IEEE P802.11
Wireless LANs

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| Minutes for REVmd - March 2019 - Vancouver |
| Date: 2019-03-14 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
| Jon Rosdahl | Qualcomm Technologies, Inc. | 10871 N 5750 WHighland, UT 84003 | +1-801-492-4023 | jrosdahl@ieee.org |
| Michael Montemurro | BlackBerry Ltd | 4701 Tahoe Blvd, Mississauga, ON. CANADA. L4W 0B4 | +1-289-261-4183 | mmontemurro@blackberry.com  |
| Mark Hamilton | Ruckus/ARRIS | 350 W Java Dr,Sunnyvale, CA 94089 |  | mark.hamilton@arris.com  |

Abstract

Minutes for 802.11md (REVmd) meetings held during the March 2019 IEEE 802 Plenary held at the Hyatt Regency Vancouver, Vancouver, Canada.

6 Slot times were used during the week.

Thanks to Michael Montemurro and Mark Hamilton for assistance with the minutes.

1. **802.11md (REVmd) Meetings – March 2019 IEEE 802 Interim- Vancouver– Monday 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 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. Agenda 11-19/221r1
		2. <https://mentor.ieee.org/802.11/dcn/19/11-19-0221-00-000m-2019-march-tgmd-agenda.pptx>
* **Monday PM1**
1. Chair’s Welcome, Policy & patent reminder
2. Approve agenda
3. Status, Review of Objectives, Editor Report
4. Available presentations
* **Monday PM2**

Available presentations

* **Tuesday PM1**

Available presentations

* **Wednesday PM1**

Motions

Available presentations

* **Thursday PM1**

 Motions

Available presentations

Plans for March – May 2019

Adjourn

* + 1. Changes to agenda:
			1. Move from Monday to Wednesday 11-19/0245r2 – Editor2 CIDS needing TGmd Discussion
			2. Wednesday Add 11-19/114 Unsong, Alfred, Jouni
			3. Monday Add 11-19/263 Missing item in 10.24.2.2 Guido
			4. Tuesday PM1 – 11-19/322 – Obsolete/delete/deprecated CIDS
			5. Wednesday PM1 – 11-19/387 – SAE CIDs– Dan H.
			6. Thursday PM1 – 11-19/179 – MAC Randomization – Carol
			7. Tuesday PM1 – 11-19/420 -- CID 2693 Thomas DERHAM
			8. Tuesday PM1 – 11-19/291, 11-19/69 - OCV Thomas DERHAM
			9. Thursday PM1 – Client Privacy – Thomas DERHAM
			10. Tuesday PM1 - 11-19/295 – Matthew FISCHER
			11. Tuesday PM1 - 11-18/2165 – CID 2051 – Assaf KASHER
			12. Monday PM1 - 11-19/0260r4 – MDR results review – Emily QI
			13. Monday PM1 - 11-17/0920 – Editor Report – Emily Qi
			14. Thursday PM1 – 11-19/286 – Roger MARKS
		2. Motion to approve Agenda (r1)
			1. Moved Emily QI, 2nd: George CALCEV
			2. No objection to approving the agenda by Unanimous consent.
			3. <https://mentor.ieee.org/802.11/dcn/19/11-19-0221-01-000m-2019-march-tgmd-agenda.pptx>
			4. V
			5. V
			6. V
	1. Review Schedule and status

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| **Milestone** | **Date** |
| **Initial WGLB** | **Held Feb-March 2018** |
| **D2.0 WGLB Recirculation LB**  | **Out of November 2018** |
| **D3.0 WGLB Recirculation LB**  | **May 2019** |
| **Form Sponsor Ballot Pool** | **March 2019** |
| **MEC/MDR done** | **March 2019**  |
| **D4.0 WGLB Recirculation** | **June/July 2019, EC approval to SB** |
| **D 4.0 Unchanged Recirculation** | **May/July 2019** |
| **Initial Sponsor Ballot (D4.0)** | **June/August 2019** |
| **Recirculation Sponsor Ballot (D5.0)** | **Sept/November 2019** |
| **Recirculation Sponsor Ballot (D6.0) (D6.0) unchanged/ Potential need for D7.0** | **Nov 19/January/Feb 2020** |
| **Final WG/EC approval** | **Nov 19/Feb 2020/March (EC telecon ok?)** |
| **RevCom/SASB approval** | **Jan-March/May 2020** |

* 1. **Review doc11-17/920r15** - Editor Report Emily QI
		1. **[https://mentor.ieee.org/802.11/dcn/17/11-17-0920-15-000m-802-11revmd-editor-s-report.ppt](https://mentor.ieee.org/802.11/dcn/17/11-17-0920-15-000m-802-11revmd-editor-s-report.ppt%20)**
		2. **Draft: P802.11REVmd D 2.1 (members’ area)**

[Draft P802.11REVmd\_D2.1.pdf](http://www.ieee802.org/11/private/Draft_Standards/11md/Draft%20P802.11REVmd_D2.1.pdf)

[Draft P802.11REVmd\_D2.1 Redline Compared to D2.0.pdf](http://www.ieee802.org/11/private/Draft_Standards/11md/Draft%20P802.11REVmd_D2.1%20Redline%20Compared%20to%20D2.0.pdf)

* + 1. **D2.0-word docs are also available (member’s area) for preparing submissions.**

[Draft P802.11REVmd\_D2.1rtfs.zip](http://www.ieee802.org/11/private/Draft_Standards/11md/Draft%20P802.11REVmd_D2.1.rtfs.zip)
[Draft P802.11REVmd\_D2.1\_txt.zip](http://www.ieee802.org/11/private/Draft_Standards/11md/Draft%20P802.11REVmd_D2.1_txt.zip)

* + 1. **LB236 Comments**

[https://](NULL)[mentor.ieee.org/802.11/dcn/18/11-18-0611-15-000m-revmd-wg-ballot-comments.xls](https://mentor.ieee.org/802.11/dcn/18/11-18-0611-15-000m-revmd-wg-ballot-comments.xls)

* + 1. Comment Status:



