IEEE P802.11
Wireless LANs

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| Minutes REVmd – July 2017 Berlin |
| Date: 2017-07-14 |
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Abstract

Minutes for 802.11 REVmd Task Group – July Plenary 2017

1. **Monday PM1:** TGmd called to order at 1:32pm CEST by the chair, Dorothy STANLEY (HPE)
	1. **Review Patent Slides**:
		1. Call for Potentially Essential Patents – No response
		2. Participation Slide was reviewed.
	2. **Review Agenda:**
		1. <https://mentor.ieee.org/802.11/dcn/17/11-17-0872-02-000m-july-2017-tgmd-agenda.pptx>
		2. Monday PM1
2. Chair’s Welcome, Policy & patent reminder
3. Approve agenda, previous minutes
4. Status, Review of Objectives
5. Draft schedule
6. 11-17-920r2 – Editor Report – Emily QI
7. 11-17-1089 - Mike MONTEMURRO
	* 1. Tuesday PM1
8. 11-17-989 – Graham SMITH – Obsolete comments
9. 11-17-1078 – Ganesh VENKATESAN (<https://mentor.ieee.org/802.11/dcn/17/11-17-1078-00-000m-resolutions-to-cids-148-and-339.doc>)
	* 1. Wednesday PM1
10. 11-17-939, 11-17-940 Stephen MCCANN
11. 11-17-970, 971 – James YEE
12. 11-17-1030; 11-17-906 – Jouni MALINEN
	* 1. Thursday PM1
13. 11-17-959 – Adrian STEPHENS
14. 11-17-987, 988 – Graham SMITH
15. 11-17-928 – Jon ROSDAHL
	* 1. Thursday PM2
16. 11-17-956; 11-17-1056; Emily QI
17. 11-17-906 – Jouni MALINEN
18. 11-17-xxx Marc EMMELMAN
19. Approve initial schedule
20. AOB
21. Plans for July-Sept
22. Adjourn
	* 1. Discussion on agenda – move Emily to Thursday,
		2. Concern on getting a discussion when all interested parties are available.
		3. Discussion on getting all the documents listed
		4. **Motion B1:** Motion to approve agenda passed without Objection.
	1. **Motion B2:** Motion to approve prior TGmd Minutes

**Approve the minutes of TGmd May 2017 meeting, Daejeon in doc 11-17/567r0 <**<https://mentor.ieee.org/802.11/dcn/17/11-17-0567-00-000m-minutes-revmd-initial-f2f-mtg-daejeon.docx>**> and TGmd May 30th, June 23, June 30th teleconferences in doc 11-17/885r2 <**<https://mentor.ieee.org/802.11/dcn/17/11-17-0885-02-000m-minutes-revmd-may-and-june-telecons.docx>**>**

* + 1. Moved: Emily QI
		2. Seconded: Mark HAMILTON
		3. **Result: Unanimous – Motion B2 Passes**
	1. **Motion B3:** Approval of Final TGmc Minutes:

**Approve the minutes of** TGmc September 2016 in <https://mentor.ieee.org/802.11/dcn/16/11-16-1072-00-000m-minutes-for-revmc-brc-face-to-face-meeting-sept-12-15.docx>

* + 1. Moved: Mark HAMILTON
		2. Seconded: Jon ROSDAHL
		3. **Results 15-0-0 – Motion B3 Passes**
	1. **Review Draft Schedule**
		1. <https://mentor.ieee.org/802.11/dcn/17/11-17-0872-02-000m-july-2017-tgmd-agenda.pptx>
		2. Review 11-17/0872r2 – slide 12-15
		3. Review Alternative A and Alternative B details.
		4. How much weight is the different timelines?
		5. Can we add TGax during Sponsor Ballot? Depends on feelings of schedule.
		6. Review the past experience.
		7. Suggestion that we publish REVmd in 2020 just for hard deadline.
		8. Support for getting done sooner than later – accomplishing the most in the 4-year time frame (2016-> 2020)
	2. **Editor Report** – 11-17/920r3
		1. Review slide 4 – Comment collections and word documents that are available.
		2. 5 Adhoc Comment Groups – Editor. Editor2, GEN, MAD, PHY
		3. Review status – note that GEN had 4 Security Comments -> move to PHY to group with 20 Security there. – (done will show up in next report.)
	3. **Review Submission 11-17/1089r0** Mike MONTEMURRO
		1. < <https://mentor.ieee.org/802.11/dcn/17/11-17-1089-00-000m-revmd-cc25-comment-resolutions.doc>>
		2. CID 104 PHY
			1. Review Comment
			2. From the document discussion:
* The GNonce is set to 0 in 12.7.7.2 and 12.7.7.3 for the EAPol-key frame field values:
	+ In 12.7.7.2: “ Key Nonce = 0”
	+ In 12.7.7.4: “ Key Nonce = 0”
* The above implies that GNonce is 0 in Fig 12-47 and Fig 12-52
	+ - 1. Proposed Resolution: Revised. In Figure 12-47, change ‘Gnonce” to “GNonce” in the second box from the top on the right-hand side, and replace “GNonce” with 0 in the two EAPOL-Key messages. In Figure 12-52, in the REKEYNEGOTIATING box, change “GNonce” to “0”.
			2. Discussion on the proposed change.
			3. Review context in draft.
			4. Discussion on GNonce in Figure 12-47 and removing the extra box with GNonce in it.
			5. The Proposed Resolution the was revised: Revised.

In Figure 12-47, replace “GNonce” with 0 in the two EAPOL-Key messages.

In Figure 12-47, delete the box with text “Gnonce = Get Next Key Counter”

In Figure 12-52, in the REKEYNEGOTIATING box, change “GNonce” to “0”.

* + - 1. No Objection - Mark Ready for Motion
		1. CID 133 PHY
			1. Review Comment
			2. From the Document Discussion:
			- The 5 occurrences fall within the 3rd column of the last row of the table.
			- The fifth usage is a sub-clause title in a reference. It shouldn’t have to be changed.
			1. Proposed Resolution: Revised.

At 1005.57 change “does not allow use of DSSS/CCK in 40 MHz” to “does not allow transmission of DSSS/CCK PPDUs in 40 MHz”

At 1005.58 change “does allow use of DSSS/CCK in 40 MHz” to “does allow transmission of DSSS/CCK PPDUs in 40 MHz”

At 1005.61 change “does not use DSSS/CCK in 40 MHz” to “does not transmit DSSS/CCK PPDUs in 40 MHz”

At 1005.62 change “does not use DSSS/CCK in 40 MHz” to “does transmit DSSS/CCK PPDUs in 40 MHz”

* + - 1. There was a misunderstanding of which column was being questioned.
			2. Concern of the point of PPDUs being used in 40MHz.
			3. The 1005.62 change is wrong. Should be “STA uses DSSS/CCK…” and change to “STA Transmits…”
			4. Decide more work was needed on this. Move on.
		1. CID 143 PHY
			1. Review comment
			2. From Discussion:
* There are 8 occurrences, not 7.
* Clause 12.7.5 is an informative clause referring to J.6 and recommending an expression to initialize a counter value.
* Not sure that appending “or otherwise” makes sense.
* Could delete “following the recommendations of 12.7.5 (Nonce generation)” and append the following after the cited paragraph. “NOTE --Recommendations for Nonce generation are given in 12.7.5 (Nonce generation)”
	+ - 1. Proposed Resolution: Revised.

At 2170.1 Delete “following the recommendations of 12.7.5 (Nonce generation)”. Add a note at the end of the cited paragraph “NOTE – Recommendations for Nonce generation are given in 12.7.5 (Nonce generation)”.

At 2184.1 Delete “following the recommendations of 12.7.5 (Nonce generation)”. Add a note at the end of the cited paragraph “NOTE – Recommendations for Nonce generation are given in 12.7.5 (Nonce generation)”.

