IEEE P802.11
Wireless LANs

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|  TGbi Minutes IEEE 802 Plenary Session 10-15 July 2022 |
| Date: 2022-07-17 |
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Abstract

This document contains the minutes for the IEEE 802.11bi task group meeting that took place during the IEEE 802 Mixed-mode Plenary Session 10-15 July 2022 in Montreal, Canada.

Note: Highlighted text are action items.

Q – proceeds a question

A - proceeds an answer

C - proceeds a comment

Yellow highlight - action point

**Chair: Carol Ansley, Cox Communications**

**Secretary: Amelia Andersdotter, Sky UK**

**Vice-chairs: Jerome Henry, Cisco; Stephen McCann, Huawei**

**Technical editor: Po-Kai Huang, Intel**

**1st slot. Tuesday 12 July, 16:00 ET.**

Chair calls meeting to order at 16:10 ET.

Agenda slide deck: 11-22-848r1:

1. Reminder to do attendance.
2. Reminder that this is a paid registration session. Registration is mandatory.

Failure to register could lead to loss of voting rights.
3. The chair mentioned the call for essential patents
	1. No one responded to the call for essential patents
4. The chair covered the IEEE copyright and participation rules.

Special mention of mixed-mode etiquette and procedures.
5. **Discussion of agenda 11-22-848r1 (slide #17)**
	1. Agenda approvedby unanimous consent (22 remote, 9 local).
6. **Administration**
	1. **Motion #15:** Approve previous minutes

Approve the minutes for:

2022 March 802.11 Electronic Interim Meeting: 11-22/801r0,

TGbi Teleconferences: 11-22/836r0, 11-22/837r0, 11-22/906r0

Moved: Po-Kai Huang

Seconded: Jerome Henry

Approved by unanimous consent (22 remote, 9 local).

* 1. **Teleconference cadence**
		1. Easier to keep the weekly teleconferences at cancel as needed.
		2. Thursday 9AM ET slot will be kept unless and until the 10AM ET slot is open.
1. **Presentations**
	1. **Requirement for Changing TSF (11-22-1021r1),** Duncan Ho (Qualcomm)

	Time Service Function (TSF) field is transmitted in the regularly transmitted beacon. There is a need to change its value when transmitted over-the-air.

**Discussion:
C:** TSF seems to be the only field that changes in real-time. I agree in general something might need to be remedied here. There are two separate things: how do we present the TSF field in probe responses, beacons, etc, and how do we present the TSF itself. Are you talking about how the TSF is presented in the beacons, or are you talking about how it is presented in and of itself.
**A:** I'm talking about the over-the-air display of the TSF. The local value of the TSF at the AP could remain as is. That's the intention.
**C:** So that saves us from having new synchronization mechanisms defined. That's a relief. But it should be clarified that this is the intention in requirement 40a, I feel.
**C:** When the OTA BSSID changes I agree that OTA TSF should be changed for BPE AP. But do we have a BSSID that is changed periodically, or which parameters are being changed more specifically?
**A:** The intention is to change the OTA TSF when the OTA BSSID changes. But if we don't have BSSID at all, I don't have that case covered.
**C:** If there is no BSSID there could be other ways of tracking the AP. We could be write "when AP parameters change", for instance. We should shift the emphasis away from BSSID in my view.
**A:** I have to think about this, and AP parameters are a tonne of parameters so that could be a bit complicated.
**C:** Maybe we can just remove the part of the sentence in the requirement that says "when the OTA BSSID is changed." That will remove the controversy and we can think about the details at a later stage.
**A:** Yes, we can try this.
**Chair:** Maybe this is enough for us to already approve this as a requirement?
**A:** I'm fine with that.
**Chair:** Does anyone have any objections to marking this requirement as ready to be motioned for being approved?

No objections.

**Chair:** I find we can mark the revised requirement 40a as ready to be motioned as a requirement for Tgbi.
**Q:** Shall I upload an r2 of the document following this discussion?
**Chair:** Yes, please upload an r2.

(11-22-1021r2 uploaded).

* 1. **New proposal for requirement 26 (11-22-848r1),** **Po-Kai Huang (Intel)**

This is a continuation of discussions previously described in doc. 11-22-906r0, para 7.1.

