft is clear, already.
         3. Propose rejecting the comment.
         4. Proposed resolution: Rejected. The draft already contains text matching the proposed change, in 19.3.19.5.3.
         5. But, if a receiver can’t tell what type of frame is being received (because it is too corrupted), which energy level should be used for CCA, because the different PHY clauses have different level requirements? We should clarify the text for how this is really supposed to work.
         6. Concern about making existing implementations (many years’ worth, at this point) non-compliant, if we change the wording.
         7. Rejected. The draft is already clear that pure energy detect is required for HT STAs, in both the 2.4 and 5 GHz bands: see 19.3.19.5.3.
         8. Ready for motion
      4. **CIDs 1470 and 1471 (PHY):**
         1. Examined the various combinations of operating options. Many of the 16 possible combinations result in a detection window of 20 us, which appears to be fine.
         2. If the receiving STA is ERP or HT, the receiving STA’s BSS is operating with short (9 us) slot time, and the CCA rules at issue are those from the ERP or HT clauses (case 4): this case has at least 4 us to detect the received signal at a power of at least -82 dBm, which seems to be sufficient.
         3. The last case (a corner case, case 5): If the receiving STA is ERP or HT, the receiving STA’s BSS is operating with short (9 us) slot time, the incoming HR/DSSS (or variant) frame is received with a delay of up to 5 us from the start of the slot, and the CCA rules at issue are those from the DSSS and HR/DSSS clauses. The question is then what CCA rules apply to such a STA. There is a difference of opinion.
         4. Propose: Revised, to add “, and present at the receiver antenna 9 us from the end” to the sentences at 15.4.6.5 (2647.56) and 16.3.8.5 (2678.5).
         5. Don’t understand how this added text resolves the issue. Discussion. Reviewed the current text definition of the various timings. Answer: This gives the receiver 9us to detect the signal, regardless of the slot time, per the definition (even if this isn’t really a practical reality, with the 5us wording).
         6. Believe the proposed wording assures that existing implementations (that can detect energy within 9us, by definition, if they are ERP/HT) will be compliant, because they will get the full 9us window.
         7. More discussion off-line, to try to understand the views of current behaviour and expectations, versus the new wording.
         8. CID 1471 is similar (to the above, about CID 1470). Will discuss these together.
      5. **CID 1472 (PHY):** 
         1. The proposed change seems reasonable, and makes text consistent with other clauses.
         2. Accepted.
         3. Ready for motion.
      6. **CID 1478 (PHY):**
         1. Reviewed detailed analysis of draft text and presumed meaning.
         2. Proposed: Revised. Delete the last two sentences of 15.4.4.7 (TX-to-RX turnaround time) and of 16.3.6.8 (TX-to-RX turnaround time) (from “The CCA should occur” to end of subclause in each case).
         3. Concern about deleting the second sentence, about 3 dB above ED threshold. Other clauses also have this sentence. It is confusing, but it seems to be important.
         4. Ready for motion.
      7. **CID 1479 (PHY):**
         1. Same thing as 1478.
         2. Ready for motion.
      8. **CID 1480 (PHY):**
         1. There are numerous issues with whether this MIB attribute is useful, or used. But, it could be imagined to be useful, and not worth deleting.
         2. Proposed: Rejected. dot11EDThreshold is not currently used, but it has a potential use.
         3. Comment that keeping something because it might be potentially useful is not reasonable. We should connect the main text to this attribute, at the least, if we keep it.
         4. Straw Poll: Support deletion: 6 Support keeping: 3
         5. Assign to Mark Rison, to craft a resolution to revise P2647.54 to connect the text to dot11EDThreshold.
   7. **CIDs 1364, 1506 (MAC): 11-18/885r8** (Ganesh VENTAKESAN, Intel)
      1. **CID 1506 (MAC):**
         1. Previously agreed to text changes, in 11-18/885r6. Revisited, after comments received.
         2. Now proposing text changes that will be shown in 11-18/885r9 (this is the last paragraph under CID 1506 in 11-18/885r8).
         3. No objection.
         4. Revised. Incorporate the changes in 11-18/885r9 for CID 1506.
         5. Ready for motion
      2. **CID 1364 (MAC):**
         1. Needs more time, will come back later.
   8. **Document 11-18/1247r0** (Song AN, Independent)
      1. Discovered errors in some PHY details, after the ballot period had closed. Considered these as rogue comments.
      2. Reviewed. Would like more time to review off-line.
      3. Will bring back tomorrow.
   9. **Reviewed upcoming meeting slot agendas**
      1. Will continue Ganesh’s CID 1364 on Thursday PM1.
   10. **Recessed at 15:28**
2. **802.11md - REVmd –Wednesday, July 11, 2018 PM1: 13:30-15:30**
   1. Called to order at 1:42pm by the chair, Dorothy STANLEY (HPE)
   2. Review Patent Policy
   3. **Review Agenda – 11-18/1028r2**
      1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1028-02-000m-2018-july-tgmd-agenda.pptx>
      2. No changes
   4. Because Robert STACEY is not present, we will skip for now.
   5. **Review 11-17/899r3** – Michael MONTEMURRO (Blackberry)
      1. <https://mentor.ieee.org/802.11/dcn/18/11-18-0899-03-000m-lb232-comment-resolutions-mmontemurro.doc>
      2. Review changes since last presented.
      3. CID 1365 and 1366 (PHY)
         1. Review Comments
         2. Proposed Resolutions:

Revised.

In clause 12.7.4, p2415.60, replace

“ EAPOL-Key(S, M, A, I, K, Reserved, KeyRSC, ANonce/SNonce, MIC, DataKDs)”

with

“ EAPOL-Key(S, M, A, I, K, Reserved, KeyRSC, ANonce/SNonce, MIC, {Key Data})”

On p2416.24, replace

“DataKDs DataKDs is a sequence of zero or more elements and KDEs, contained in the Key Data field,

which may contain the following:”

with

“{Key Data} {Key Data} is a sequence of zero or more elements and KDEs, contained in the Key Data field, which may contain the following:”

In clause 12.7.6.1 at 2417.10

Replace

“Message 1: Authenticator ⭢ Supplicant: EAPOL-Key(0,0,1,0,P,0,0,ANonce,0,DataKD\_M1)

where DataKD\_M1 = 0 or PMKID for PTK generation(#59)

Message 2: Supplicant ⭢ Authenticator: EAPOL-Key(0,1,0,0,P,0,0,SNonce,MIC,DataKD\_M2)

where DataKD\_M2 = RSNE for creating PTK generation(#59)