At 1285.62 Delete “following the recommendations of 12.7.5 (Nonce generation)”. Add a note at the end of the cited paragraph “NOTE – Recommendations for Nonce generation are given in 12.7.5 (Nonce generation)”.

At 2194.55 Delete “following the recommendations of 12.7.5 (Nonce generation)”. Add a note at the end of the cited paragraph “NOTE – Recommendations for Nonce generation are given in 12.7.5 (Nonce generation)”.

At 2195.51 Delete “following the recommendations of 12.7.5 (Nonce generation)”. Add a note at the end of the cited paragraph “NOTE – Recommendations for Nonce generation are given in 12.7.5 (Nonce generation)”.

At 2266.29 Delete “following the recommendations of 12.7.5 (Nonce generation)”. Add a note at the end of the cited paragraph “NOTE – Recommendations for Nonce generation are given in 12.7.5 (Nonce generation)”.

At 2266.57 Delete “following the recommendations of 12.7.5 (Nonce generation)”. Add a note at the end of the cited paragraph “NOTE – Recommendations for Nonce generation are given in 12.7.5 (Nonce generation)”.

At 2306.19 Delete “, as specified in 12.7.5 (Nonce generation)”. Add a note at the end of the cited paragraph “NOTE – Recommendations for Nonce generation are given in 12.7.5 (Nonce generation)”.

* + - 1. Review context
			2. Change “Add a note at the end of the cited paragraph” to “Add a note at the end of the list item”
			3. The last one noted in 12.7.5 has a “shall” and the clause it is in is an informative clause, so the change is applicable.
			4. Question on the capitalized “Nonce”? a presentation to address the capitalization or lack thereof should be submitted.
			5. We should put in a different sentence in 12.7.5 as it may be just easier to just delete.
			6. We need to be aware of unnecessary constraints.
			7. Do we want to modify to create a requirement or an example here?
			8. Suggestion would be to delete 12.7.5 and not describe how to make the random number and random sequence.
			9. Need to check for a reference to include - RFC4086 and/or SP800-90/q/b/c. may be a good document to reference.
			10. Need to find an alternate solution.
			11. CID 95 should be addressed together with this CID.
		1. CID 144
			1. Review Comment
			2. From document Discussion:
* aRxPHYStartDelay is used in 16 places in the standard.
* It is defined as “The delay, in microseconds, from the start of the PPDU at the receiver’s antenna to the issuance of the PHY-RXSTART.indication primitive.” It is a characteristic of a particular PHY.
* It is defined as a time period in Clauses 15-22 as a PHY characteristic.
* The cited description appears to be PHY agnostic.
	+ - 1. The discussion on how to specify the delay
			2. Would the PHY Rate parameter
			3. Can we find a way to define ARxPHYStartDelay as a maximum?
			4. We may need more work., but the default resolution will be reject
		1. CID 182 PHY
			1. Review comment
			2. From Discussion:
* The referenced Max SP Len receive behaviour does not appear to be described anywhere else.
* Could not find a relevant place to make a change in 11.2.3.5.2
* Clause 11.2.3.6.j describes AP procedures during a contention period. Could not find a relevant place to make a change in this clause.
	+ - 1. Proposed Resolution:

Revised.

At 1731.53, Change “The STA shall remain awake until it receives a QoS Data frame or QoS Null frame addressed to it, with the EOSP subfield equal to 1.”

to

“The STA shall remain awake until it receives a QoS Data frame or QoS Null frame addressed to it, with the EOSP subfield equal to 1, or it has received the number of BUs specified in the Max SP Length field."

* + - 1. What is the transmitter requirement for setting the EOSP bit?
				1. On last Buffered BU.
				2. MMPDU do not have EOSP fields.
				3. So, there is the only case that is of concerned.
			2. There is not a requirement to honor the Max SP length bits in the draft standard.
			3. P1722.13 – review context.
			4. We do not want to include a requirement to check both the count and the length.
			5. This change was objected to be used.
			6. Imposes an additional requirement on the receiver. Could introduce a new Transmitter constraint.
			7. Discussion on the comment intent and the ramifications.
			8. Change the Proposed Resolution to Reject.
			9. A Rejection response needs to be crafted.
		1. CID 188
			1. Review comment
			2. From Discussion:

5 occurrences of “require acknowledgment”

11 occurrences of “requires acknowledgment

* + - 1. Proposed Resolution:

Revised.

At 687.30, change “require acknowledgment” to “require acknowledgment (see G.3 under “These frames require acknowledgment”)”

At 708.30, change “require acknowledgment” to “require acknowledgment (see G.3 under “These frames require acknowledgment”)”

At 1728.38, change “require acknowledgment” to “require acknowledgment (see G.3 under “These frames require acknowledgment”)”

At 708.27, change “requires acknowledgment” to “requires acknowledgment (see G.3 under “These frames require acknowledgment”)”

At 1420.6, change “requires acknowledgment” to “requires acknowledgment (see G.3 under “These frames require acknowledgment”)”

At 1431.51, change “requires acknowledgment” to “requires acknowledgment (see G.3 under “These frames require acknowledgment”)”

At 1433.22, change “requires acknowledgment” to “requires acknowledgment (see G.3 under “These frames require acknowledgment”)”

At 1443.31, change “requires acknowledgment” to “requires acknowledgment (see G.3 under “These frames require acknowledgment”)”

At 1443.45, change “requires acknowledgment” to “requires acknowledgment (see G.3 under “These frames require acknowledgment”)”

At 1496.7, change “requires acknowledgment” to “requires acknowledgment (see G.3 under “These frames require acknowledgment”)”

At 1728.21, change “requires acknowledgment” to “requires acknowledgment (see G.3 under “These frames require acknowledgment”)”

At 1728.33, change “requires acknowledgment” to “requires acknowledgment (see G.3 under “These frames require acknowledgment”)”

At 1728.44, change “requires acknowledgment” to “requires acknowledgment (see G.3 under “These frames require acknowledgment”)”

At 2380.55, change “requires acknowledgment” to “requires acknowledgment (see G.3 under “These frames require acknowledgment”)”

At 3585.29, change “Frame RA has i/g bit equal to 0.” to “Frame RA has i/g bit equal to 0, or is sent to an AP/PCP.”

* + - 1. Concern that the reference is correct, and if each one may need to be checked to ensure that it is correct reference.
			2. Review in G3 the “These frames require acknowledgement”
			3. Discussion on the change that may need to be made. Do we want to include the G.3 reference, or do we have a too general reference?
			4. G may need to be modified to make a reference like this useful.
			5. Having things described in two places, then one place could be removed. This would need a more thorough submission.
			6. More work will need to make resolution that can be acceptable.
			7. No Management frames are listed in G.3 frames.
			8. Mark More Work needed – Submission needed – More work in Annex G.
	1. **Recess at 3:31pm**
1. **Tuesday PM1** – TGmd called to order at 1:30pm CEST by the chair, Dorothy STANLEY (HPE)
	1. Call for any issues with **Patent Policy** – none noted.
	2. **Review Agenda** for today:
		1. <https://mentor.ieee.org/802.11/dcn/17/11-17-0872-03-000m-july-2017-tgmd-agenda.pptx>
		2. Tuesday PM1
* 11-17-989 – Graham SMITH – “Obsolete” comments
* 11-17-1078 – Ganesh VENKATESAN
	1. **Review Submission: 11-17-989** – Graham SMITH – “Obsolete” comments
		1. <https://mentor.ieee.org/802.11/dcn/17/11-17-0989-00-000m-resolutions-for-obsolete-and-repace-comments-d0-1.docx>
		2. CID 57 Basic BlockAckReq Variant
			1. Review comment
			2. From document Discussion: P711.56

*DMG STAs use only the Compressed BlockAckReq variant and the Extended Compressed BlockAckReq variant.*

So, no worries there then.