**Discussion:**

**C:** On requirement 26 we had a lot of discussions on which particular unicast management frames needed to be protected in CPE AP and CPE Client communications, so we've worked offline to compile a first list of unicast management frames that shall be protected following the completion of TGbi's work.
**C:** I would like to have a closer look.
**C:** Using the protection mechanism is by no means required from this proposal. It simply says that the mechanism for protecting these specific frames needs to be defined but there is no requirement to actually use that mechanism. I think this is a feature of this formulation of the requirement. Taking time for a closer look is fine for me.
**C:** We could introduce the word "optional protection" to make it extra clear that these frames do not need to mandatorily be protected.
**C:** Because it is a list of frames that each perform different functions having them optionally protected or dealing with them on a case-by-case basis will be easy.
**Chair:** Do we have any objection to marking this requirement as ready to be motioned as a requirement for TGbi?

No objections.

**Chair:** I find we can mark the revised requirement 26 as ready to be motioned as a requirement for TGbi.

* 1. **New proposal for requirement 24 (11-22-848r1), Po-Kai Huang (Intel)**This is a continuation of discussions previously described in doc. 11-22-801r0, para 7.1. **Discussion:
	C:** I still have the objection that this requirement already assumed the solution. I don't think this is the way to write requirements. A requirement specifies a need and solutions are discussed afterwards.
	**C:** At the same time we need specificity in our requirements.
	**C:** Requirements should have a given level of detail if the group agrees, and I don't think that is a problem in and of itself.
	**C:** This way of writing a requirement precludes any other solutions to the problem described here.
	**C:** So we could amend the text to say, after (Re)association Request frame, "and other protected frames TBD" as we have done in other requirements to leave flexibility.
	**C:** That would be more acceptable to me.
	**C:** I am adding the parenthesis "(and any other TBD protected management frames)".
	**Chair:** Does anyone have any objections to marking this reworded requirement as ready to be motioned for being approved as a requirement for Tgbi?

	No objections.

	**Chair:** I find we can mark the revised requirement 24 as ready to be motioned as a requirement for TGbi.
	2. **Reviewing BPE related requirements

	Chair:** We have time to start reviewing BPE related requirements. Do we want to do that with the remaining time or hold off until tomorrow?
	**C:** We could start looking at those.
	**C:** I thought we were looking for presentations?
	**C:** Didn't we already start looking at BPE requirements in requirement 40a that we just marked ready for motion? And we're looking at non-BSSID use-cases?
	**C:** I'm not sure now if we're grouping requirement 40a with BPE requirement or with CPE requirements.
	**Q:** The ones that are remaining now are BPE requirements, right?
	Chair: That statement is right. We may have one or two that are not BPE related, but the BPE requirement, non-backward compatible features are where progress is very slow.
	**C:** I think the BPE requirements entail a lot of difficult work that will spur a lot of innovative action, but it does require more specificity and effort. But we may be able to agree on some high-level stuff.
	**C:** The mobile AP and some of these privacy mechanisms will require hardware changes. The requirements that we are able to agree on are all software related. So I think this creates additional challenges for our work.
	**C:** We could try to isolate BPE requirements in one consolidated list to see if that helps to get a more complete picture of these challenges. I'm also in favour of recess.
	**Chair:** I will try to compile the BPE related requirements on a few slides ahead of tomorrow's session.
1. **Any other business**No other business.
2. **Recess at 17:17 ET.**

**2nd slot. Wednesday 13 July 2022 10:30 ET**

1. **Call to order 11:35 ET.**
2. **Reminder of policies, procedures, attendance (see also point 1-4 above).**
3. **Review of agenda 11-22-848r2 (slide #17)**
	1. No comments on agenda. Unanimous proposal (22 remote participants + 4 local).
4. **Requirements Approval, Carol Ansley (Chair)**Plan to approve Requirements 16, 24, 26 and 40a by motion.