Message 3: Authenticator ⭢ Supplicant:

EAPOL-Key(1,1,1,1,P,0,KeyRSC,ANonce,MIC,DataKD\_M3)

where DataKD\_M3 = RSNE,GTK[N] for creating PTK generation or initiator

RSNE(#59)

Message 4: Supplicant ⭢ Authenticator: EAPOL-Key(1,1,0,0,P,0,0,0,MIC,DataKD\_M4)

where DataKD\_M4 = 0.

with

“Message 1: Authenticator ⭢ Supplicant: EAPOL-Key(0,0,1,0,P,0,0,ANonce,0,{} or {PMKID})

Message 2: Supplicant ⭢ Authenticator: EAPOL-Key(0,1,0,0,P,0,0,SNonce,MIC,{RSNE})

Message 3: Authenticator ⭢ Supplicant: EAPOL-Key(1,1,1,1,P,0,KeyRSC,ANonce,MIC,{RSNE,GTK[N]})

Message 4: Supplicant ⭢ Authenticator: EAPOL-Key(1,1,0,0,P,0,0,0,MIC,{})”

In clause 12.7.7.1 at 2626.44

Replace

“Message 1: Authenticator ⭢ Supplicant:

EAPOL-Key(1,1,1,0,G,0,Key RSC,0, MIC,GTK[N],IGTK[M])

Message 2: Supplicant ⭢ Authenticator: EAPOL-Key(1,1,0,0,G,0,0,0,MIC,0)”

with

“Message 1: Authenticator ⭢ Supplicant:

EAPOL-Key(1,1,1,0,G,0,Key RSC,0, MIC, {GTK[N], IGTK[M]})

Message 2: Supplicant ⭢ Authenticator: EAPOL-Key(1,1,0,0,G,0,0,0,MIC,{})”

In clause 13.4.2 at 2487.07,

Replace:

“The EAPOL-Key frame notation is defined in

12.7.4 (EAPOL-Key frame notation).

R1KH ⭢ S1KH: EAPOL-Key(0, 0, 1, 0, P, 0, 0, ANonce, 0)

S1KH⭢ R1KH: EAPOL-Key(0, 1, 0, 0, P, 0, 0, SNonce, MIC, RSNE[PMKR1Name], MDE, FTE)

R1KH⭢ S1KH: EAPOL-Key(1, 1, 1, 1, P, 0, 0, ANonce, MIC, RSNE[PMKR1Name], MDE,

GTK[N], IGTK[M], FTE, TIE[ReassociationDeadline],

TIE[KeyLifetime])

S1KH⭢ R1KH: EAPOL-Key(1, 1, 0, 0, P, 0, 0, 0, MIC)”

with

“The EAPOL-Key frame notation is defined in

12.7.4 (EAPOL-Key frame notation).

R1KH ⭢ S1KH: EAPOL-Key(0, 0, 1, 0, P, 0, 0, ANonce, 0, {})

S1KH⭢ R1KH: EAPOL-Key(0, 1, 0, 0, P, 0, 0, SNonce, MIC, {RSNE[PMKR1Name], MDE, GTK[N], IGTK[M], FTE, TIE[ReassociationDeadline], TIE[KeyLifetime]RSNE[PMKR1Name], MDE, FTE})

R1KH⭢ S1KH: EAPOL-Key(1, 1, 1, 1, P, 0, 0, ANonce, MIC, { RSNE[PMKR1Name], MDE, GTK[N], IGTK[M], FTE, TIE[ReassociationDeadline], TIE[KeyLifetime]})

S1KH⭢ R1KH: EAPOL-Key(1, 1, 0, 0, P, 0, 0, 0, MIC, {})”

* + - 1. No objection Mark Ready for Motion
    1. CID 1441 (PHY)
       1. Review Comment
       2. Proposed Resolution; Rejected WEP has been made obsolete and the task group has determined that they are not making any changes
       3. No objection - Mark Ready for Motion
    2. CID 1522 (PHY)
       1. Review Comment
       2. Discussion on the Delayed BlockAck deletion.
       3. Discussion on just deleting the “+delay”
       4. Review the description had the BlockAckReq and BlockAck being deleted since the 802.11-2016 version.
       5. Discussion on why deleting is incorrect and to put it back.
       6. Proposed Resolution: Revised.

Replace: “txop-part-requiring-ack =

Data +individual [+null ] |

Data +individual [+null ] +QoS +normal-ack | ;

With

“(\* These frames require acknowledgment \*)

txop-part-requiring-ack =

Data +individual [+null] |

Data +individual [+null] +QoS +normal-ack |

BlockAckReq +delayed |

BlockAck +delayed;”