No other reference to this outside of 9.3.1.8.2

* + - 1. Proposed Resolution: REVISED; Delete 9.3.1.8.2

Delete “9.3.1.8.2 (Basic BlockAckReq variant)” at 2949.28, 2950.9 (PICS)

* + - 1. Discussion – there seems to be instance of “BlockAckReq” 32 times, and it may or may not be the variant type.
			2. There seems to be a different type of BlockAckReq – Basic and Variant but both are on the list for consideration.
			3. The reason for the Variant is to maintain the linguistic consistency. So, this is to provide a noun to the adjectives.
			4. Review instances of “Basic BlockAckReq Variant” – there are only 2 outside clause 9.
			5. If we look at “Basic BlockAck” instances –
			6. Comment it may not be an issue as both the BlockAck and BlockAckReq are not known to be used in the field.
			7. The main search was on removing the “variant” versions of the BlockAck.
			8. Concern that these two may be interwoven with other BlockAck description.
			9. It may be 30 instance of BlockAckReq and then ensure the proper removal can/should be done.
			10. CID 57-CID 58 and CID 61 seem to have agreement on removal, but the discussion is on how to ensure it is removed correctly.
			11. The HT-BlockAck and NON-HT-BlockAck which was introduced in 11n, and so we may not need this distinction and when we make these expected changes, we may want to fix up this as well.
			12. Concern with how to remove or accomplish the task of removal and the change of HT vs Non-HT versions of the BlockAck.
			13. Given this discussion, Graham was task with one document with the removal and have a distinction recommendation in a separate document.
		1. CID 59 and CID 62 DLS and STSL
			1. Review comment
			2. From the document discussion:
			3. See 1806.10
			4. *The STSL mechanism is obsolete. Consequently, the DLS protocol might be removed in a later revision of the standard.*

STSL = station to station link. There are 60 instances of STSL in the text mostly on key management.

* + - 1. See 2060.4
			2. *The STSL mechanism is obsolete. Consequently, the PeerKey protocol components that do not support the AP PeerKey protocol might be removed in a later revision of the standard.*
			3. Deleting all relating to STSL could be done with a global search.
			4. At 1806.20 *A DMG STA shall not use the DLS protocol.*
			5. I think that DLS could safely be removed. There are 303 instances of DLS so it would not be too major to remove it.
			6. A question is whether TDLS is reliant upon anything in DLS. – nothing was known to rely on DLS
			7. Discussion on what the resolution may be like: Globally search for STSL and delete all related sections and references. Globally search for DLS and delete all related sections and references
			8. Discussion on the possible issue with DLS, TDLS, STSL and the issue that in some cases DLS was spelled out and it may be Direct Link Setup and in some cases just Direct Link feature.
			9. AP PeerKey is also tied to this and may be obsolete also. (Peer Key will need to be checked – Jouni agreed to review this.)
			10. Only delete DLS related not TDLS contexts.
		1. CID 60 PCO Phased co-existence operation
			1. Review comment
			2. From the document discussion:

*11.17.1*

*The PCO mechanism is obsolete. Consequently, this subclause might be removed in a later revision of this standard.*

*PCO is an optional coexistence mechanism in which a PCO active AP divides time into alternating 20 MHz and 40 MHz phases (see Figure 11-31 (Phased coexistence operation (PCO))).*

Not used in mesh

261 instances of PCO but lots are in the terms

9.4.1.24 needs to be deleted,

9.6.12.5 needs to be deleted

Then delete it in the HT Extended Capabilities Field 1008.31, 1008.48, 1009.6

Delete it in the HT Operation Information field 1014.20 etc.

Delete it in HT Action field

It would free up a lot of bits!

* + - 1. Agreement on the deletion of PCO, but the full list of changes would need to be made in a submission to qualify the change.
		1. CID 63 Pre-RSNA security methods
			1. *2062.6 Except for Open System authentication, all pre-RSNA security mechanisms are obsolete. Support for them might be removed in a later revision of the standard.*
			2. Hence delete WEP and keep only the section on Open Authentication.
			3. Proposed Resolution: Revised; Rename 12.3 “Open System authentication”

Delete 12.3.1 to 12.3.2.4, and heading 12.3.3.

Renumber 12.3.3.1 as 12.3.1 “Overview”

After “A DMG STA shall not perform an IEEE 802.11 authentication exchange using the Open System authentication algorithm.” Add “A mesh STA shall not perform an IEEE 802.11 authentication exchange using the Open System.”

Delete “Shared Key authentication is deprecated and should not be implemented except for backward compatibility

with pre-RSNA STAs.”

Delete heading 12.3.3.2

Renumber 12.3.3.2 as 12.3.2 “General”

Renumber 12.3.3.2.2 as 12.3.3

Renumber 12.3.3.2.3 as 12.3.4

Delete 12.3.3.3

* + - 1. The idea is that to remove, we should take out the references and the section that defines this.
			2. This removed WEP, but we keep “Open Authentication”.
			3. Discussion on Keeping WEP or remove it?
				1. The majority of the deployments support WEP and it is used in many cases.
				2. TKIP relies on WEP, and so TKIP would have to be removed as well.
				3. WEP is broken and message needs to be sent to the market.
				4. Exists in the older versions if reference was needed.
				5. Removing it from the standard is first step to getting it out of support for WEP.
				6. Concern that if we don’t delete it, then we need to go back and correct those things that reference WEP that have errors but were not corrected.
				7. Request for legal advice – If WEP Implemented and WEP removed, now “Non-compliant”.
				8. 2001 first problems with WEP reported.
				9. The legacy devices are compliant with 2016 standard.
				10. Announcement of deleting plan.
				11. This is a generic problem and we should try to fix it.
				12. We marked this Deprecate (11mb) – obsolete (11mc).
				13. Concern that we remove only a part of WEP unless we also remove TKIP.
				14. TKIP is also marked Deprecated.
				15. Obsolete – and ready for removal.
				16. There was a concern that this may have been marked Deprecated, not obsolete.
				17. An Announcement to the Industry could be given now, and then it would appear when we make the next revision.
				18. P254.55 – TKIP is deprecated.
				19. P254.52 – WEP is marked deprecated, but it was included in the pre-RSNA security was marked Obsolete.
				20. Request to have a Liaison with Wi-Fi alliance to ensure they would be aware.
				21. Discussion on if this was given enough warning.
				22. We have had this discussion before and we should move forward.
			4. **Straw Poll** – CID 63 Pre-RSNA Security Methods
1. Remove WEP as an independent cipher in TGmd; Retain fully defined TKIP.
2. Remove WEP and TKIP in TGmd
3. Mark WEP and TKIP as Obsolete/will be removed.
4. No change
	* + - 1. Chicago voting – but rather do separate polls on each question with a yes/no vote
				2. Results:
5. Yes: 16 No: 8
6. Yes: 15 No: 6
7. Yes: 19 No: 7
8. Yes: 0 No: 25
	* + 1. This will come up again.
		1. CID 64 DMG OFDM
			1. *From the document discussion:*

*Transmission and reception of DMG OFDM mode PPDUs is optional. The use of the DMG OFDM mode is obsolete. Consequently, this option may be removed in a later revision of the standard.*

Seems clear to me. Delete 20.5.

* + - 1. The discussion was to allow TGay to fix it, and it should be removed in REVmd but we need to reach out to ensure that is a good plan.
			2. Action item B1: – Dorothy: Make this information available to TGay and get a response from them.
		1. CID 65 PCF
			1. Review comment
			2. From discussion

9.4.2.5 CF Parameter Set element

*The PCF mechanism is obsolete. Consequently, this subclause might be removed in a later revision of the standard.*

* + - 1. There is a problem with the global search and will need to check back on this.
			2. Need to check: CF-END frames were PCF. Does HCCA use PCF, PIFS not to be deleted. Also, need to look at contention – free (CF)
		1. CID 66 Strictly Ordered service class
			1. Review comment
			2. From document discussion:

255.21

*Note that the use of the StrictlyOrdered service class is obsolete and the StrictlyOrdered service class might be removed in a future revision of the standard.*

There are 18 instances of StrictlyOrdered, relatively easy to delete this.