* + 1. Status of MDR on REVmd D2.1
			1. MDR: WG802.11 Mandatory Draft Review Process
			2. MDR is leading by WG Editor
			3. MDR on REVmd D2.1 was started on February 1st.
			4. 70% done: received report from 7 out of 10 volunteers, see report: <https://mentor.ieee.org/802.11/dcn/19/11-19-0260-04-0000-revmd-mdr-report.docx>
			5. Had a review meeting on February 26th, and plan to have the second meeting at the end of March.
		2. Next steps:
			1. TGmd editor to review 19/0260 in TGmd
			2. TGmd to approve document 19/0260 this week
			3. TGmd editors to implement the approved doc 19/0260rx in D2.2
			4. For any new report (30%), TGmd editor will review them in the TGmd adhoc. TGmd editor will implement items that are ready for approval in D2.2.
			5. TGmd will approve the rest of items in 19/0260ry in the May IEEE meeting
			6. Discussion on the progression of next steps. The Editors will need to review the feedback prior to giving to the TGmd.
			7. Expect on Thursday to have a motion to approve the MDR Changes that have been captured todate.
			8. Review the MDR Document and the types of comments received – about 70 percent complete.
	1. **Review Doc 11-19/247r9** – Emily QI (Intel)
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0247-09-000m-lb236-proposed-resolutions-for-editor-adhoc.doc>
		2. CID 2587 (EDITOR)
			1. Review Comment
			2. Suggestion to reject the CID.
			3. Proposed Resolution: Reject – the current usage creates no confusion.
			4. No Objection -Mark Ready for Motion
		3. CID 2599 (EDITOR)
			1. Assigned to Mark RISON
		4. CID 2647 (EDITOR)
			1. Review Comment
			2. Similar to CID 25, CID 277, and CID 1433.
			3. Proposed Resolution: Reject, there is no rule on whether Result Code should include underscores or not. No need to change them. The current usage creates no confusion.
			4. No Objection – Mark Ready for Motion
	2. **Review doc 11-19/263r0** Guido HEIRTZ (Ericsson)
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0263-00-000m-missing-item-in-10-24-2-2.pptx>
		2. Review submission
		3. Proposed Resolution: **On line 10 on page 1798 of [1] (Clause 10.24.2.2) replace “[…] invoked for reason c), d), e), or f) above […]” with “[…] invoked for reason c), d), or e) above […]”**
		4. Discussion of missing item.
		5. The CID that changed this text was CID 1505 covered in submission 11-18/1426.
		6. Discussion on the process and if the list needed to be updated, or if restoring the deleted text.
		7. ACTION ITEM: Plan to prepare a motion to accept the Resolution, while a check is also done to determine why the text was removed, and the list not updated.
	3. **Request to change the agenda** to move 11-18/2165 Assaf Kasher to Monday PM1. – no objection.
	4. **Review Doc 11-18/2165r1** Assaf KASHER (Qualcomm)
		1. <https://mentor.ieee.org/802.11/dcn/18/11-18-2165-01-000m-mac-addr-change-scrambler-reset.docx>
		2. CID 2051 (PHY)
			1. Review comment
			2. Review the proposed changes indicated in the submission.
			3. Question on the changes to the MIB and the process for updating a MIB entry.
			4. Review clause 12.2.10
				1. May want to incorporate the changes into the 4th paragraph from the end. If the change were to be included in this paragraph, then this may help resolve CID 2670.
				2. Discussion on the seed of the scrambler
				3. Discussion on the selection of the value of the seed.
				4. More work to be done.
			5. Return to review CID 1507 in prior ballot, which had 11-18/669r17 which was authored by Mark HAMILTON –. "which deleted item e), and added text in clause 8 to cover the scenario. So the group is less concerned with adopting the change from Guido.
	5. **Review GEN AdHoc Comments**:
		1. CID 2050:
			1. Discussion: This needs experts on LDPC, perhaps from TGaj, to help understand what the PHY does with this information.
			2. Assign to Jaimin, in CMMG group.
			3. Moved to PHY ad hoc.
			4. GEN: 2019-03-11 21:55:38Z - Discussed comment and possible need for information in the PHY, it can pass to MAC, but no PHY state machine to use it. This should be sent to the TGaj group.
		2. CID 2052:
			1. Same as for CID 2050 but put in CDMG group.
		3. CID 2142:
			1. Move to PHY.
			2. Assign to Dan HARKINS. Put in Security group.
		4. CID 2221:
			1. Move to PHY.
			2. Assign to Dan HARKINS.
			3. Put in Security group.
		5. CID 2116:
			1. Move to PHY.
			2. Assign to Emily Qi.
			3. Put in Security group.
		6. CIDs 2140, 2141, 2243, 2289:
			1. These are all related to “obsolete” items.
			2. Will discuss Tuesday PM1.
		7. CID 2284:
			1. Move to PHY.
			2. Assign to Menzo WENTINK.
		8. CID 2309, 2310:
			1. Assign to George CALCEV
		9. CID 2348, 2349:
			1. Assign to Menzo WENTINK.
		10. CID 2357:
			1. PHY: 2019-04-05 00:00:06Z - status set to: Submission Required
			2. Assign to Haiming WANG
		11. CID 2360:
			1. Submission required.
			2. Assign to Mark RISON.
			3. Assume reject for insufficient detail unless/until the submission is reviewed and agreed.
		12. CID 2363:
			1. Assign to Dan HARKINS.
			2. Move to PHY, Security group.
		13. CID 2381:
			1. Proposed Resolution: Rejected. The comment applies to the comment upload system, not to the draft being balloted.
			2. Mark Ready for motion.
		14. CID 2399:
			1. Move to MAC,
			2. Assign to FTM comment group.
		15. CID 2406, 2407:
			1. Move to MAC, FILS comment group.
		16. CID 2429, 2430, 2434:
			1. Assign to Menzo WENTINK.
			2. Move to MAC.
		17. CID 2436:
			1. Assign to Dan HARKINS.
			2. Move to PHY,
			3. Security group.
		18. CID 2520:
			1. Assign to Menzo WENTINK.
			2. Move to MAC.
		19. CID 2524:
			1. Move to MAC, FILS group.
		20. CID 2531:
			1. Move to PHY, Security group.
			2. Assign to Dan HARKINS
	6. **Recess 3:30pm**
1. **Monday, March 11, 2019 PM2**
	1. **Called to order at 16:07 PT by the TG Chair Dorothy STANLEY (HPE)**
	2. **Reviewed Patent Policy and Participation Policy**
		1. No items noted
	3. **Review Agenda: 11-19/0221r1**
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0221-01-000m-2019-march-tgmd-agenda.pptx>
		* This meeting’s activities:
			+ 11-19-261 – Youjin NOH – S1G CIDs
			+ 11-19-314 – Emily QI – Beacon Protection
			+ 11-19-433, 11-19-434 - Ganesh Venkatesan
		1. No objections, with those changes included.
	4. **Beacon Protection – Emily QI (Intel)**
		1. Reviewed document: <https://mentor.ieee.org/802.11/dcn/19/11-19-0314-01-000m-beacon-protection.doc>
		2. CID 2116 (GEN)
			1. requested this facility be considered.
		3. CID 2673 (MAC)
			1. similarly requested protection of Beacon frames
		4. Emily has updated the proposal in <get “references” section>, based on discussion last time, creating 11-19/0314.
		5. The proposal has been modified to now support Multiple BSSID scenarios. Every place that currently talks about IGTK/IPN has been updated to also cover BIGTK.
		6. 11.XX: consider adding a sentence/paragraph saying that the non-AP STA shall submit received Beacons for verification (or similar language). Emily will work off-line.
		7. Q: Is the MIC carried as an IE? A: Yes.
		8. Q: Is the TSF included in the MIC? A: No.
		9. Emily will update per editorial comments received.