* + - 1. No objection – Mark Ready for Motion
    1. CID 1027 (PHY)
       1. Review Comment
       2. Discussion on the rejection text.
       3. The Proposed Resolution would be better to have a rational for why this is not a problem to document the non-issue.
       4. Action ITEM #1: Mike to provide text for the resolution that describes the reason this is not an issue with KRACK like attack.
    2. CID 1028 (PHY)
       1. Review Comment
       2. Similar issue that the commenter is willing to withdraw, but we should provide a description of the reason for rejection rather than just withdrawing.
       3. This CID will have a resolution of Reject, but Mike will provide more details on the rational.
  1. **Review Doc 11-18/1257r0 -** Jouni MALINEN (Qualcomm)
     1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1257-00-000m-revmd-security-comments.docx>
     2. Review submission
     3. CID 1440 (MAC)
        1. Review comment and resolution.
        2. Proposed Resolution: Accept
        3. Mark Ready for Motion
     4. CID 1404 (MAC)
        1. Review comment
        2. Proposed Resolution has two alternatives to discuss
        3. Discussion on “never delete” being too strong
        4. Discussion on wanting to add a Note.
        5. No objection to Alternative #2.
        6. Proposed Resolution: REVISED (MAC: 2018-07-11 21:19:56Z): Revised. Add following at the end of the item e: “NOTE—If management frame protection was negotiated when the PTKSA(s) were created, the SME does not delete any of the previously created SAs or temporal keys.”
        7. No Objection - Mark Ready for Motion
     5. CID 1402 (MAC)
        1. Review comment
        2. Proposed Resolution: REVISED (MAC: 2018-07-11 21:22:21Z): Revised. Add the following before the final paragraph of 11.3.4.3 (D1.0 page 2018 line 44): “NOTE—If management frame protection was negotiated, the SME does not change the state for the originating STA and does not delete any of the previously created SAs or temporal keys as a part of this authentication procedure.”
        3. No Objection – Mark Ready for Motion
     6. CID 1274 (MAC)
        1. Review comment
        2. Proposed Resolution: ACCEPTED (MAC: 2018-07-11 21:25:14Z)
        3. No objection – Mark Ready for Motion
     7. CID 1259 (MAC)
        1. Review comment
        2. Discussion on the proposed resolution to ensure editor understood instruction.
        3. Proposed Resolution: REVISED (MAC: 2018-07-11 21:29:43Z): Add to the end of the “An S1G STA indicates a request to update security parameters by sending a header compression request with the CCMP Update subfield equal to 1. The receiver STA shall respond with a header compression response acknowledging receipt of the updated security parameters.” paragraph (D1.0 page 1931 line 10): “The receiver STA shall compare the received BPN value to the current locally stored BPN value. If the received BPN value is greater than the locally stored BPN value, the receiver STA shall update the locally stored BPN value. Otherwise, the receiver STA shall not update the locally stored BPN value.”
        4. No Objection – Mark Ready for Motion
     8. CID 1258 (MAC)
        1. Review Comment
        2. Discussion of the proposed change – This may be able to be done on either STA or AP, so this will need to be revisited for a change.
        3. Update MFP Req to use Dot 11 …set to True.
     9. CID 1029 (MAC)
        1. Review Comment
        2. Proposed Resolution: REJECTED (MAC: 2018-07-11 21:36:58Z): The transmitter behavior for setting the BPN value in the Header Compression Request/Response frame is already defined in normative language to use the locally stored BPN value.
        3. No objection Mark Ready for Motion
  2. **Review doc 11-18/674r3** - Abhi PATIL (Qualcomm)
     1. <https://mentor.ieee.org/802.11/dcn/18/11-18-0674-03-000m-lb232-cids-assigned-to-abhishek.pptx>
     2. Review submission
     3. CIDs 1287, 1288, 1300 (all MAC).
     4. Discussion of how the MAC address is represented in the Draft.
     5. The MAC Address is an ordered set of bits.
     6. Discussion on the process for getting a solution prepared.
     7. ACTION ITEM #2: Provide alternatives or list of proposed text changes to address the ambiguous Text.
        1. Volunteers: Jouni, Abhi, Graham? Menzo, Mark Rison
  3. **Review doc 11-18/702r1 -** Robert Stacey (Intel)
     1. <https://mentor.ieee.org/802.11/dcn/18/11-18-0702-01-000m-lb232-cr-on-elements.docx>
     2. CID 1100
        1. Review Comment
        2. We will not reformat the table, as determined in the last discussion.
        3. Review just the changes being suggested.
        4. Discussion on the use of “if present”. Before or after an item?
        5. What happens when “not present”?
        6. Discussion on the extension usage.
        7. Discussion on how to parse the field and how to describe it in the table Figure 9-94.
        8. Need to have additional CID 1104 assigned to Robert about the value of Reserved in Table 9-94.
        9. Disagreement on if the wording is correct, so we need to find a different set of wording. The value of 255 may be correct today, but in the future, it may not work. The issue is that a device cannot parse the value if it is reserved.
        10. Ran out of time.
  4. **Recess at 3:27pm**

1. **802.11md - REVmd –Wednesday, July 11, 2018 PM2: 16:00-18:00**
   1. **Called to order** by the chair at 4:06pm by the chair, Dorothy STANLEY (HPE)
   2. **Review patent Policy**
      1. No issues.
   3. **Review Agenda** – 11-18/1028r3
      1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1028-03-000m-2018-july-tgmd-agenda.pptx>
      2. Wednesday PM2 Agenda
2. Motions
3. 11-18-898 – DMG CID 1182 – Hiroyuki MOTOZUKA
4. Carlos CORDEIRO – 11-18-1178
5. Chris HANSEN 11-18-1084
6. Assaf – 11-18-1114, 1143, 1174
7. Guido – TXOP sharing
   * 1. The Motion on 11ah will be Thursday PM1
     2. No objection to agenda
   1. **Motions:**
      1. **Motion SD2: Approve prior TGmd minutes**
         1. Approve the minutes of

* May 2018 meeting: <https://mentor.ieee.org/802.11/dcn/18/11-18-0616-00-000m-minutes-revmd-may-2018-warsaw.docx>
* May-June teleconferences: <https://mentor.ieee.org/802.11/dcn/18/11-18-1013-03-000m-minutes-revmd-may-june-telecon.docx>
  + - 1. Moved: Mike MONTEMURRO 2nd: Graham SMITH
      2. **Results of SD2:** Unanimous – motion Approved.
    1. **Motion 54 – Warsaw and Teleconference CIDs**
       1. Approve the comment resolutions in the
* “Motion MAC-O” and Motion MAC-P tabs in <https://mentor.ieee.org/802.11/dcn/17/11-17-0927-19-000m-revmd-mac-comments.xls> except for CID 1268

and incorporate the indicated changes into the TGmd draft.