* + - 1. Proposed Resolution: REVISED

Delete entire paragraph at 255.15

At 266.23 Delete “or StrictlyOrdered”

At 266.30 delete all within parentheses.

At 267.4 delete “or StrictlyOrdered”

At 680.40 Delete “It is used for two purposes:” Delete first bullet, then run second bullet as normal sentence, not bulleted.

At 1468.53 delete entire paragraph

At 1726.41 delete “, except those that have the StrictlyOrdered service class”

At 1729.23 delete “except those with a service class of StrictlyOrdered”

At 1760.45 delete “(excluding those with a service class of StrictlyOrdered)”

At 2871.6 delete row PC8.2

* + - 1. Service class should only be talked about in QOS, and all non-QoS service class can be removed.
			2. Concerned with the order of the fields in the MA-data Unit and we may have to have a reserved to hold it if it was removed.
			3. A submission with the changes outlined in detail will need to be provided.
		1. CID 67 L-SIG TXOP protection mechanism
			1. From the document discussion:

Clause 10.26.5 and 1553.42

*The L-SIG TXOP protection mechanism is obsolete. Consequently, this subclause might be removed in a later revision of this standard.*

1. Instances of L-SIG TXOP protection.

Removal in the HT Operation element

* + - 1. No objection – will provide instruction later.
		1. CID 68 obsolete operating classes in Table E-3.
			1. From document discussion:

3564.1

*Operating classes for operation in Japan are enumerated in Table E-3 (Operating classes in Japan). Note that some of the operating classes in this table were never used and are obsolete. The obsolete operating classes indicated by an asterisk (\*) might be removed in a future revision of the standard.*

There are 30 such classes in the Table

As the Operating Classes are in numerical order, suggest that they are just made Reserved

* + - 1. This was already discussed and has a resolution ready for motion.
			2. There is a set of limits that are still potential targets for removal.
			3. Is there any case where Operating class 4, 5 were used? No, they were added for rural use in Japan at the time.
			4. Can these Operating classes be reused?
				1. These would be marked “Reserved”
				2. The entire table is useless.
			5. Need to indicate a reason for the “Reserved” – i.e. Reserved previously used. In a different submission
		1. CID 69 RIFS
			1. Review Comment
			2. From the Discussion:

There are 84 instances of RIFS

1409.41

*The use of RIFS for a non-DMG STA is obsolete, and support for such use might be subject to removal in a future revision of the standard. A VHT STA shall not transmit frames separated by a RIFS.*

*1409.47 RIFS may be used in place of SIFS to separate multiple transmissions from a single transmitter, when no SIFS separated response transmission is expected and either of the following is true:*

*— The transmitter is not a DMG STA.*

*— The transmitter is a DMG STA, and each transmission occurs with the same transmit antenna configuration.*

So, a DMG STA may use RIFS, but obsolete for non-DMG.

1010.1 *An HT STA shall not transmit PPDUs separated by a RIFS unless the beacon or probe response most recently received from the BSS’s AP contains an HT Operation element with RIFS Mode field equal to 1.*

To remove from Standard will take some effort; however, let’s have a go. I have tried to remove from anything that is non-DMG and left it where possible DMG use.

* + - 1. Discussion that some implementations are using RIFS and we may not want to remove at this point.
			2. There is test that does test for this in a certification program.
			3. Yes, RIFS was in a test plan, but it may be that the test is to ensure it may not be being use.
			4. It has been marked Obsolete, if we mark it deprecated, we would move back the path.
			5. There may be implementations, but no one really uses it. It is like WEP that while there are some uses, we may still be fine to remove it.
			6. **Straw Poll**: CID 69 RIFS
1. Remove RIFS for non-DMG –
2. No Change -
	* + - 1. Results:
3. Yes-11 No – 0
4. Yes 5 - No 7
	1. Ganesh was not present, so we will move back to Mike MONTEMURRO
	2. **Review Submission: 11-17/1089** – PHY - Mike MONTEMURRO
		1. <https://mentor.ieee.org/802.11/dcn/17/11-17-1089-00-000m-revmd-cc25-comment-resolutions.doc>
		2. CID 190 (PHY)
			1. Review the comment
			2. Proposal to reject the comment
			3. Discussion from document:
* “Has a certain lifetime” is not descriptive.
* The PMK-R0 (12.6.1.1.3) and PMK-R1(12.6.1.1.4) explicitly communicate the key lifetime in the FT exchange and FT 4-way handshake.
* Mesh TKSA (12.6.1.1.7) key lifetime is defined as a property of the SA.
* The IGTKSA and GTKSA are derived and distributed by the AP and has no lifetime as such (the lifetime is internal to the AP).
	+ - 1. Discussion on the lifetime definition.
			2. It is important of the lifetime is important, so the statement should be made clear what the lifetime is and define it.
			3. The proposed change has the specific information.
			4. Disagreement on the level of definition of lifetime.
			5. No one could provide a reject reason, but the proposed change has “it has a certain lifetime” is odd end, and we may need a different wording.
			6. The SA may have a “t” for temporal in them.
			7. There is various SA, and some have a “t” and some do not.
	1. **Recess at 3:30pm**
1. **Wednesday PM1:** TGmd called to order at 1:33pm CEST by the chair, Dorothy STANLEY (HPE)
	1. Note that if you have any Patent issues to let her know – no issues noted.
	2. Reminder of Attendance
	3. Review Agenda for this slot:
		1. <https://mentor.ieee.org/802.11/dcn/17/11-17-0872-04-000m-july-2017-tgmd-agenda.pptx>
		2. Wednesday PM1
2. 11-17-939, 11-17-940 McCann
3. 11-17-970, 971 – James Yee
4. 11-17-1030 – Jouni MALINEN
	1. **Review submission – 11-17-940** – Stephen McCann
		1. <https://mentor.ieee.org/802.11/dcn/17/11-17-0940-00-000m-3gpp-ts-reference-per-liaison-11-17-0854-00.doc>
		2. Review document submission
		3. Proposed Text change “When this field is transmitted by a STA, with the intention of the field being received by a 3GPP non-AP STA, the preferred format and content of this field is defined in Annex I of 3GPP TS 24.302.
		4. Discussion –
			1. The use of 3GPP non-AP STA is not really defined, and getting a better definition is probably warranted.
			2. Better to change STA to AP as this only comes from an AP.
			3. Concern with the use of “3GPP non-AP or 3GPP STA”
			4. Alternatives may include an “UE STA”.
			5. Review in the standard the uses of 3GPP.
				1. Page 1223.25 –
				2. We do not need the “3GPP” prefix to the non-STA.
		5. Update the proposed text addition.
			1. “When this field is transmitted by a STA, with the intention of the field being received by a 3GPP non-AP STA, the preferred format and content of this field is defined in Annex I of 3GPP TS 24.302.
			2. At P1223L25 change from “a 3GPP non-AP STA” to “a non-AP STA”
			3. Do we need this addition at all? It is the “3GPP” as an adjective that is causing the concern.
			4. We must determine what is necessary to be said about this.
			5. The ANQP fields are not all 3GPP related – most are not.
		6. Refer to Stephen to work on the wording that does not allude to having this be 3GPP specific when not needed.
	2. **Review Submission – 11-17-939** – Stephen McCann
		1. <https://mentor.ieee.org/802.11/dcn/17/11-17-0939-00-000m-comment-collection-anqp-tab.doc>
		2. CID 105 and 343
			1. Review Comments
			2. Proposed Resolution: Accept
			3. No objection Mark Ready for Motion
			4. CID 105 and 343 (MAC): ACCEPTED (MAC: 2017-07-12 12:00:56Z)
		3. CID 352 MAC
			1. Review Comments
			2. Proposed Resolution: Change ANQP Query response to AP List Response ANQP-element.
			3. Proposed Resolution: CID 352 (MA)C: REVISED (MAC: 2017-07-12 12:04:01Z) - Make changes as indicated in 11-17/939r1 for CID 352 and 354. This makes the changes requested with corrected reference to the ANQP-element.
			4. No objection – Mark Ready for Motion
		4. CID 345 MAC
			1. Review Comment
			2. Discussion – why do we add a sentence to replace the proposed deleted sentence.
			3. Why not just delete both sentence? We may not need a new sentence. –
			4. Review the draft to see if this style appears on other ANQP descriptions.
			5. The reference was incorrect – the correct reference is 11.25.3.3.14 (Query AP list procedure)
			6. The comment also indicates that the sentence does not read well.
			7. Change the last sentence to “See 11.25.3.3.14 (Query AP list procedure) for information on the Query AP list procedure.
			8. Proposed Resolution: CID 345 (MAC): REVISED (MAC: 2017-07-12 12:08:27Z): Change the sentence to "See 11.25.3.3.14 (Query AP list procedure) for information on the Query AP list procedure."
		5. CID 344 MAC
			1. Review Comment – re: 9.4.5.25
			2. Proposed changed Text:

Each AP N Query Response field contains an ANQP response corresponding to each ANQP Query ID in the received Query AP List ANQP-element as specified in 9.4.5.24 (Query AP List ANQP-element(11ai)). Each ANQP response comprises one or multiple ANQP-elements (Table 9-281 (ANQP-element definitions)).~~is a container that contains one or multiple ANQP-elements (Table 9-588 (ESP Information field format)) that correspond to the ANQP response to the received Query AP List ANQP-element as specified in 9.4.5.24 (Query AP List ANQP-element(11ai)). This field is also formatted in accordance with ANQP. This field can contain one or more values of the ANQP attributes that are specific for a particular AP and were requested by a STA via the Query AP List ANQP-element.~~

* + - 1. Proposed Resolution: CID 344 (MAC): REVISED (MAC: 2017-07-12 12:16:56Z): Change the paragraph to, "Each AP N Query Response field contains an ANQP response corresponding to each ANQP Query ID in the received Query AP List ANQP-element as specified in 9.4.5.24 (Query AP List ANQP-element(11ai)). Each ANQP response comprises one or multiple ANQP-elements (Table 9-281 (ANQP-element definitions))."
			2. Mark Ready for Motion
		1. CID 349 MAC
			1. Review comment re-11.25.3.3.1
			2. Discussion of the sentence structure and if the proposed change causes confusion with “the cache”.
			3. More discussion on how to word the change.
			4. Proposed Resolution: CID 349 (MAC): REVISED (MAC: 2017-07-12 12:20:36Z): Change the paragraph to, "The STA caches the ANQP CAG Version and ANQP responses corresponding to each Info ID from the received CAG ANQP-element together with the values of BSSID, or HESSID and the corresponding SSID of the responding AP. The STA obtains the required ANQP responses either as an ANQP response to a previous ANQP request, or by transmitting an ANQP request for the ANQP response"
			5. No Objection - Mark Ready for Motion
		2. CID 353 MAC
			1. Review Comment: re – 11.25.3.3.1
			2. Discussion on the grammar being used.
			3. Proposed Resolution: CID 353 (MAC): REVISED (MAC: 2017-07-12 12:24:20Z): Change the sentence to,

"If the CAG Versions do match, the STA should use the cached ANQP elements corresponding to that CAG Version for network discovery (11ai)"

* + - 1. No Objection - Mark Ready for Motion
		1. CID 354 MAC
			1. Review Comment: re – 11.25.3.3.1
			2. Discussion on the grammar being used.
			3. Discussion of removing “associated with”. Changing to “mapped to”.
			4. Concerned with assignment and mapped in the same sentence.
			5. “out of the scope” change to “outside the scope”
			6. Change the sentence to “The mapping of the ANQP CAG Version to the ANQP elements by an advertisement server is outside the scope of this document.
			7. Proposed Resolution: CID 354 (MAC): REVISED (MAC: 2017-07-12 12:27:01Z): Change the sentence to "The mapping of the ANQP CAG Version to the ANQP elements by an advertisement server is outside the scope of this standard."
			8. No Objection - Mark Ready for Motion
	1. **Review submission 11-17/971r1** James YEE
		1. <https://mentor.ieee.org/802.11/dcn/17/11-17-0971-01-000m-enhancement-to-beacon-report.docx>
		2. Review submission Abstract:

[The IEEE 802.11-2016 specification defines the Beacon Request and Beacon Report feature, by allowing the reporting STA to send its report in one or more Radio Measurement Report frames. Interop events at external organizations have shown that STA implementations are very diverse wrt beacon reporting, some implementations put one Beacon Report in one Radio Measurement frame and send multiple frames, while others put multiple Beacon Reports in one frame, and may or may not need to send multiple frames as a response to a Beacon Report Request.

In many cases, the AP STAs may need to process and take action on the content of the Beacon Reports in a time sensitive manner, but they do not have a way to know which Beacon Report is the last frame. As such, the AP implementations either wait for an unnecessarily long time to receive all Beacon Report frames, or they take decisions based on the content of a subset of the Beacon Report frames received from non-AP STAs.

This document proposes a backward compatible way for 802.11-2016 spec Beacon Reporting feature, which would allow for an AP STA to request, and for a non-AP STA to add into the Beacon Report an indication to indicate whether the Beacon Report is the last frame or there are more expected.]

* + 1. Review page 2 and the proposed new subelements being proposed.
		2. Positive support to add this not only here, but also in other parts.
		3. Figure 9-950 has the wrong figure number – should be 9-618.
		4. Subelement ID numbers are arranged in relative good order.
			1. Discussion on where the assignments may have come from.
		5. Note that Subelement ID 164 for both the Request and Report.
		6. Discussion on the use of the same ID for both the request and report.
		7. How this would be used was discussed.
		8. The Length field wording should be “the Length field is set to one”.
		9. The Subelement ID is not an ANA controlled field.
		10. The concern that the Subelement is only included once and in a particular order. Need to ensure we have the proper text.
		11. Discussion on how the id was allocated.
		12. Including requests when not needed seemed unnecessary.
		13. We can use the reserved numbers, but using the same number does seem like a good scheme.
		14. Discussion on the use of the Subelement and how to indicated that this is the last element.
		15. The Sense of the discussion is on the path to be incorporated, but needs a check on page 900 to see if more changes are needed.
	1. **Review Submission: 11-17-1030** – Jouni MALINEN
		1. <https://mentor.ieee.org/802.11/dcn/17/11-17-1030-00-000m-sae-retry-timeout-clarification.docx>
		2. Review submission
		3. Abstract:

[802.11-2016 spec defines the use of SAE authentication and key establishment protocol.

One could read the text in a way that key generation has to happen within dot11RSNASAERetransPeriod (timer t0), otherwise SAE messages are retransmitted.

Here it is proposed to add two minor clarifications to prevent misinterpretation.