		10. We’ll consider an update per the above, later this week, for motion.
	5. **CIDs 2228, 2619 – Ganesh VENKATESAN (Intel)**
		1. Reviewed document: <https://mentor.ieee.org/802.11/dcn/19/11-19-0433-00-000m-resolutions-to-cid-2228-and-2619.docx>
		2. CID 2228 (MAC):
			1. Generally, agree with the commenter, this needs to be clarified.
			2. Reviewed Proposed Change.
			3. Proposed Resolution: Accepted.
			4. Mark Ready for motion.
		3. CID 2619 (MAC):
			1. Can accept the concern that the reference might be hard to notice.
			2. Proposed Resolution: Accepted.
			3. Mark Ready for motion.
	6. **Review Doc 11-19/434r0** Dibukar DAS (Intel)
		1. Reviewed document: <https://mentor.ieee.org/802.11/dcn/19/11-19-0434-00-000m-resolution-for-cid-2109.docx>
		2. **CID 2109 –**
			1. This appears to be a copy error in D2.0. Copy the figure (11-16) from D1.0, to replace Figure 11-19 in D2.0.
			2. Actually, the correct figure is 11-18 in D1.0.
			3. Proposed Resolution: REVISED (MAC: 2019-03-20 22:37:10Z):. Replace the content of Figure 11-19 in D2.0 with the content of Figure 11-18 in D1.0.
			4. Mark Ready for Motion.
	7. **S1G CIDs – Youjin Noh** ((Newracom)
		1. Reviewed document: <https://mentor.ieee.org/802.11/dcn/19/11-19-0261-01-000m-resolutions-to-s1g-phy.docx>
		2. CID 2627 (PHY):
			1. Reviewed the proposed resolution in 11-19/261r1.
			2. Proposed Resolution: Revised. Make changes as shown in [https://mentor.ieee.org/802.11/dcn/19/11-19-0261-01-000m-resolutions-to-s1g-phy.docx for CID 2627](https://mentor.ieee.org/802.11/dcn/19/11-19-0261-01-000m-resolutions-to-s1g-phy.docx%20for%20CID%202627).
			3. Mark Ready for motion.
		3. CIDs 2313, 2312 (PHY)
			1. Agree in concept. We need better wording than suggested in CID 2313 to “ignore everything”.
			2. We want to say that this bit is used to differentiate the two formats, and then that if set to 1 it is an NDP CMAC frame, if it is 0 it is the “regular short-preamble (non-NDP) frame”.
			3. In this table, say this bit is used to differentiate, and it is set to 0. In the other similar table say the bit is used to differentiate, and it is set to 1.
			4. Work off-line and bring back.
		4. CID 2311 (PHY):
			1. Clarify exactly where to make the change.
			2. Proposed Resolution: Revised. Make the text changes shown in <https://mentor.ieee.org/802.11/dcn/19/11-19-0261-01-000m-resolutions-to-s1g-phy.docx> for CID 2311.
			3. Mark Ready for motion.
		5. CID 2261 (PHY):
			1. We need to multiply by 8, so we need to keep the “8”. But, the ‘.’ Should be a multiplication symbol.
			2. Proposed Resolution: Revised. Make the text changes shown in <https://mentor.ieee.org/802.11/dcn/19/11-19-0261-01-000m-resolutions-to-s1g-phy.docx> for CID 2261.
			3. Mark Ready for motion.
		6. CID 2270 (PHY):
			1. We’re not sure that Dynamic is correct. Will check with Yongho.
		7. CID 2323 (PHY):
			1. Clarified that the proposed change is to make changes in two places. It seems okay but will double-check off-line. For now, accept it.
			2. Proposed Resolution: Accepted.
			3. Mark Ready for motion.
			4. Looked for S1G comments in GEN. Found CID 2314 (GEN), move to MAC and S1G group. CID 2376 (GEN): assign to the commenter with Submission required.
			5. Noted that MAC has several S1G comments, and they are assigned to Yongho.
		8. CID 2697 (MAC):
			1. The commenter has withdrawn this comment.
			2. Proposed Resolution: REJECTED (MAC: 2019-02-28 22:53:56Z): The commenter has withdrawn the comment, as it is handled in 802.11ax.
			3. Mark Ready for motion.
	8. **Review Document 11-19/291** – Thomas DERHAM (Broadcom)
		1. [**https://mentor.ieee.org/802.11/dcn/19/11-19-0291-00-000m-ocv-cids-2329-2330.docx**](https://mentor.ieee.org/802.11/dcn/19/11-19-0291-00-000m-ocv-cids-2329-2330.docx)
		2. CID 2329 (PHY), CID 2330 (PHY):
		3. Discussed the exact change Proposed, versus what’s in the document, in particular the “at the end” addition. Don’t see any rule that the OCI KDE must be at the end.
		4. Proposed Resolution: Revised. Add “Additionally, contains” to the start of the OCI KDE bullet wording.
		5. Need to check off-line if the ordering is correct (that this must be at the end) and is necessary. Also, will this create spec-rot. Will bring back tomorrow.
	9. **Review Document 11-19/338** – Stephen MCCANN – ANQP CIDs:
		1. Let’s add this to an upcoming meeting – Wednesday PM1.
		2. We resume tomorrow (Tuesday) PM1, to talk about Obsolete/Deprecated CIDs, and Matthew FISCHER’ and Thomas DERHAM’s documents.
	10. **Recessed at 6pm**.
2. **802.11md (REVmd) Meetings – March 2019 802 Plenary Vancouver– Tuesday PM1: 13:30-15:30**
	1. **Called to order** at 1:35pm by the chair, Dorothy STANLEY (HPE)
	2. **Review patent policy**
		1. No issues noted.
	3. **Review agenda**
		1. 11-19-322 - Obsolete/delete/deprecate CIDs
		2. 11-19 – 420, Thomas DERHAM
		3. 11-19-295 Mathew FISCHER
		4. – CID 2693
		5. OCV – 11-19-291, 11-19-69 – Thomas DERHAM
		6. No objection
	4. **Review Doc 11-19/322** Michael MONTEMURRO (Blackberry)
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0322-00-000m-lb236-comment-resolutions-montemurro.doc>
		2. CID 2542 (PHY)
			1. Review Comment
			2. Add the date of publication to the resolution.
			3. Proposed Resolution: REJECTED. The IEEE 802.11 working group consensus in creating Clause 25 was that a non-directional, multi-gigabit PHY was both practical and necessary. Given that the standard was published April 2018, it’s premature to conclude whether the technology is necessary/practical.
			4. No objection – Mark Ready for Motion
		3. CID 2643 (PHY)
			1. Review comment
			2. Review discussion in the submission.
			3. Proposed Resolution: REJECTED. This comment is a duplicate of LB 232 – CID 1410. No further justification for a technical change has been given. The task group discussed removal of WEP and/or TKIP from the standard and decided to not change the standard based on strawpolls in the direction for the resolution. The strawpolls 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>
			4. No objection – Mark Ready for Motion
		4. CID 2662 (PHY)
			1. Review Comment
			2. Reviewed Discussion in the submission
			3. Reviewed CC25-72 and LB232-1277
			4. Proposed Resolution: REJECTED: A Normative definition of Frame exchange sequence is required, and Annex G provides this definition.
			5. Discussion on if there is a “requirement” for Annex G or could we rewrite the normative text that references it and not have the Annex, but you would need to include the definition of the frame exchange sequences somewhere and having them interspersed is hard to maintain and having them in one place is supposed to be easier.
			6. Discussion on the lack of usage of Annex G – Not sure if it is complete or not. Not sure who would care if Annex G just disappeared.
			7. Strawpoll:
				1. Should we Keep Annex G?
				2. RESULT: 7 – 5 – Preference to Keep
				3. Will reject the comment for now.
			8. Mark Ready for Motion
		5. Request to add CID 2572, 2140,2141, and 2243 in a future revision.
	5. **Review Doc 11-19/295** Matthew FISCHER (Broadcom)
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0295-03-000m-ipsec-classifier.docx>
		2. Abstract:

This document includes proposed language to add a classifier for the TCLAS element that allows the use of IPSEC header information for classification. There is no CID of reference for this document.

* + 1. Review Submission and proposed changes
		2. Discussion on the Classifier Type use and extensions.
		3. Discussion on extension headers.
		4. Discussion on the deprecation of Classifier Types.
		5. Duplicate values were questioned, not sure, may need to check.
		6. Small typo on “Numbers” corrected in R4.
		7. A Motion will be prepared for Thursday for consideration.
	1. **Review doc 11-19/420** Thomas DERHAM (Broadcom)
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0420-00-000m-cr-2693-mirrored-scs.docx>
		2. CID 2693 (MAC)
			1. Review Comment
			2. Review Discussion and proposed changes.
			3. Discussion on the use of UP information and how can we bound the number of flows that are used.
			4. Request for more time be given for review.
			5. Plan to return in May for Review again.
	2. **Review doc 11-19/0291** – Thomas DERHAM (Broadcom)
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0291-01-000m-ocv-cids-2329-2330.docx>
		2. OCV CIDs 2329 2330
			1. Review comments
			2. From the discussion:

Commenter is correct that the existing bullets in Key Data description for 4-way messages 2 and 3 form an exclusive list, whereas the OCI is intended to be additionally added to KeyData when certain conditions are true. Therefore, prefixing with “Additionally…” is a useful clarification. The order of the KDE in the field does not need to be enforced, so “at the end” is an unnecessary constraint and would complicate spec management/amendment in the future.