* + - 1. Moved: Jon ROSDAHL, 2nd: Stephen MCCANN
      2. **Result Motion 54:** 25-1-1 - Motion Passes
    1. **Motion 55:** **Incorporate Table 20-15 value correction (transposition of digits)**
       1. Incorporate the following change into the TGmd draft: relative to D1.0, Table 20-15, P2867L22, row entry for 12.4, change “6390” to “6930”.
       2. Moved: Carlos CORDEIRO 2nd: Assaf KASHER
       3. **Result Motion 55**: Unanimous - Motion Passes
    2. **Motion 56: Incorporate 11-18-1071r0 –FT Key name fixes**
       1. Move to incorporate the changes in <https://mentor.ieee.org/802.11/dcn/18/11-18-1071-00-000m-key-names-with-ft-using-sha-384.docx> **into the TGmd draft.**
       2. Moved Jouni MALINEN 2nd: Dan HARKINS
       3. **Results Motion 56:** Unanimous - Motion Passes
    3. **Motion 57:** **Incorporate 11-18-1104r0 –SAE test vector fixes**
       1. Move to incorporate the changes in <https://mentor.ieee.org/802.11/dcn/18/11-18-1104-00-000m-updated-sae-test-vectors.docx> into the TGmd draft.
       2. Moved: Dan HARKINS 2nd: Jouni MALINEN
       3. **Results Motion 57:** Unanimous - Motion Passes
    4. **Motion 58: Incorporate 11-17-1807r11 –MITM attack mitigation**
       1. Move to incorporate the changes in <https://mentor.ieee.org/802.11/dcn/17/11-17-1807-11-000m-defense-against-multi-channel-mitm-attacks-via-operating-channel-validation.docx> into the TGmd draft.
       2. Moved: Nehru BHANDARU 2nd: Stephen MCCANN
       3. **Results Motion 58:** 30-0-2 Motion Passes
    5. **Motion 59:** **Incorporate equation fixes 11-18-1247 – Song AN**
       1. Incorporate the changes in <https://mentor.ieee.org/802.11/dcn/18/11-18-1247-00-000m-post-ballot-comments.docx> into the TGmd draft.
       2. Moved: Stephen MCCAAN 2nd Jouni MALINEN
       3. **Results Motion #59:** Unanimous - Motion Passes
    6. **Motion 60:** **Web/TKIP CIDs**
       1. Resolve CIDs 1006, 1233, 1234, 1410, 1411 as:  
          REJECTED. “The task group discussed removal of WEP and/or TKIP from the standard and decided to not change the standard based on straw polls on the direction for the resolution. The straw polls were held during the Warsaw meeting (2018-05-08) and the option to keep WEP and TKIP text as-is received most support. See <https://mentor.ieee.org/802.11/dcn/18/11-18-0616-00-000m-minutes-revmd-may-2018-warsaw.docx> .

Resolve CID 1323 as REJECTED. With a resolution of “The term "FILS Shared Key" is unambiguous. The commenter proposes to remove WEP. The task group discussed removal of WEP and/or TKIP from the standard and decided to not change the standard based on straw polls on the direction for the resolution. The straw polls were held during the Warsaw meeting (2018-05-08) and the option to keep WEP and TKIP text as-is received most support. See <https://mentor.ieee.org/802.11/dcn/18/11-18-0616-00-000m-minutes-revmd-may-2018-warsaw.docx> .

* + - 1. Moved: Jouni MALINEN 2nd: Menzo WENTINK
      2. Discussion:
         1. Statement against the Motion, and would ask that WEP and TKIP should be removed.
      3. **Results Motion #60**: 21-5-7 motion Passes
    1. **Motion #61: San Diego, includes ESP 11-17-1192r23- Main**
       1. Approve the comment resolutions in the“Motion MAC Q” tab in [https://](https://mentor.ieee.org/802.11/dcn/17/11-17-0927-18-000m-revmd-mac-comments.xls)[mentor.ieee.org/802.11/dcn/17/11-17-0927-19-000m-revmd-mac-comments.xls](https://mentor.ieee.org/802.11/dcn/17/11-17-0927-19-000m-revmd-mac-comments.xls) , modifying all 11-17-1192r22 references to be 11-17-1192r23, and incorporate the indicated changes into the TGmd draft.
       2. Discussion:
          1. Review the differences between 11-17/1192r22 and 11-17/1192r23.
          2. Question on the Air Time Fraction not being clear.
          3. Discussion on if the inbound/outbound methods are not in the scope of the standard. Not sure about the way the field was added, as it may appear multiple times.
       3. **Moved: Matthew FISHER 2nd: Michael MONTEMURRO**
          1. **Motion #61a: Motion to Amend** “Except for CID 1063”
          2. Moved by Emily QI 2nd: No Second
          3. Motion 61a fails for lack of second
       4. Discussion:
          1. The Telecon had r21 and then created r22 and r23 was brought this week, and reviewed the changes just now as part of the motion being made.
       5. **Results Motion #61**: 17-1-10 Motion Passes
    2. **Motion #62** - **Incorporate 11-18-334r2 –DMG Encoding Examples**
       1. Incorporate the changes in <https://mentor.ieee.org/802.11/dcn/18/11-18-0334-02-000m-annex-i-dmg-ofdm-removal.docx> into the TGmd draft.
       2. Moved Lei HUANG 2nd: Assaf KASHER
       3. Discussion:
          1. The embedded files for the encoding examples do not seem to be flat text files.
          2. Request to note that a specific editor may be needed.
          3. Problem with getting access to the file when it is still zipped.
          4. Need to extract before opening the files.
       4. **Motion 62a: Motion to amend** – “and instruct the editor to make changes so that the embedded files will open.
          1. Moved: Mark Hamilton 2nd: Jeremy FOLAND
          2. Discussion:

Speak against the motion – just extract the file prior to trying to open the file.

The text in the motion does not really allow the editor to change, as the motion is modifying a posted file.

The Editor does not know how to do the instruction.

There seems to be an issue when the zip file is used as a folder for the file to open.

**Results Motion 62a**: 4-10-8 Motion fails.

* + - 1. Discussion main motion continues
         1. Review the text that is being inserted.
      2. **Results Motion #62:** 12-3-8 Motion Passes
    1. That concludes the prepared motions for today. Request to have comments resolved through Wednesday PM2 (today) should be included in a comment resolution file in preparation for a motion on Thursday PM1.
  1. **Review doc 11-18/898r0** Motozuka HIROYKUI (Panasonic)
     1. <https://mentor.ieee.org/802.11/dcn/18/11-18-0898-00-000m-cid1182-length-recovery-for-dmg-extended-sc-mcs.docx>
     2. Abstract:

This submission proposes to add an example to calculate the PSDU length at the receiver, or “Length Recovery,” when the Extended SC MCS Indication field of the PHY header of the received DMG PPDU is set to 1. The proposal is a part of the resolution of a comment from LB# 232 (REVmd Draft 1.0). CID: 1182

* + 1. CID 1182
       1. Review Comment
       2. Review proposed changes.
       3. Discussion of document
          1. Question on the “Note”?
          2. No technical issues, so editorial issues were asked to be taken offline.
       4. Proposed Resolution: REVISED (PHY: 2018-07-12 00:06:33Z) - Incorporate the changes shown in 11-18/0898r1 under all headings that include CID 1182
       5. Mark Ready for Motion
  1. **Review doc 11-18/1178r0** Carlos CORDEIRO (Intel)
     1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1178-00-000m-updates-to-multi-band-operations.docx>
     2. Abstract:

This document proposes updates/fixes to the multi-band operations protocol. There are no CIDs related to this contribution.