* + 1. The note should be added to the end of the quoted text in the Description.
		2. The implementation of SAE was deemed to be a problem if they used this in the infrastructure mode.
		3. The concern may be more rightly directed that the 40-millisecond time frame as this would not be able to use this either mode.
		4. Change the time duration may help the issue instead.
		5. Discussion on the use of this timer and if it would cause a problem or not.
		6. There are a couple possible paths – change the default value or preclude the infrastructure statement.
		7. Expect that this will come back for later discussion.
		8. The group seemed to need more information.
	1. **Review submission 11-17/906** Jouni MALINEN
		1. <https://mentor.ieee.org/802.11/dcn/17/11-17-0906-02-000m-fils-fixes.docx>
		2. CID 102
		3. Abstract:

This document proposes changes to IEEE Std 802.11ai-2016 (as merged into IEEE P802.11-REVmd/D0.1) to fix issues found during implementation and review efforts after the amendment publication.

Rev1:

- PMKID derivation changes to use PMK instead of KEK

- Use PFS unconditionally in FILS Public Key authentication with PMKSA caching

Rev2:

- note RNR / CID 340 (should be discussed together with the change here)

- clarify MIC field use in FTE (it is present in all cases)

- a forgotten edit for the PFS case with FILS Public Key authentication with PMKSA caching

* + 1. Review Discussion on page 2.
			1. CID 340 – have alternative solution included here
		2. Due to time, just a brief overview was given.
		3. More discussion will be taken with offline and bring back later.
	1. Resume tomorrow PM1 and PM2
		1. Adrian, Graham, Jon
	2. **Recess at 3:30pm**
1. **Thursday PM1** – TGmd called to order at 1:30pm CEST by Dorothy STANLEY
	1. Patent Policy reviewed – call for Patents – no response
	2. Review Agenda:
	3. <https://mentor.ieee.org/802.11/dcn/17/11-17-0872-05-000m-july-2017-tgmd-agenda.pptx>

Thursday PM1

* 1. 11-17-959 – Adrian STEPHENS
	2. 11-17-987, 988 – Graham SMITH
	3. 11-17-928 – GEN comments – Jon ROSDAHL
		1. Also, reviewed Motions that are included in agenda file doc 11-17/872r5.
		2. No objection to Agenda Plan for today.
	4. **Review Submission: 11-17-959** – Adrian STEPHENS
		1. <https://mentor.ieee.org/802.11/dcn/17/11-17-0959-00-000m-proposed-resolution-for-cid-336.doc>
		2. CID 336 MAC
			1. Review Comment
			2. Review discussion
			3. Legacy STA vs STA
			4. **Proposed Resolution:** Revised. At 1558.30 replace: “A STA that receives an extensible element in which the Length field plus two exceeds the value indicated in Table 9-77 (Element IDs) shall discard any part of the element beyond the maximum length indicated in this table and shall otherwise . . . ” with: “Each element that has a Yes in the Extensible column has an Information field with a known length that can be determined from the definition of the Information field in this Standard – i.e., the Information field has a fixed structure, or has a variable structure whose length is determined by fields within the Information field. A STA that receives an extensible element in which the Length field exceeds the known length of the Information field of that element shall discard any part of the Information field beyond the known length and shall otherwise . . .”

In reply to the commenter, Table 9-77, in a previous revision, held a column of lengths. When that column was removed, the cited text should have been updated. The change above updates the cited text to remove this dangling reference.

In reply to the commenter’s question: “What is "A STA" in line 30, is it legacy STA or new STA. How do they parse the Extensible element, respectively？”, a STA is a device that is compliant to the normative requirements for a STA defined in the standard. The standard can only make statements about devices compliant with it, however the extensibility has been designed to ensure that this and subsequent revisions can update extensible elements without “causing confusion” to STAs compliant to any revision of the standard.

* + - 1. Discussion on proposed resolution
				1. Question on how covert channels may make use of dropping information.
				2. Extensibility is a feature that we have deemed good. So, if the intent is to remove extensibility would need to be a separate comment.
				3. The issue in question is if the Element IDs shall discard any part of the element
			2. No Objection - Mark Ready for Motion
	1. **Review Submission - 11-17/987r1**– Graham SMITH
		1. <https://mentor.ieee.org/802.11/dcn/17/11-17-0987-01-000m-resolutions-for-dcf-and-edca-comments-d0-1.docx>
		2. CID 294 and CID 189
			1. Review Comments
			2. One reference is in EDCF and one is in DCF
			3. Review Discussion
			4. Review Option 1 and Option 2
			5. Discussion on difference in counter vs timer
			6. If we change to “counter” then what is the speed at which it counts down? Do we have a rate that the counter runs?
			7. Both options change from timer to counter, but the concept was to keep one in time units and one in counts of slots.
			8. The introduction portion may have too much detail, and can be cleared up with less detail.
			9. Deferral of these comments for more work
		3. CID 282 MAC
			1. Review Comment
			2. Review discussion
			3. Explanation on the use of having both the SSRC and SLRC.
			4. Concern with changing the behaviour of the STA.
			5. The Station count which is for the contention window, and the per MSDU count which is for the retry count use.
			6. Discussion on the use of the variables used for the short and long retry counters.
			7. One way to look at this that you are trying to respond to different things. One is congestion as a whole and one on a per MPDU basis and problems on a connection basis.
			8. This condition has existed forever.
			9. If transmissions change receivers, and not retry timeout May change behaviour for legacy devices. STA count for station versus packet count. MSDU or Data frames are to be counted?
			10. More direction and work needed.
		4. CID 255 MAC
			1. Review comment
			2. Review discussion
			3. The comment of “one and only one” means only one.
			4. Question on if the change is warranted?
				1. What is the error?
				2. No Error no change needed.
			5. The note may just be in the wrong place, and if we move it, it could be clearer.
			6. Some support for the change to the text, which gets us out of having an option to “do nothing”
			7. Concern that changes may cause a change to behaviour.
			8. Making changes for clarity just for the sake of clarity may not be the best path.
			9. This is just what is done on a slot boundary, and no action is valid possibility.
			10. **Straw poll:**
				1. Make the changes in the direction of the commenter
				2. Move Note
				3. Reject
				4. Result: A=5 B=9 C=7
			11. Proposed Resolution: CID 255 (MAC): REVISED (MAC: 2017-07-13 12:43:41Z): Move NOTE at 1487.25 to 1487.51. In response to the commenter, the text "one and only one" is deemed to be clear. Mark Ready for Motion
		5. CID 200 MAC
			1. Review Comment
			2. Review Discussion
			3. We have not agreed to CID 189, so just do the Accept would be the reasonable direction.
			4. We need to not do just word substitution, or we have not changed anything. The “Invoke” to something else is not going to make it better.
			5. “To Invoke” is not necessarily a bad thing.
			6. Is the real problem that the title does not match?
			7. We may want to reject the comment.
			8. Discussed what the reject text should be to address the comment.
			9. Proposed Resolution: CID 200 (MAC): REJECTED (MAC: 2017-07-13 12:52:29Z): The phrase "Invoke the backoff procedure" is in 6 places. The text at 1486.30 makes it clear what this means.
			10. Mark the Comment Ready for Motion
		6. CID 227 MAC
			1. Review Comment
			2. Note that the clause and page were updated Clause: 10.22.2.7 and p1492.6
			3. Review discussion
			4. Discussion on the description usage.
			5. “a” means “all” meaning “every”
			6. Proposed Resolution: CID 227 (MAC): REJECTED (MAC: 2017-07-13 13:05:27Z): In the Standard, in this context, the term "a PPDU" is interpreted as "every PPDU" and therefore the instruction is unambiguous.
			7. Mark Ready for Motion
		7. CID 365 MAC
			1. Review Comment
			2. Review Discussion
			3. - The standard clearly states that you backoff until you transmit the frame (whether it is there or not).
			4. - The comment should be rejected.
			5. - We need to describe what happens when there is no pending frame.
			6. The implication that there is no normative case is wrong, the normative case is do nothing when there is no frame available.
			7. Discussion on rejection reason.
			8. Proposed Resolution: CID 365 (MAC): REJECTED (MAC: 2017-07-13 13:17:42Z): If no frame is available, then the normative behaviour is the "Do nothing" case at 1487.24.
			9. Mark Ready for Motion
		8. CID 364 MAC
			1. Review comment
			2. Review Discussion
			3. Changing the conditions to make it address the greater than or equal case.
			4. Proposed Resolution: CID 364 (MAC): REVISED (MAC: 2017-07-13 13:22:03Z): Change
			5. "If CW[AC] is equal to CWmax[AC], CW[AC] shall be left unchanged."
			6. to
			7. "Else, CW[AC] shall be set to Cwmax[AC]."
			8. No objection - Mark Ready for Motion
	2. **Review submission -11-17/988** – Graham SMITH
		1. <https://mentor.ieee.org/802.11/dcn/17/11-17-0988-00-000m-resolutions-for-qos-and-tspec-comments-d0-1.docx>
		2. CID 220 MAC
			1. Review Comment
			2. Review Discussion
			3. Proposed Resolution: CID 220 (MAC): REJECTED (MAC: 2017-07-13 13:29:00Z): A STA may or may not do anything with this optional field and this may be the case with many informational fields. Hence adding a note to that effect is not judged to be necessary.
			4. Mark Ready for Motion
	3. Recess at 3:30pm
1. **Thursday PM2** – TGmd called to order at 4:00pm CEST by Dorothy STANLEY
	1. Note **Patent Policy** – No items noted.
	2. **Review Agenda:**
		1. <https://mentor.ieee.org/802.11/dcn/17/11-17-0872-06-000m-july-2017-tgmd-agenda.pptx>