* + - 1. Proposed direction of resolution. Revised. Agree with general direction of change, however it is not necessary to mandate the order of this KDE in the field
			2. Add the proper format of “is true” needed to be added.
			3. Proposed Resolution: Revised; incorporate the changes in <https://mentor.ieee.org/802.11/dcn/19/11-19-0291-02-000m-ocv-cids-2329-2330.docx> for CID 2329 and CID 2330.
			4. No objection – Mark Ready for Motion
	1. **Review doc 11-19/0069r3** Thomas DERHAM (Broadcom)
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0069-03-000m-ocv-with-oct.docx>
		2. CID 2688 (PHY)
			1. Review changes from last presentation.
			2. Proposed Resolution: REVISED (PHY: 2019-03-12 22:20:02Z) - Incorporate the changes given in <https://mentor.ieee.org/802.11/dcn/19/11-19-0069-03-000m-ocv-with-oct.docx> which resolve the comment in the direction of the commenter.;
			3. No objection- Mark ready for Motion
	2. **Review Plan for Wednesday**.
		1. Motions
		2. Identify Tab and file names for Adhoc group motions.
		3. Identify Motion for Thursday on the MDR report
		4. Beacon Protection will be Thursday
		5. New Internet Protocol Protection will be Thursday
		6. CID 2587 and CID 2647 will be separate motion that was pulled from bulk motion.
	3. **Review the rest of the plan for the week.**
		1. Review presentation list
		2. Request for 11-19/265 (CID 2655) – Add to Wednesday (last 10 minutes).
		3. Request to add 11-19/0473 – Sean COFFEY –
	4. **Recess at 3:37pm**
1. **802.11md (REVmd) Meetings – March 2019 IEEE 802 Plenary Vancouver– Wednesday PM1: 13:30-15:30**
	1. **Called to order** at 1:30pm by the chair, Dorothy STANLEY (HPE)
	2. **Review patent policy**
		1. No issues
	3. **Review Agenda**
		1. Reorder to put 11-19/274 first and then 11-19/265 second
		2. Add 11-19/467r1 after 11-19/387
		3. Then address Motions at about 3pm (or before).
		4. No Objection to modifications to agenda.
	4. **Review doc 11-19/274r1** Yunsong YANG (Huawei Technologies)
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0274-01-000m-text-proposal-to-resolve-cids-2719-and-2720.doc>
		2. CID 2719 was on Motion-EDITOR2-G Tab and is ready for motion.
		3. CID 2720 (PHY)
			1. Review changes made in this revision of the submission.
			2. The Change for CID 2719 is a minimal part of the submission. It is independent from CID 2720 but is shown in this document.
			3. Proposed Resolution: CID 2720 (PHY): Revised. Incorporate the changes in 11-19/0274r1. < <https://mentor.ieee.org/802.11/dcn/19/11-19-0274-01-000m-text-proposal-to-resolve-cids-2719-and-2720.doc>>

Note to Editor, the resolution to CID 2719 (EDITOR2) is also included in this document.

* + - 1. No objection – Mark Ready for Motion
	1. **Review Doc 11-19/265r1** Matthew FISCHER (Broadcom)
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0265-01-000m-cr-tx-evm-beamforming.docx>
		2. CID 2655 (PHY)
			1. Review changes from the last time this submission was presented (yesterday).
			2. Discussion on the form of the sentence “In the test, NSS = NSTS with EQM MCSs shall be used and no beamforming steering matrix shall be used.”
			3. Discussion on possible splitting of the sentence.
			4. Proposed Resolution: Revise – Incorporate the changes as shown in 11-19/0265r1 < <https://mentor.ieee.org/802.11/dcn/19/11-19-0265-01-000m-cr-tx-evm-beamforming.docx> > that are marked with CID 2655 which modify the TX EVM specification to account for beamforming, i.e. indicating that the specified TX EVM values are specific to the case when TX beamforming is disabled.
			5. No objection – Mark Ready for Motion
	2. **Review Doc 11-19/0387r1** – Dan HARKINS (HPE)
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0387-01-000m-addressing-some-sae-comments.docx>
		2. CID 2276 (PHY)
			1. Review Comment
			2. There is no “i” in J.10, so comment is not germane.
			3. Proposed Resolution: Reject; There is no “i” in J.10. There is no ”i” in the protocol Definition in section 12.4.
			4. No objection - Mark Ready for Motion
		3. CID 2590 and 2690
			1. Review Comment
			2. Discussion of the proposal.
			3. Proposed Resolution CID 2590: Reject. The feature is useful and not mandatory to use.
			4. Proposed Resolution CID 2690: Reject. The MAC is not the place to handle the generation, assignment, and management of pseudonyms.
			5. Request to not mark CID 2690 as ready for motion until the commenter can present a counter proposal.
			6. Response from commenter on the prosed resolution reviewed.
			7. Discussion on the proposed resolution for CID 2590 to ensure it is responsive to the comment.
			8. Proposed Resolution CID 2590: Reject. The feature is useful and not mandatory to use. There are new attacks possible with the use of password identifiers in SAE.
			9. Change the assignment of 2690 to Thomas DURHAM.
			10. Mark CID 2590 as ready for Motion.
		4. CID 2546 (PHY)
			1. Review comment
			2. Review context in draft. 12.4.7.6
			3. Review discussion
			4. Proposed Resolution: Reject. The approach used does work and there is evidence of that fact by multiple independent and interoperable implementations using said approach.
			5. Response from commenter on the prosed resolution reviewed.
			6. Updated Proposed Resolution: Reject. The approach used is based on the lengths of components and not on their contents on how the contents “Look”. Multiple independent and interoperable implementations using this approach exist. The proposed change would make all existing implementations of SAE be non-compliant.
			7. No objection – Mark Ready for Motion
		5. CID 2545 (PHY)
			1. Review Comment
			2. There is a proposed resolution referring CID 2528:
				1. REVISED (PHY: 2019-02-15 15:42:53Z)

Revised; Incorporate the resolution for CID 2528 in <https://mentor.ieee.org/802.11/dcn/19/11-19-0245-03-000m-revmd-lb236-editor2-ad-hoc-related-comment-resolutions.docx> which addresses the comment in the direction of the commenter.