**C:** Can we review these requirements before we run the motion?
**C:** I would like the motion to reflect that requirement 26 does not contain an exclusive list of unicast management frames for which protection is provided. Currently it might be interpreted as such. This could be clarified in the motion text, for instance, just that it's not an exclusive list in case we want to attach other frames to it later.
**C:** That's acceptable to me. We can add an "other unicast management frames" to the list of frames in amendment 26.
**Chair:** I will add an additional element at the bottom of the list of unicast management frames in requirement 26.
**Chair:** With this change of requirement 26 text, are there any objection to including it in the motion today?

No objections.

**Chair:** I find we can mark the revised requirement 26 as ready to be motioned as a requirement for TGbi.

**C:** We seem to have defined a DS MAC address, and I'm concerned with this concept because it's not within our scope to define this. If everyone else is comfortable with this I don't have a problem. Do we have then different MAC addresses on the wired side of the transmission and the wireless? For me this terminology raises concerns.
**C:** As far as this document is concerned I believe there is common understanding around what we're trying to achieve. So I'm fine with the way it's currently worded with the understanding that the draft spec text will not create the sort of problems implied.
**Chair:** Do we need further revision of the language in requirement 16?
**C:** No.

Agreement that this is not necessary.

**Chair:** I find we need no further revision of the language in requirement 16.
5. **Motion requirements marked as "ready for motion" by previous discussions**

**Motion #16:** Approve requirements 16, 24, 26 and 40a marked as "to be motioned -agreed by unanimous consent" in doc 22/0848r3 and doc 22/1012r2. The requirements were agreed upon June 1, 2022, July 12, 2022 and July 13, 2022.

Moved: Dan Harkins
Seconded: Jerome Henry
Discussion?
**C:** I don't think we need to do a count since this is an internal motion.
**C:** I agree with that.
**Chair:** I will proceed by unanimous consent.

**Result:** Motion passed by unanimous consent. 24 remote and 9 local participants
6. **Timeline discussion

Chair:** Our current time-line is that we should identify all the features by now. We could push this ahead by two months given that we have had slow progress on BPE.
**C:** I'm fine to push ahead two months to September 2022 for feature discussions. Currently we don't have enough requirements to move forward in a useful way. But if we do push out I would like to request that the people who do care about BPE really contribute.
**C:** I'm also OK with pushing out the feature identification completion to September 2022. If things are not agreed by then I would suggest they should fall off our cart.
**C:** This time-line doesn't call for text proposals. Could it be clarified that text proposals also have a time-line? For instance, we could already be accepting text proposals on the agreed requirements. If we don't do that I can see us not meeting our targets for letter ballot.
**C:** We have the most difficult requirements left. Maybe we should allow parallel discussions?
**C:** I don't think it's good to postpone the time-line but I also don't see us having a choice. I would like to have more input from the task group on how much we need to do on the AP side.
**C:** I want to highlight that accepting text submissions at this stage could also detract from requirements discussions. I would urge caution in not blocking difficult requirements discussions by having draft spec text discussed.
**C:** If we can agree on requirements by September, then we should stop anyway.

**Chair:** I don't want to mention that in my closing report.

**C:** The text on slide 37 is fine.

Back to the agenda

**Chair:** Thank you everyone. I will move the feature complete time-line to September 2022. I also found we have a slight preference for completing our requirements work until we move ahead with considerations of draft text.

1. **Requirement Spreadsheet Review (11-22-1107r0), Carol Ansley (Chair)**

Presentation of a spreadsheet with requirements put forward for consideration by the task group at this time, together with approved-status and BPE-classification.