Thursday PM2

* Presentations 11-17-956, 1076-Emily QI
* 11-17-906 – Jouni MALINEN
* 11-17-1100, 1102, 1103 Marc EMMELMAN
* Approve initial schedule/Motions
* AOB
* Plans for July-Sept
* Adjourn
	+ 1. We will stop at 5pm today to do motions
		2. Ganesh also has a document – 11-17/1078
		3. No objection to agenda plan.
	1. **Review submission 11-17/956r4**-Emily QI
		1. <https://mentor.ieee.org/802.11/dcn/17/11-17-0956-04-000m-revmd-wg-cc25-for-editor-ad-hoc.xls>
		2. This file is the Editor’s comment file – 75 comments total
		3. First Tab has 38 comments that were asked for approving today.
		4. Mark RISON has asked for a couple comments, and R4 has those moved to another tab.
		5. CID 123 – would like to pull from motion and review the proposed change
		6. This will be the plan for the motion at 5pm
	2. **Review Submission 11-17/1076**-Emily QI
		1. <https://mentor.ieee.org/802.11/dcn/17/11-17-1076-01-000m-cc25-proposed-resolutions-for-cid-8-and-others.doc>
		2. This document contains proposed resolutions to CC25 comments: CID 8, 9, 10, 11, 12, 16, 347, and 348,
		3. Review Proposed Changes
		4. Question of where the format of the variable field.
			1. Need to insert “one or more 2 Octet” may fix the concern.
			2. Add “Each ANQP Query ID field is an unsigned integer of size two octets.
		5. There is a concern that when you say “one or more” that you always have one, so you may not actually have one in some cases.
		6. Request for having the “nx6” instead of “variable”
		7. Review from the beginning the changes being proposed.
		8. The intent is to change the TGai material to be aligned with the format and style of the base standard.
		9. Checking on the ANQP that fields that say “one or more” are clearly identified, and that those that can be “zero or more” are clearly identified.
		10. New figure 9-659a which is the tuple for the AP Response Tuple field format.
		11. Note that the AP Response Tuple field length field indicates the size of the response field.
		12. A query response with zero ANQP-elements, indicates that the AP does not have a response.
		13. After the review, the file was posted as r2.
		14. <https://mentor.ieee.org/802.11/dcn/17/11-17-1076-02-000m-cc25-proposed-resolutions-for-cid-8-and-others.doc>
		15. CID 8, 9, 10, 11, 12, 16, 347, and 348
			1. Proposed Resolution: - Incorporate the changes in 11-17/1076r2
			2. No objection - Mark Ready for Motion
	3. **Review submission: 11-17-906r3** – Jouni MALINEN
		1. <https://mentor.ieee.org/802.11/dcn/17/11-17-0906-03-000m-fils-fixes.docx>
		2. Abstract:

This document proposes changes to IEEE Std 802.11ai-2016 (as merged into IEEE P802.11-REVmd/D0.1) to fix issues found during implementation and review efforts after the amendment publication.

Rev1:

- PMKID derivation changes to use PMK instead of KEK

- Use PFS unconditionally in FILS Public Key authentication with PMKSA caching

Rev2:

- note RNR / CID 340 (should be discussed together with the change here)

- clarify MIC field use in FTE (it is present in all cases)

- a forgotten edit for the PFS case with FILS Public Key authentication with PMKSA caching

Rev3:

- fix PFS for PMKSA caching (FILS-Key-Data / ICK derivation)

* + 1. Review submission.
		2. This submission addresses CID 114 (PHY) CID 102 (GEN). and CID 232 (PHY).
		3. Concern that the instructions for the additions to table may be hard for the editors to understand. Jouni will be on call to help clarify when edits are applied.
		4. Change to 12.7.1.3 was concerned that there was a potential security risk that was incorrectly specified.
		5. Concern with Figure 9-594 and if the FILS Criteria should be 0 or 1 octet like the rest.
		6. Time was called, so we moved to Motions and then will return to this submission
	1. **Motions**
		1. <https://mentor.ieee.org/802.11/dcn/17/11-17-0872-06-000m-july-2017-tgmd-agenda.pptx>
		2. **Motion #1:** CID 331

Resolve CID 331 as “Accepted”.

Note this incorporates the changes in 11-17/0871r0 <<https://mentor.ieee.org/802.11/dcn/17/11-17-0871-00-000m-extended-nss-editorial-errata.docx>> as agreed on the 2017-05-30 teleconference

* + - 1. Moved: Jouni MALINEN
			2. 2nd: Mike MONTEMURRO
			3. Results: Motion #1: 18-0-0 Motion #1 passes
		1. **Motion #2:** July session and Telecon CIDs
		Approve the comment resolutions on the

“PHY Motion A” tab in doc 11-17/930r2 <<https://mentor.ieee.org/802.11/dcn/17/11-17-0930-02-000m-revmd-cc25-phy-plus-comments.xls>> and

the “Comments for approving” tab in doc 11-17/956r4 <<https://mentor.ieee.org/802.11/dcn/17/11-17-0956-04-000m-revmd-wg-cc25-for-editor-ad-hoc.xls>> except CID 123

“Motion MAC-A” tab in 11-17/0927r4 <<https://mentor.ieee.org/802.11/dcn/17/11-17-0927-04-000m-revmd-mac-comments.xls>>

* + 1. Moved: Stephen MCCANN
		2. 2nd: Emily QI
		3. Results Motion #2: 17-0-0 Motion #2 Passes
		4. **Motion #3** LC TIG Comments
		5. Resolve CIDs 332, 333, 334, 335 as “Rejected” with a resolution of Comment is for the LC TIG Comment review not the REVmd Comment Collection.
			1. Moved: Jon ROSDAHL
			2. 2nd: Mike MONTEMURRO
			3. Results: Unanimous – Motion #3 Passes
		6. **Motion #4:** – 11ai editorial CIDs

Resolve CIDs 8, 9, 10, 11, 12, 16, 347, and 348, as “Revised” with a resolution of “Incorporate the text changes in 11-17/1076r2 <<https://mentor.ieee.org/802.11/dcn/17/11-17-1076-02-000m-cc25-proposed-resolutions-for-cid-8-and-others.doc>> . These changes resolve the comment in the direction suggested by the commenter.”