* + - 1. No change for the resolution.
		1. CID 2529, 2530, 2532 (PHY)
			1. Review Comment: All of these CIDs note that some reference is inconsistent— “group field” not “finite cyclic group field”, etc. The proposed resolutions all say something like “change throughout the referenced subclause”.
			2. Assign to Mark RISON – Submission Required.
		2. CID 2527 (PHY)
			1. Review comment
			2. Proposed Resolution: Revised. Change the cited text to “The scalar and element in an SAE Commit message shall be produced using the PWE and secrets generated in 12.4.5.2 (PWE and secret generation), as follows:”.
			3. No Objection – Mark Ready for Motion
		3. CID 2386 (PHY)
			1. Review Comment
			2. Review context in 12.4.5.5
			3. Proposed Resolution: REVISED (PHY: 2019-03-13 21:34:40Z) - Incorporate the changes for CID 2386 in <https://mentor.ieee.org/802.11/dcn/19/11-19-0387-01-000m-addressing-some-sae-comments.docx>
			4. No objection – Mark Ready for Motion
		4. CIDs 2382, 2383, 2384, and 2385 (PHY)
			1. Encoding of other components, and formats, and italicization
			2. Review Comments
			3. Proposed Resolution: REVISED (PHY: 2019-03-13 21:42:37Z) - Incorporate the changes for CID 2382, 2383, 2384, 2385 in <https://mentor.ieee.org/802.11/dcn/19/11-19-0387-02-000m-addressing-some-sae-comments.docx>
			4. No objection – Mark Ready for Motion
		5. No CID: Discrepancy between table and state machine
			1. Comment: “table 9-43 does not indicate that a finite cyclic group field is sent back when status=77 but the state machine does”
			2. Discussion: Status 77 is “Unsupported Finite Cyclic Group”. We could modify the table or modify the state machine. It does seem semantically better to indicate what you don’t like so the table should be updated.
			3. Note that zero in this case should be “0”
			4. Proposed resolution to include spacing of the sentences to make it easier to read:

Scalar is present if the Status Code field is zero.

Element is present if the Status Code field is zero.

Anti-Clogging Token is present if status is 76 or if frame is in response to a previous rejection with Status 76.

Finite Cyclic Group is present if the Status Code field is zero, 76, or 77.

Password Identifier element is optionally present if the Status Code is zero or 123

* + - 1. A Motion to accept will be created.
		1. No CID: Provide Guidance on Weak Diffie-Hellman groups
			1. Comment: Attacks are possible against SAE when using groups defined of a prime field when that prime is less too small, when groups have a small prime order sub-group, or when they are defined over an elliptic curve with a small prime. Guidance on use of appropriate groups should be given.”
			2. Discussion: Valid groups are touched on but only for ECC and it does not discuss prime lengths. Table 2 from SP800-57 says that 128 bits of Security Strength are obtained by FFC groups whose prime is at least 3072 bits and ECC groups whose prime is at least 256 bits. That’s what we should require because our default cipher is AES-CCM-128.
			3. Proposed text is in the submission
			4. A motion will be motioned later.
	1. **Review doc 11-19/467r1** Dan HARKINS (HPE)
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0467-01-000m-resolving-some-security-comments.docx>
		2. CID 2142 (PHY)
			1. Review Comment
			2. Proposed Resolution: Revised, “At 9 locations replace ‘PMKID field’ with ‘PMKID List field’”.
			3. No objection – Mark Ready for Motion
		3. CID 2363 (PHY)
			1. Review Comment
			2. Proposed Resolution: Accept
			3. No objection – Mark Ready for Motion
		4. CID 2531 (PHY)
			1. Review Comment
			2. Discussion: The confusion exists because the clarifying word “field” was removed in the comment. When one refers to the blob of bits as defined it is the “finite field element field” which does not sound like an 802.11 element. A “finite field element” is a cryptographic term of the art, it refers to an element in a finite field. This finite field element is contained in a different thing that is also called a field. It is unfortunate that this word is overloaded but using an acronym is not clarifying. The description of the “finite field element field” describes what it is.
			3. Table 9-42 shows Authentication Table.
				1. Discussion on if it is ambiguous or not.
			4. Finite Field Element field is the field name.
			5. Discussion on if the “field” is to be included or not.
			6. Potential problem with CID 2471 and CID 2534 needs to be harmonized with the decision of the group, but we are not sure that these are all resolved consistently.
			7. The concern that the comments are not precisely resolved consistently.
			8. Editor to check SAE table and make the following changes:

At 874.43 change “Scalar” to “Scalar field”; at 874.44 Change “Finite field element” to ““Finite Field Element field”;

At 874.4 change “Finite Cyclic Group” to “Finite Cyclic Group field”

* + - 1. Proposed Resolution: Revised: At 874.43 change “Scalar” to “Scalar field”; at 874.44 Change “Finite field element” to ““Finite Field Element field”; At 874.4 change “Finite Cyclic Group” to “Finite Cyclic Group field”
			2. Mark Ready for Motion
		1. CID 2221 (PHY)
			1. Review Comment
			2. Proposed Resolution: Accept
			3. No objection- Mark Ready for Motion
		2. CID 2551 (PHY)
			1. Review Comment
			2. Proposed Resolution: REJECTED (PHY: 2019-03-13 22:24:13Z) - KRACK was the result of people not reading the standard fully and implementing a component protocol or API. IT is not reasonable to assume future implementers will do anything different. There does not seem to be a problem with being explicit and repetitive like this. In fact, it is kind of emphatic. So the combination of no existing problem and a problem created by accepting the proposed change means reject.
			3. No Objection – Mark Ready for Motion
	1. **Recess at 3:25pm**

1. **802.11md (REVmd) Meetings – March 2019 IEEE 802 Plenary– Thursday PM1: 13:30-15:30**
	1. **Called to order** at 1:35pm by the chair, Dorothy STANLEY (HPE)
	2. **Review patent policy**
		1. No Issues
	3. **Review Agenda** 11-19/221r4
		1. <https://mentor.ieee.org/802.11/dcn/19/11-19-0221-04-000m-2019-march-tgmd-agenda.pptx>
		2. No objection
	4. **Motions:**
		1. **Motion V1**: Minutes
			1. **Approve the minutes of**

January 2019 meeting: <https://mentor.ieee.org/802.11/dcn/18/11-18-2140-00-000m-minutes-for-revmd-jan-2019-st-louis.docx>

Teleconference minutes: <https://mentor.ieee.org/802.11/dcn/19/11-19-0248-04-000m-minutes-for-revmd-telecon-in-feb-and-mar-2019.docx>