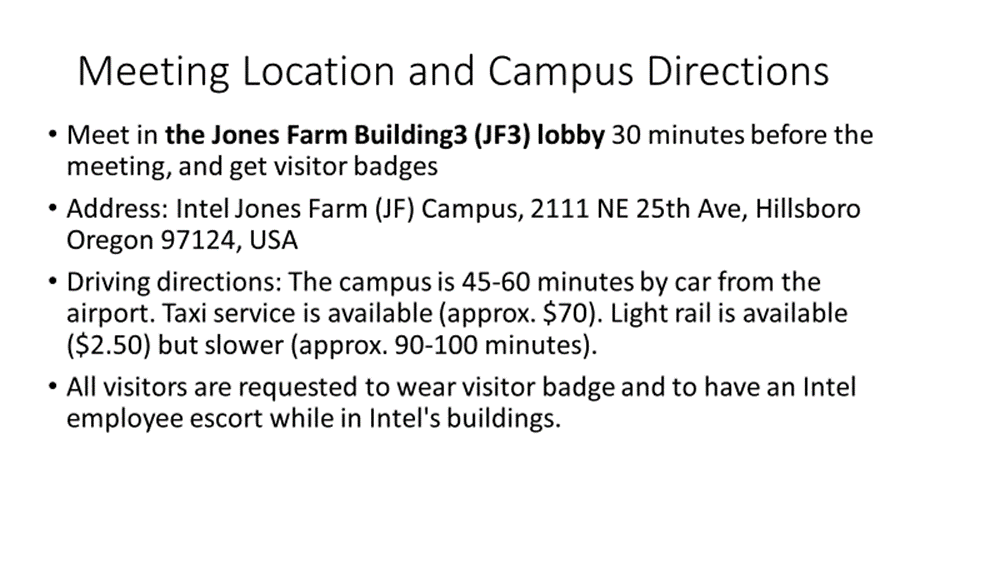
All the changes are related to 11md D1.2

* + 1. Review Submission
    2. Discussion:
       1. - legacy may support FST, but the new device may not.
       2. - the new device may drop the request for FST from a legacy device.
       3. - there is a risk of creating interoperability issues but the impact should be minimal.
       4. - The multi-band parameters added to the scan request are redundant with a current multi-band parameter.
       5. - The behavior associated with the two parameters are documented in clause 11.31.4.
       6. - The legacy multiband parameter requirements are documented in clause 11.31.1.
       7. - At the end, of the documents, the "should" cover legacy device behavior.
       8. - The only issue is a new device that does not support the feature interoperating with a legacy device using the feature.
  1. **Review doc 11-18/1084** Chris HANSEN (Peraso)
     1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1084-00-000m-lb232-comment-resolutions.docx>
     2. CID 1048 (PHY)
        1. Review Comment
        2. The proposed Resolution needs to be Revised., but there was no objection to the actual changes to the equations.
        3. Proposed Resolution; Revised: *Instruct the Editor to Replace the equation for EVM in 20.4.4.1.2 Transmit EVM with the equation for EVM in 20.5.4.1.1.*

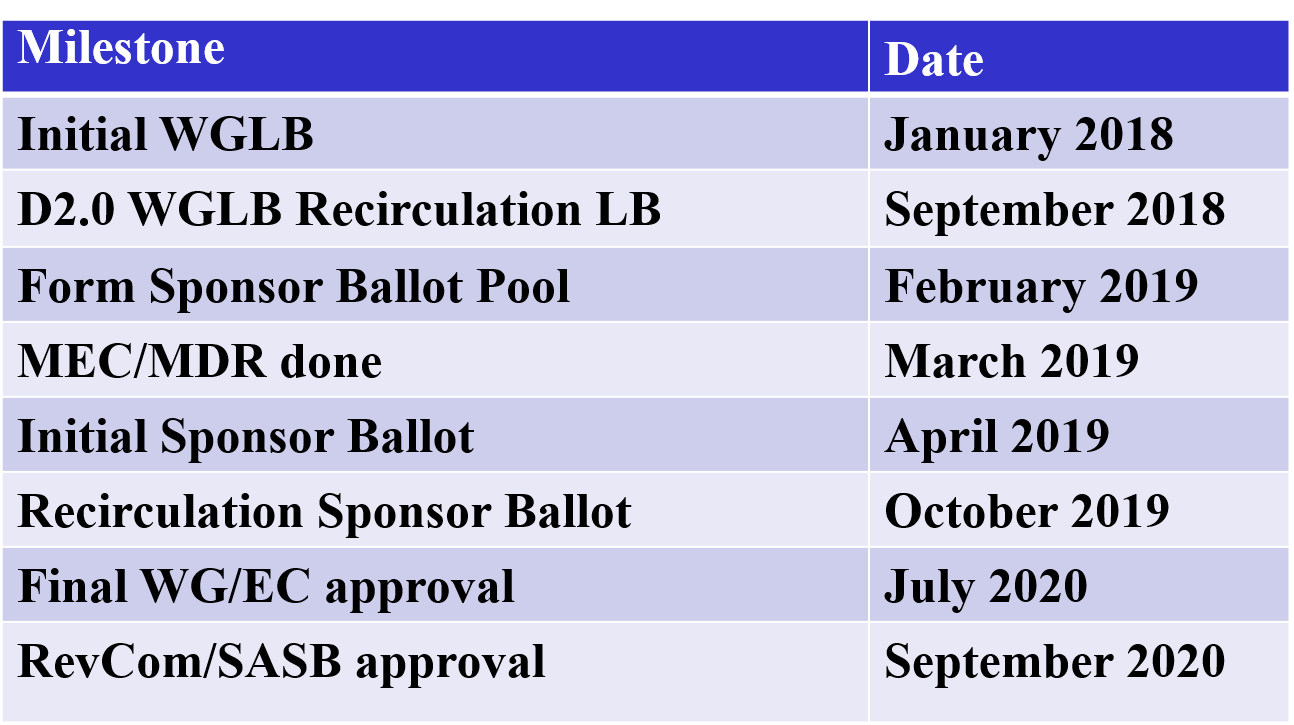
*Also, add the following text to 20.4.4.1.2 above line 50:* (I0,Q0) is the complex DC term chosen to minimize EVM.