* + 1. Moved: Emily QI
		2. 2nd: Stephen MCCAAN
		3. Results Motion #4: Unanimous – Motion #4 Passes
	1. **Review Schedule**
		1. Based on the discussion from Monday,
		2. Updated Timeline shows
			1. January 2018 – Initial WGLB
			2. September 2018 –D2.0 WGLB Recirculation LB
			3. February 2019 – Form SB Pool
			4. March 2019 – MEC/MDR done
			5. April 2019 – Initial SB
			6. October 2019 – Recirculation SB
			7. July 2020 – Final WG/EC approval
			8. September 2020 – RevCom/SASB approval
			9. Will require off-month ad-hoc meetings
	2. **Motion – Editor**
		1. Motion Editor\_2 Comments
		2. A Motion will be prepared, but need to do later in the day and then we can consider a motion on Jouni’s submission as well.
	3. **Return to Submission 11-17-906r3** – Jouni MALINEN
		1. <https://mentor.ieee.org/802.11/dcn/17/11-17-0906-03-000m-fils-fixes.docx>
		2. Continue the review where we left off about page 7.
		3. Figure 9-328 should have been 9-320.
		4. After review, some minor changes were captured and an R4 was posted for motion.
		5. <https://mentor.ieee.org/802.11/dcn/17/11-17-0906-04-000m-fils-fixes.docx>
	4. **Motions:**
		1. **Motion #5** – 11ai FILS fixes CID
		2. Resolve CIDs 102 and 114, as “Revised” with a resolution of “Incorporate the text changes in 11-17/906r4 <https://mentor.ieee.org/802.11/dcn/17/11-17-0906-04-000m-fils-fixes.docx> except for changes to 9.4.2.171.2. These changes resolve the comment in the direction suggested by the commenter.” And Resolve CID 232 as “Accepted”
		3. Moved: Jouni MALINEN
		4. 2nd: Mike MONTEMURRO
		5. Results: 16-0-0 Motion #5 passes
		6. **Motion #6:** Editor2 CIDs
			1. Approve the comment resolutions on the “Comments” tab in 11-17/929r1 <<https://mentor.ieee.org/802.11/dcn/17/11-17-0929-01-000m-revmd-editor2-comments.xlsx>>, except for CIDs 246, 189, 235, 331, 48, 231, 238, 263
			2. Moved: Emily QI
			3. 2nd: Mike MONTEMURRO
			4. Results: 15-0-0 Motion #6 Passes
	5. **Review Schedule plan for July – Sept 2017**
		1. Objectives: Comment collection and IEEE Std 802.11ah-2016 roll-in (complete roll-in before Sept 2017 meeting)
		2. Conference calls
			1. Fridays July 28, August 4, 11, 18, 25, 10am Eastern 2 hours
		3. Potential October ad-hoc?
		4. Schedule review
		5. Availability of 11md D1.0 in the IEEE store
			1. TBD
		6. Forward to ISO JTC1/SC6 WG1
			1. TBD
	6. **Adjourn at 6:00pm**

**References:**

Monday PM1:

1. <https://mentor.ieee.org/802.11/dcn/17/11-17-0872-02-000m-july-2017-tgmd-agenda.pptx>
2. <https://mentor.ieee.org/802.11/dcn/17/11-17-0567-00-000m-minutes-revmd-initial-f2f-mtg-daejeon.docx>
3. <https://mentor.ieee.org/802.11/dcn/17/11-17-0885-02-000m-minutes-revmd-may-and-june-telecons.docx>
4. <https://mentor.ieee.org/802.11/dcn/16/11-16-1072-00-000m-minutes-for-revmc-brc-face-to-face-meeting-sept-12-15.docx>
5. <https://mentor.ieee.org/802.11/dcn/17/11-17-1089-00-000m-revmd-cc25-comment-resolutions.doc>

Tuesday PM1:

1. <https://mentor.ieee.org/802.11/dcn/17/11-17-0872-03-000m-july-2017-tgmd-agenda.pptx>
2. <https://mentor.ieee.org/802.11/dcn/17/11-17-0989-00-000m-resolutions-for-obsolete-and-repace-comments-d0-1.docx>
3. <https://mentor.ieee.org/802.11/dcn/17/11-17-1089-00-000m-revmd-cc25-comment-resolutions.doc>

Wednesday PM1:

1. <https://mentor.ieee.org/802.11/dcn/17/11-17-0872-04-000m-july-2017-tgmd-agenda.pptx>
2. <https://mentor.ieee.org/802.11/dcn/17/11-17-0940-00-000m-3gpp-ts-reference-per-liaison-11-17-0854-00.doc>
3. <https://mentor.ieee.org/802.11/dcn/17/11-17-0939-00-000m-comment-collection-anqp-tab.doc>
4. <https://mentor.ieee.org/802.11/dcn/17/11-17-0971-01-000m-enhancement-to-beacon-report.docx>
5. <https://mentor.ieee.org/802.11/dcn/17/11-17-1030-00-000m-sae-retry-timeout-clarification.docx>
6. <https://mentor.ieee.org/802.11/dcn/17/11-17-0906-02-000m-fils-fixes.docx>

Thursday PM1:

1. <https://mentor.ieee.org/802.11/dcn/17/11-17-0872-05-000m-july-2017-tgmd-agenda.pptx>
2. <https://mentor.ieee.org/802.11/dcn/17/11-17-0959-00-000m-proposed-resolution-for-cid-336.doc>
3. <https://mentor.ieee.org/802.11/dcn/17/11-17-0987-01-000m-resolutions-for-dcf-and-edca-comments-d0-1.docx>
4. <https://mentor.ieee.org/802.11/dcn/17/11-17-0988-00-000m-resolutions-for-qos-and-tspec-comments-d0-1.docx>

Thursday PM2:

1. <https://mentor.ieee.org/802.11/dcn/17/11-17-0872-06-000m-july-2017-tgmd-agenda.pptx>
2. <https://mentor.ieee.org/802.11/dcn/17/11-17-0956-04-000m-revmd-wg-cc25-for-editor-ad-hoc.xls>
3. <https://mentor.ieee.org/802.11/dcn/17/11-17-1076-01-000m-cc25-proposed-resolutions-for-cid-8-and-others.doc>
4. <https://mentor.ieee.org/802.11/dcn/17/11-17-1076-02-000m-cc25-proposed-resolutions-for-cid-8-and-others.doc>
5. <https://mentor.ieee.org/802.11/dcn/17/11-17-0906-03-000m-fils-fixes.docx>
6. <https://mentor.ieee.org/802.11/dcn/17/11-17-0872-06-000m-july-2017-tgmd-agenda.pptx>
7. <https://mentor.ieee.org/802.11/dcn/17/11-17-0871-00-000m-extended-nss-editorial-errata.docx>
8. <https://mentor.ieee.org/802.11/dcn/17/11-17-0930-02-000m-revmd-cc25-phy-plus-comments.xls>
9. <https://mentor.ieee.org/802.11/dcn/17/11-17-0956-04-000m-revmd-wg-cc25-for-editor-ad-hoc.xls>
10. <https://mentor.ieee.org/802.11/dcn/17/11-17-0927-04-000m-revmd-mac-comments.xls>
11. <https://mentor.ieee.org/802.11/dcn/17/11-17-1076-02-000m-cc25-proposed-resolutions-for-cid-8-and-others.doc>
12. <https://mentor.ieee.org/802.11/dcn/17/11-17-0906-03-000m-fils-fixes.docx>
13. <https://mentor.ieee.org/802.11/dcn/17/11-17-0906-04-000m-fils-fixes.docx>
14. <https://mentor.ieee.org/802.11/dcn/17/11-17-0929-01-000m-revmd-editor2-comments.xlsx>
15. <https://mentor.ieee.org/802.11/dcn/17/11-17-0872-07-000m-july-2017-tgmd-agenda.pptx>