* + - 1. Moved: Mark HAMILTON 2nd: Stephen MCCAAN
			2. **Results V1**:13-0-2 Motion Passes
		1. **Motion #95** - Jan – March Teleconferences/March CID
			1. Slide 21 – 11-19/221r4 – PHY CID 2211
				1. Review slide as part of preparing motion 95.
				2. CID 2211 identifies an error that was made in preparation of the D2.0 Draft, and a paper that was used to create D2.0 caused
				3. Request for those that would like to request to pull CID 2211 from the motion.
				4. No one asked to pull CID 2211 – no one objected to the rational on the slide.
			2. Slide 22 – 11-19/221r4 – CID 2439
				1. Review slide as part of preparing Motion 95
				2. Review the comment again.
				3. The PHY Database showed it was discussed on Feb 1st Telecon.
				4. Not sure what resolution is referred to. Thomas said it was not part of his resolutions. CID 2329 and CID 2439 are not the same issue.
				5. No one asked to pull CID 2439
			3. Slide 23 – 11-19/221r4 - PHY CIDs 2643
				1. Review slide as part of preparing Motion 95
				2. No one asked to pull CID 2643
			4. Slide 24 – 11-19/221r4 – PHY CID 2542
				1. Review slide as part of preparing Motion 95
				2. No one Asked to pull CID 2542
			5. Slide 15 – 11-19/221r4 – PHY CID 2688
				1. Review slide as part of preparing Motion 95.
				2. This document was presented in the January 2019 meeting. Changes to modify the resolution can still be made in the future.
				3. No one asked to pull CID 2688
			6. CID 2587 and CID 2647 in Editor and CID 2185 and CID 2183 in PHY were excluded from motion 95. And will be motioned separately.
			7. **MOTION #95: Approve the comment resolutions in the**

“Motion-EDITOR-I” “Motion-EDITOR-J” , “Motion-EDITOR-K” tabs in 11-19/142r5 < https://[mentor.ieee.org/802.11/dcn/19/11-19-0142-05-000m-revmd-wg-lb236-comments-for-editor-ad-hoc.xls](https://mentor.ieee.org/802.11/dcn/19/11-19-0142-05-000m-revmd-wg-lb236-comments-for-editor-ad-hoc.xls)> except for CIDs 2587 and 2647

“Motion G” and “Motion H” tabs in 11-19/143r9 <https://[mentor.ieee.org/802.11/dcn/19/11-19-0143-09-000m-revmd-editor2-lb236-comments.xlsx](https://mentor.ieee.org/802.11/dcn/19/11-19-0143-09-000m-revmd-editor2-lb236-comments.xlsx) >

“Motion MAC-Y” and “Motion MAC-Z“ tabs in 11-17/927r34 <https://[mentor.ieee.org/802.11/dcn/17/11-17-0927-34-000m-revmd-mac-comments.xls](https://mentor.ieee.org/802.11/dcn/17/11-17-0927-34-000m-revmd-mac-comments.xls) >

“PHY Motion A”, “PHY Motion B” and “PHY Motion C” tabs in 11-19/0156r5 <https://[mentor.ieee.org/802.11/dcn/19/11-19-0156-04-000m-lb236-revmd-phy-sec-comments.xlsx](https://mentor.ieee.org/802.11/dcn/19/11-19-0156-05-000m-lb236-revmd-phy-sec-comments.xlsx)> except for CIDs 2185, 2183

**and incorporate the indicated changes into the TGmd draft.**

* + - 1. Moved: Michael MONTEMURRO 2nd: Dan HARKINS
			2. **Results of Motion #95: 18-0-2 Motion Passes**
		1. **Motion 96 Gen CIDS**
			1. **Approve the comment resolutions in the**

“Gen Vancouver 1” tab in <https://mentor.ieee.org/802.11/dcn/19/11-19-0449-01-000m-revmd-lb236-gen-comments.xls> **and incorporate the indicated changes into the TGmd draft.**

* + - 1. Moved: Jon Rosdahl 2nd: Emily QI
			2. Results of Motion 96: Motion Passes by Unanimous consent.
		1. **Motion 97 - Editor CIDs 2587 and 2647**
			1. **Resolve CID 2587 as “Revised” with a resolution reason of**

“There is no grammar error. Additionally, the current usage of “indicate(s)” creates no confusion.
Editor: Restore the table borders in Table 9-301.

**Resolve CID 2647 as “Rejected” with a resolution reason of**

“Similar comments on this issue were submitted and rejected in the previous ballot, for example CID 1433. In CID 1433, the commenter asked to remove underscores. In CID 2647, the commenter asked to add underscores. In the IEEE style manual, there is no rule on whether ResultCode should include underscores or not.”