* + - 1. Mark Ready for Motion
    1. CID 1179 (PHY)
       1. Review Comment
       2. Proposed Resolution: REJECTED (PHY: 2018-07-12 00:39:25Z) - OPERATING\_CHANNEL was introduced in 17/1810r1 which was motioned in January 2018. The name and use of OPERATING\_CHANNEL is aligned with the other physical layers in 802.11.
       3. Mark Ready for Motion
    2. CID 1180 (EDITOR 2)
       1. Review comment
       2. Proposed resolution: Accept
       3. There is a concern with the “(64)” being left in.
       4. Leave this for further updates.
       5. ACTION ITEM #3: Chris will rework the resolution to Revised, with the exact changes to be done, and he will remove the parenthetical constants.
    3. CID 1316 (PHY)
       1. Review Comment
       2. Request to not delete “of”.
       3. Discussion on the other changes lead to request to take offline and bring back later.
  1. **Review doc 11-18/1114r0** Assaf KASHER (Qualcomm)
     + 1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1114-00-000m-dmg-mac-cid-resolution-i.docx>
       2. CID 1317 (MAC)
       3. Review Comment
       4. Proposed Resolution: REVISED (MAC: 2018-07-12 00:48:57Z): Add a sentence to end of the paragraph, "The same scale applies to all measurements over all TRN subfields."
       5. Mark Ready for Motion
     1. CID 1315 ((MAC)
        1. Review Comment
        2. Question on the TRN-R units definition?
           1. Need to change naming
           2. Need to go back and work on the naming
     2. CID 1025 (MAC)
        1. Review comment
        2. Changes field to sub-fields
        3. Proposed Resolution; REVISED (MAC: 2018-07-12 00:55:29Z): Incorporate the changes shown in 11-18/1114r0 for CID 1025. This accomplishes the commenter's request for change.
        4. Mark Ready for Motion
  2. **Review doc 11-18/1143r0** Assaf KASHER (Qualcomm)
     1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1143-00-000m-dmg-phy-cid-resolution-i.docx>
     2. CID 1023 (PHY)
        1. Review comment
        2. Commenter suggested to mark reject CID reject.
        3. Proposed Resolution: CID 1023 (PHY): REJECTED (PHY: 2018-07-12 00:58:17Z) -. Since the text specifically refers to second or subsequent LDPC codewords the formula does not apply when they do not exist, so that no change is required.
        4. Mark Ready for Motion
     3. CID 1024 (PHY)
        1. Review Comment
        2. Need to not delete “process”
        3. The coding process needs to be able to recover d(0).
        4. We are at time.
  3. **Review next day agenda**:
     1. Move 11ah issues to the Portland AdHoc List.
     2. Check for authors to be in attendance on Thursday PM1
     3. Add Jouni ‘s CID 1258 in 11-18/1257 for review
     4. Add Assaf to complete tomorrow.
  4. **Recess at 6:03pm**