**Discussion:**
**Chair:** Do we want to progress with reviewing non-BPE requirements that are not yet approved?
**C:** I disagree that requirements 17-19 are BPE.
**C:** It says BPE in the requirements.
**C:** Ah, never mind.
**C:** I think BPE is equivalent to mobile AP at this time because otherwise we will have a lot of legacy problems. But we chose this generic term to describe these feature sets which is also fine by me.
**C:** I don't think we need to rename things in the requirements. Let's instead focus on getting requirements down and then name them correctly in the spec text. Some of the BPE proposals are not scalable, but I think we should still do them and just accept that we accommodate for those use-cases.
**C:** I want to agree with the previous two speakers.
**C:** Is it not correct that we are also dealing with an AP that is in the same device as a non-AP STA?
**Chair:** We have a suggestion to discuss requirements 17 and 19.
**C:** I am planning submissions on this so I would like to have the discussion a bit postponed.
**C:** I don't think requirement 17 is a reasonable requirements. You're basically saying what should happen if no clients are there. What could we specify to satisfy this requirement?
**C:** What if we add that the BSSID is transmitted in the clear?
**C:** I still don't understand how we can specify this practice. Would we specify how often the BSSID changes or what is it that we need to specify to accommodate for this requirement. We already don't require AP to maintain their current BSSIDs so they can already do this.
**C:** Maybe we can remove this requirement then.
**C:** There will be only two frames affected by this requirement. We don't need to rush to remove it. For beacons this might make a difference.
**C:** We could perhaps specify it's an AP identification instead.
**C:** Our spec currently doesn't disallow this behaviour so I don't understand what additional things we need to specify. It's possible that using this behaviour is good for privacy, but I don't think having a requirement to do something that we already allow is useful. We could introduce it as a good practice.
**C:** In the current spec text, I don't think it's foreseen that a BSSID is ever changed since the beginning of the BSS. I think the requirement might be hinting at changing the BSSID during the BSS life-time. But you would get the same effect from terminating the BSS and starting a new. The benefit of being able to do this is that you could keep some BSS values, perhaps, like time-stamps - but we also want specifically not to do that, so the problem being solved here is probably best addressed by terminating the BSS. But I would propose that we focus on requirement 18 rather than requirement 17, since it has more relevant elements.
**C:** I see a value in keeping requirement 17 only if there are no clients associated just in case the BPE wants to offer services to would-be client with some services remaining intact.
**C:** It may be a discovery problem if BSSIDs rotate really quickly, or if a BSSID changes while clients are in the process of discovering a network. Perhaps we could clarify the requirement text to reflect that?
**C:** Also change the "BSSID" language to "AP identification information".
**Chair:** I will change the BSSID language to "AP identification" and add "and/or clients in the process of associating" at the end of requirement 18.
**C:** I still need more information on this. I don't understand what is happening with all the frames happening in the discovery process.
**C:** I read this requirement to say that we want to protect a moving AP's privacy and the privacy of associated clients that we can then build on top of. I'm in favour of requirement 18 as reworded.
**Chair:** Does anyone object to deprecating requirement 17 given the modifications to requirement 18?
**Chair:** I will mark requirement 17 as rolled into requirement 18.
**Chair:** Does anyone have any objections to marking requirement 18 as ready to be motioned?

No objections.

**Chair:** I find we can mark the revised requirement 18 as ready to be motioned as a requirement for TGbi.
**C:** I propose we immediately motion this.

**Motion #17:** Approve requirement 18 as updated from discussions in 22/1107r1.

Moved: Joseph Levy
Seconded: Luther Smith
Discussion? None.
Approved by unanimous consent (28 remote participants, 4 local)

**Chair:** We move on to requirement 19.
**C:** I don't understand why the client ever needs to know the DS MAC of an AP so I don't see why this requirement needs to be there.
**C:** If you use the dhcpclient I guess this problem does not exist, but there are some small networks with mobile AP and a couple of clients tethered to a phone that actually do use these features from the AP. So I think in this case it makes sense, since the associated clients would need to know which is the more stable MAC address to use for the connection.
**Chair:** I will note that we have already approved a similar requirement 12.
**C:** If the over-the-air MAC address that is being used for communication between non-AP STA and AP STA is changed I agree that needs to be communicated in a clean, private way. But I still don't understand how it relates to the DS MAC.
**C:** Maybe we are still confused with DS MAC terminology, but I have seen it to mean whatever MAC address is used for longer-term communication.
**Chair:** This discussion seems to be creating controversy. It would be good if interested parties coordinated offline about harmonizing the language in requirements.
2. **Any other business

Chair:** Are there any objections to releasing tomorrow's slot?
**C:** We should also reflect on keeping tomorrow's list and continue to work on the requirement list.
**C:** I would support using face-to-face time to get work down.
**Chair:** I will try to have particular topics for each teleconference leading up to September. That will hopefully help us progress.
**Chair:** I will cancel tomorrow's session.
3. **Adjourn at 12:28 ET.**