* + - 1. **Moved:** Emily QI **2nd:** Peter Ecclesine
			2. **Discussion:** These were reviewed on Monday, and again offline, there is no grammar error, and it does not violate the IEEE Style guide.
			3. **Results of Motion #97**: 13-1-2 Motion Passes
		1. **Motion 98– PHY CID 2185**
			1. **CID 2185**
			2. There are actually 2 locations (D2.1 2949.25 and .28) of the cited text: "ERP STAs that support the Short Slot Time option" to "STAs that support the Short Slot Time mode".
			3. Proposed agreed comment resolution makes change in one location, changes “ERP STAs” to “STAs” and does not make the “option” to “mode” change.
			4. **Mark RISON comment:** the commenter's point that short slot is not optional for HT STAs has been lost. Why not just accept the proposed change?
			5. **Observation:** Change is made in only one location. Should change be made in both? “option” not changed to “mode” as “option” is used throughout the draft (6x) and “mode” not used
			6. Review comment and the proposed resolution.
				1. Discussion lead to changing “ERP STAs” to “STAs” in one place.
				2. Discussion on the background to the comment from the TGg amendment when this cited slot time was added. Then HT Devices changed the requirement to support for short slot time was changed.
				3. The Commenter is not concerned with the resolution.
				4. Discussion on the fact that there are multiple places that may need to be fixed as well.
				5. Short Slot Time Option is another usage that needs be researched.
				6. Request to move ahead with a motion with the current resolution and then if another change is needed be done do it later.
			7. **Motion #98**: Resolve CID 2185 as “Revised with a resolution of “Change “ERP STAs to “STAs”.
			8. Moved: Michael MONTEMURRO 2nd: Stephen MCCAAN
			9. **Results for Motion #98**: 14-0-2 Motion Passes
		2. **Motion #99** **PHY CIDs 2183**
			1. Comment (2942.35 D1.0): "and shall be capable of receiving 6, 12, and 24 Mb/s using the modulation and preamble described in Clause 17 (Orthogonal frequency division multiplexing (OFDM) PHY)." This is oddly phrased because ERPs, which operate at 2.4 GHz, cannot possibly receive Clause 17 PPDUs. It seems as though the reader is expected to infer that these modes use the modulation and preamble \*but not the frequency plan\* described in Clause 17. But why go to the trouble of writing it out this way? The following sentence, which deals with the optional OFDM-based modes, refers to them as the ERP-OFDM modes, which is much more precise and much simpler.
			2. Commenter’s proposed resolution: At line 35, change the end of the sentence, starting at "receiving", to "receiving the ERP-OFDM modulations at rates of 6, 12, and 24 Mb/s".
			3. Proposed agreed resolution: Accepted
			4. **Mark Rison comment:** the wording seems inconsistent with the earlier part of the sentence ("capable of receiving 1, 2, 5.5, and 11 Mb/s PPDUs using either the long or short preamble formats described in Clause 16") Maybe say "capable of receiving 6, 12, and 24 Mb/s PPDUs using ERP-OFDM format"?
			5. Review Comment and context on p2942.
			6. Review the phrasing of the sentence and discussion on how to be more precise.
			7. **Motion #99** Resolve CID 2183 as Accepted.
				1. Moved; Sean COFFEY 2nd: Michael MONTEMURRO
				2. **Results for Motion #99**: 14-0-1 Motion Passes
		3. **Motion #100** Missing **item in 10.24.2.2**
			1. Incorporate the following text change (described in <https://mentor.ieee.org/802.11/dcn/19/11-19-0263-00-000m-missing-item-in-10-24-2-2.pptx> )into the TGmd draft:

On line 10 on page 1798 of [1] (Clause 10.24.2.2) replace “[…] invoked for reason c), d), e), or f) above […]” with “[…] invoked for reason c), d), or e) above […]”

* + - 1. Moved: Mark HAMILTON 2nd: Menzo WENTINK
			2. **Result of Motion #100:** Motion Passes by Unanimous consent.
		1. **Motion #101** - MDR Comments – Editorial
			1. Incorporate the changes in <https://mentor.ieee.org/802.11/dcn/19/11-19-0260-04-0000-revmd-mdr-report.docx> which are indicated as “Accepted” or “Revised” by the editor.
			2. Moved: Emily Qi 2nd: Stephen MCCAAN
			3. **Results of Motion #101**: 15-0-0 Motion Passes
		2. **Motion #102 -** **New Internet Protocol extension Traffic Classifier Type**
			1. **Incorporate the changes in** [**https://mentor.ieee.org/802.11/dcn/19/11-19-0295-06-000m-ipsec-classifier.docx**](https://mentor.ieee.org/802.11/dcn/19/11-19-0295-06-000m-ipsec-classifier.docx)
* **except for the addition of “[B60b] IETF RFC 8200, Internet Protocol, Version 6 (IPv6) Specification”, and**
* **with the addition of the complete replacement of RFC 2460 with IETF RFC 8200, Internet Protocol, Version 6 (IPv6) Specification, S. Deering, R. Hinden, 2017.**
	+ - 1. Moved Matthew FISCHER 2nd: Thomas DERHAM
			2. Discussion:
				1. Spelling errors, and accuracy of references was corrected between R3 and R5
				2. Another change was changing “Classifier Mask” to “Protocol Instance”.
				3. Also “Previous” was removed from the field name.
				4. The References to IETF RFCs were corrected.
				5. Clause 2 is the normative references and Annex A is the informative reference area.
				6. The Correct replacement for the RFC2460 reference is noted in the end of the document, but not in the instructions to correct the reference.
				7. Update the information in the motion.
			3. **Results on motion #102** 14-0-1 Motion Passes
		1. **Motion #103** **Beacon Protection**
			1. **Resolve CIDs 2116 (PHY) and CID 2673 (MAC) as**

“Revised with a resolution of “Incorporate the text changes in 11-19/0314 <<https://mentor.ieee.org/802.11/dcn/19/11-19-0314-02-000m-beacon-protection.doc>> into the TGmd draft. These changes introduce a Beacon Integrity protection capability.

* + - 1. Moved: Emily QI 2nd: Mike MONTEMURRO
			2. **Results for Motion #103:** 13-0-3
		1. **Motion #104** **Additional SAE**
			1. **Incorporate the text changes indicated in** [**https://**](https://mentor.ieee.org/802.11/dcn/19/11-19-0387-01-000m-addressing-some-sae-comments.docx)[**mentor.ieee.org/802.11/dcn/19/11-19-0387-01-000m-addressing-some-sae-comments.docx**](https://mentor.ieee.org/802.11/dcn/19/11-19-0387-02-000m-addressing-some-sae-comments.docx) **under the following headings (pages 5 and 6)**

**No CID: Discrepency (sic) between table and state machine**

**No CID: Provide Guidance on Weak Diffie-Hellman groups**

* + - 1. Dan 2nd Emily QI
			2. **Results for #104 Motion Passes** by Unanimous Consent.
	1. **Review End of Meeting Details:**
		1. Propose Two Teleconference:
			1. March 29, April 12, April 26, and May 3 – 2 Hours each
			2. Plan for Telecon in June and approve in May.
		2. Proposed AdHoc in June
			1. StrawPoll:
				1. Have a June AdHoc or more telecon (2 hr)?

Result: 4-3

Go with Telecon

* + 1. Thanks to all for the efforts this week.
		2. There will be a webex dial in for the April face to face AdHoc.
	1. **Adjourned 3:20pm PT**

**References:**