1. **802.11md - REVmd – 802 Plenary – San Diego, Thursday PM1; 13:30-15:30**
   1. **Called to order** at 13:30 PT by the TG Chair Dorothy Stanley (HPE)
   2. **Reviewed Patent Policy and Participation Policy**
      1. No items noted
   3. **Review Agenda: 11-18/1028r5**
      1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1028-05-000m-2018-july-tgmd-agenda.pptx>
      2. This meeting’s activities:
      * Motions
      * Jouni CID 1258 in 11-18-1257
      * Mark Rison CIDs
      * CID 1249 Kaz (mesh CIDs)
      * CID 1506 11-18-0885 Ganesh
      * Assaf – 11-18-1114, 1143, 1174
      * Plans for July 2018 – September 2018,
      * Adjourn
      1. No objections, with those changes included.
   4. **Motions:**
      1. **Motion 63 PHY Motion C tab in 11-18/670r7 (Warsaw and Teleconference PHY CIDs)**
         1. Approve the comment resolutions in the “PHY Motion C” tab in <https://mentor.ieee.org/802.11/dcn/18/11-18-0670-07-000m-lb232-revmd-phy-sec-comments.xls> and incorporate the indicated changes into the TGmd draft.
         2. Moved: Carlos CORDEIRO Second: Assaf KASHER
         3. **Results Motion #63**: 20-0-0 Motion PASSES
      2. **Motion 64 PHY-S1G tab in 11-18/670r7 (San Diego CIDs - Yojin Noh)**
         1. Reviewed document 11-18/1062r2, to check the changes since yesterday’s review.
         2. Reviewed document 11-18/710r6, to check the changes since yesterday’s review.
         3. Approve the comment resolutions in the “PHY-S1G” tab in <https://mentor.ieee.org/802.11/dcn/18/11-18-0670-07-000m-lb232-revmd-phy-sec-comments.xls> and incorporate the indicated changes into the TGmd draft.
         4. Moved: Yujin NOH Second: Mike MONTEMURRO
         5. **Results Motion #64:** 19-0-1 Motion PASSES
      3. **Motion 65 Estimated Throughput tab in 11-18/670r7 (San Diego CIDs – 11-17-1192)**
         1. Approve the comment resolutions in the “Estimated Throughput” tab in <https://mentor.ieee.org/802.11/dcn/18/11-18-0670-07-000m-lb232-revmd-phy-sec-comments.xls> and incorporate the indicated changes into the TGmd draft.
         2. Moved: Thomas DERHAM Second: Mike MONTEMURRO
         3. **Results Motion #65:** 15-0-5 Motion PASSES
      4. **Motion 66 PHY Motion D tab in 11-18/670r7 and Motion MAC-R tab in (San Diego CIDs)**
         1. Approve the comment resolutions in the “PHY Motion D” tab in <https://mentor.ieee.org/802.11/dcn/18/11-18-0670-07-000m-lb232-revmd-phy-sec-comments.xls> and “Motion MAC-R” tab in <https://mentor.ieee.org/802.11/dcn/17/11-17-0927-19-000m-revmd-mac-comments.xls> and incorporate the indicated changes into the TGmd draft.
         2. Reviewed the changes in 11-18/898r1, all are editorial changes.
         3. Moved: Mark HAMILTON Second: Assaf KASHER
         4. **Results Motion #66:** Unanimous Consent. Motion PASSES
      5. **Motion 67 on Document 11-18/1178**
         1. Changes since the R0 (previously reviewed): Added clarifying statements about behaviour of a STA that does not support the features.
         2. Statement says receiver shall ignore the frame, but that is not clear – does it not even ACK, for example.
         3. Agreed to revert the change, and make the motion on the R0, instead.
         4. Incorporate the text changes in <https://mentor.ieee.org/802.11/dcn/18/11-18-1178-00-000m-updates-to-multi-band-operations.docx> into the TGmd draft.
         5. Moved: Carlos CORDEIRO Seconded: Assaf KASHER
         6. **Results Motion #67:** 23-0-0 Motion PASSES
   5. **Review Document 11-18/1257r1**, Jouni MALINEN (Qualcomm)
      1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1257-01-000m-revmd-security-comments.docx>
      2. CID 1258 (MAC)
         1. Resolution was updated to use the MIB attribute, as discussed last meeting.
         2. Proposed Updated Resolution: Revised. Insert the following sentence to the end of the "The header compression procedure enables S1G STAs to store addresses and/or update security parameters at the receiver." paragraph: "An S1G STA with dot11PV1MACHeaderOptionImplemented equal to true shall set dot11RSNAProtectedManagementFramesActivated to true and dot11RSNAUnprotectedManagementFramesAllowed to false."
         3. Mark Ready for Motion
   6. Mark Rison was not present move on to next presenter
   7. **Review doc 11-18/1254r0** - Kazuyuki Sakoda (Sony)
      1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1254-00-000m-suggested-resolution-for-cid-1249.docx>
      2. Reviewed comment and proposed change.
      3. CID 1249 (MAC)
         1. Review comment
         2. Review proposed changes
         3. Discussion on the rational for updating the Mesh network section.
         4. There are two groups who are mainly interested in this topic, and Kaz showed a webpage for each group.
         5. See the link inside his document. R1
   8. **Review Doc 11-18/0885r11** - Ganesh VENKATESAN (Intel)
      1. <https://mentor.ieee.org/802.11/dcn/18/11-18-0885-11-000m-resolutions-to-cids-1015-1384-and-1506.docx>
      2. CID 1364 (MAC)
         1. CID 1364 is the same as an old CID 326 where it was rejected.
         2. Proposed Resolution: REJECTED (MAC: 2018-07-12 21:20:40Z): The 802.11 definition of RTT is provided in equation 11-5, consistent with the usage in the Standard. There is no technical error.
         3. Discussion on if RTT vs RTD is defined in the IEEE Dictionary.
         4. Mark Ready for Motion with the same rejection message.
   9. **Review Doc 11-18/1143r1** – Assaf KASHER (Qualcomm)
      1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1143-01-000m-dmg-phy-cid-resolution-i.docx>
      2. Review changes from r0
      3. CID 1024 (PHY)
         1. Review Comment
         2. Review context of proposed change
         3. Question on if the coding effects the bit or does not.
         4. Discussion on 10.4.3.3.3 interpretation.
         5. Discussion on scrambling methods
         6. Disagreement on if we should change the note on P1861L54-57 should be made or not.
         7. We can delete the note, or make the change as noted in the submission.
         8. Proposed Resolution: REVISED (PHY: 2018-07-12 21:33:03Z) - Make the changes indicated in document <https://mentor.ieee.org/802.11/dcn/18/11-18-1143-01-000m-dmg-phy-cid-resolution-i.docx>.
         9. Mark Ready for Motion
         10. Assaf to post resolution to 11md reflector for more discussion.
      4. CID 1351 (PHY)
         1. Review Comment
         2. Note “scrmaber “should be “scrambler”
         3. Discussion on the bits being scrambled.
         4. Suggestion to put a cross-reference in each table.
         5. Will try to find a way to reference the text and bring back in Sept.
      5. CID 1407 (PHY)
         1. Review Comment
         2. Add new equation.
         3. Proposed Resolution: REVISED (PHY: 2018-07-12 21:46:05Z) - Make the changes indicated in document [https://mentor.ieee.org/802.11/dcn/18/11-18-1143-01-000m-dmg-phy-cid-resolution-i.docx indicated for CID 1407](https://mentor.ieee.org/802.11/dcn/18/11-18-1143-01-000m-dmg-phy-cid-resolution-i.docx%20indicated%20for%20CID%201407).
         4. Mark Ready for Motion
   10. Mark RISON has returned, so 30 Minutes for his submission
   11. **Review doc 1306r0** - Mark RISON (Samsung)
       1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1306-00-000m-resolutions-for-some-comments-on-11md-d1-0-lb232.docx>
       2. CID 1456 (GEN)
          1. Review comment
          2. Discussion on changing Frames to PPDUs.
          3. The TXVECTOR is not exchanged between STAs.
          4. Discussion on what is passed over the air.
          5. Discussion on what set of octets are either an A-MPDU or a MPDU are then converted to PPDU that is passed with a TXVECTOR. PSDU
          6. More discussion will occur on the reflector
          7. There are many places where the use of “Frames” with an associated TXVECTOR occurs. There are places from the MAC point of view that should be made consistent.
          8. The reflector discussion will be about what the TXVECTOR really does associate to, so that agreement on how to change it to not say "frame"
       3. CID 1375 (MAC)
          1. Review Comment
          2. Review proposed Changes
          3. No objection to add the feature being described. Adding DMS provider text was not seemed to be incorrect.
          4. Desire to have more review by DMG experts.
          5. Bring back to discuss in September.
          6. “The DMS provider’s” vs “A DMS Provider’s” open issue.
       4. CID 1447 (MAC)
          1. Review Comment
          2. Simply appends “; these are not present other than at the start of the A-MPDU” to the end of the existing sentence in the right block of the table.
          3. Discussion on the Ack vs Delayed BlockAck
          4. Proposed Resolution: Accept.
          5. There may be some more questions and will be discussed later.
   12. **Review plans going forward:**
       1. **Conference calls** 
          1. Fridays July 27, August 10, 17, 24
       2. **Next ad-hoc:** July 31, August 1-2, 2018, Portland, OR,
          1. Ad-Hoc hosted by Emily QI, Intel, see Motion #W4 in 11-18/616r0
          2. Logistics Information:



* + - 1. Email Emily to RSVP to attend to allow security badges to be prepared.
  1. **Schedule review**



* + 1. We are expecting to have comments resolved in September or mark as insufficient detail and move forward.
    2. If we don’t get done in September, then we could have an AdHoc in October.
    3. Discussion on PreAuthorization of an Adhoc to give time.
    4. If we start Recirc out of Sept, then could we use the October AdHoc anyway?
    5. Discussion on maybe not having October AdHoc mtg.
    6. Determined to skip October AdHoc and plan to complete in Sept. and use telecons in October as needed.
  1. **Review Schedule Ordering**
     1. Discussion on if TGax and TGay making December 2019 – Not going to happen.
     2. Because the 2019 SASB meeting is in November, the deadline is 17th Sept.
     3. REVmd is still scheduled for Sept 2020.
     4. Plan to roll in remaining published Amendments (TGak, TGaq) during August prior to September Interim Session.
  2. **Adjourned 3:30pm**

**References:**

**Monday PM1:**

1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1028-01-000m-2018-july-tgmd-agenda.pptx>
2. <https://mentor.ieee.org/802-ec/dcn/16/ec-16-0180-05-00EC-ieee-802-participation-slide.pptx>
3. <https://mentor.ieee.org/802.11/dcn/18/11-18-1028-02-000m-2018-july-tgmd-agenda.pptx>
4. <https://mentor.ieee.org/802.11/dcn/17/11-17-0920-10-000m-802-11revmd-editor-s-report.ppt>
5. <https://mentor.ieee.org/802.11/dcn/18/11-18-0710-05-000m-resolutions-to-txvector-and-rxvector-of-11ah-phy.docx>
6. <https://mentor.ieee.org/802.11/dcn/18/11-18-1062-01-000m-resolution-to-cid1138-1139-and-1013.docx>
7. <https://mentor.ieee.org/802.11/dcn/18/11-18-1071-00-000m-key-names-with-ft-using-sha-384.docx>
8. <https://mentor.ieee.org/802.11/dcn/18/11-18-1104-00-000m-updated-sae-test-vectors.docx>
9. <https://mentor.ieee.org/802.11/dcn/18/11-18-1043-00-000m-lb232-proposed-resolutions-for-cid1486.doc>
10. <https://mentor.ieee.org/802.11/dcn/17/11-17-1807-11-000m-defense-against-multi-channel-mitm-attacks-via-operating-channel-validation.docx>

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2. <https://mentor.ieee.org/802.11/dcn/18/11-18-0879-02-000m-d1-0-vht-related-cids.docx>
3. <https://mentor.ieee.org/802.11/dcn/18/11-18-0701-01-000m-cids-1388-and-1359.docx>
4. <https://mentor.ieee.org/802.11/dcn/18/11-18-1048-02-000m-lb232-comment-resolution-for-phy-cca-part-1.docx>
5. <https://mentor.ieee.org/802.11/dcn/18/11-18-0885-08-000m-resolutions-to-cids-1015-1384-and-1506.docx>
6. <https://mentor.ieee.org/802.11/dcn/18/11-18-1247-00-000m-post-ballot-comments.docx>
7. <https://mentor.ieee.org/802.11/dcn/18/11-18-0480-03-000m-peerkey-deletion-cleanup.docx>
8. <https://mentor.ieee.org/802.11/dcn/18/11-18-1174-01-000m-dmg-sc-lp-phy-obsolete.doc>
9. <https://mentor.ieee.org/802.11/dcn/18/11-18-0879-02-000m-d1-0-vht-related-cids.docx>

**Wednesday PM1:**

1. <https://mentor.ieee.org/802.11/dcn/18/11-18-0899-03-000m-lb232-comment-resolutions-mmontemurro.doc>
2. <https://mentor.ieee.org/802.11/dcn/18/11-18-1257-00-000m-revmd-security-comments.docx>
3. <https://mentor.ieee.org/802.11/dcn/18/11-18-0674-03-000m-lb232-cids-assigned-to-abhishek.pptx>
4. <https://mentor.ieee.org/802.11/dcn/18/11-18-0702-01-000m-lb232-cr-on-elements.docx>

**Wednesday PM2:**

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2. <https://mentor.ieee.org/802.11/dcn/18/11-18-0616-00-000m-minutes-revmd-may-2018-warsaw.docx>
3. <https://mentor.ieee.org/802.11/dcn/18/11-18-1013-03-000m-minutes-revmd-may-june-telecon.docx>
4. <https://mentor.ieee.org/802.11/dcn/17/11-17-0927-19-000m-revmd-mac-comments.xls>
5. <https://mentor.ieee.org/802.11/dcn/18/11-18-1071-00-000m-key-names-with-ft-using-sha-384.docx>
6. <https://mentor.ieee.org/802.11/dcn/18/11-18-1104-00-000m-updated-sae-test-vectors.docx>
7. <https://mentor.ieee.org/802.11/dcn/17/11-17-1807-11-000m-defense-against-multi-channel-mitm-attacks-via-operating-channel-validation.docx>
8. <https://mentor.ieee.org/802.11/dcn/18/11-18-1247-00-000m-post-ballot-comments.docx>
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10. [https://](https://mentor.ieee.org/802.11/dcn/17/11-17-0927-18-000m-revmd-mac-comments.xls)[mentor.ieee.org/802.11/dcn/17/11-17-0927-19-000m-revmd-mac-comments.xls](https://mentor.ieee.org/802.11/dcn/17/11-17-0927-19-000m-revmd-mac-comments.xls)
11. <https://mentor.ieee.org/802.11/dcn/18/11-18-0334-02-000m-annex-i-dmg-ofdm-removal.docx>
12. <https://mentor.ieee.org/802.11/dcn/18/11-18-0898-00-000m-cid1182-length-recovery-for-dmg-extended-sc-mcs.docx>
13. <https://mentor.ieee.org/802.11/dcn/18/11-18-1178-00-000m-updates-to-multi-band-operations.docx>
14. <https://mentor.ieee.org/802.11/dcn/18/11-18-1084-00-000m-lb232-comment-resolutions.docx>
15. <https://mentor.ieee.org/802.11/dcn/18/11-18-1114-00-000m-dmg-mac-cid-resolution-i.docx>
16. <https://mentor.ieee.org/802.11/dcn/18/11-18-1143-00-000m-dmg-phy-cid-resolution-i.docx>

**Thursday PM1:**

1. <https://mentor.ieee.org/802.11/dcn/18/11-18-1028-05-000m-2018-july-tgmd-agenda.pptx>
2. <https://mentor.ieee.org/802.11/dcn/18/11-18-0670-07-000m-lb232-revmd-phy-sec-comments.xls>
3. <https://mentor.ieee.org/802.11/dcn/17/11-17-0927-19-000m-revmd-mac-comments.xls>
4. <https://mentor.ieee.org/802.11/dcn/18/11-18-1178-00-000m-updates-to-multi-band-operations.docx>
5. <https://mentor.ieee.org/802.11/dcn/18/11-18-1257-01-000m-revmd-security-comments.docx>
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9. <https://mentor.ieee.org/802.11/dcn/18/11-18-1306-00-000m-resolutions-for-some-comments-on-11md-d1-0-lb232.docx>
10. <https://mentor.ieee.org/802.11/dcn/18/11-18-1028-06-000m-2018-july-tgmd-agenda.pptx>