IEEE P802.11  
Wireless LANs

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| TGbi Minutes Mixed Mode **Interim Session 15-20 Jan 2023** | | | | |
| Date: 2023-02-07 | | | | |
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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 Wireless Interim Session 15-20 January 2023. The on-site location for the meeting was Baltimore, Maryland, USA. "Local time" refers to local time in Baltimore, Maryland, USA.

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. Monday 16 January 2023, 16:00 local time.**

Chair calls meeting to order at 16:04 local time.

Agenda slide deck: [11-22-2145r1](https://mentor.ieee.org/802.11/dcn/22/11-22-2145-01-00bi-january-interim-meeting-agenda.pptx)

1. Reminder to do attendance. Reminder to register for the session and to not attend the virtual meeting without paying appropriate meeting fees.
2. The chair mentioned the call for essential patents
   1. No one responded to the call for essential patents
3. The chair covered the IEEE copyright and participation rules.
4. **Discussion of agenda 11-22-2145r1 (slide #18)**
   1. Agenda approved by unanimous consent (8 remote participants, 13 in-room)
5. **Administration**
   1. **Motion #28:** Approve the minutes for:

2022 November 802.11 Plenary: [11-22/2054r0](https://mentor.ieee.org/802.11/dcn/22/11-22-2054-00-00bi-november-2022-plenary-minutes.docx),

TGbi Teleconferences: [11-22/2130r0](https://mentor.ieee.org/802.11/dcn/22/11-22-2130-00-00bi-teleconference-minutes-8-december-2022.docx) (8 Dec 2022), [11-23/0023r0](https://mentor.ieee.org/802.11/dcn/23/11-23-0023-00-00bi-teleconference-minutes-5-january-2023.docx) (5 Jan 2023)

Moved: Lili Hervieu

Seconded: Andy Scott

Approved by unanimous consent (18 remote participants, 15 in-room)

* 1. **Sessions/meeting discussion**Three sessions scheduled for the Wireless Interim meeting (Monday PM2, Wednesday PM2, Thursday AM2).   
       
     One joint session with TGbh scheduled for Thursday PM1.  
       
     Teleconferences will continue to be scheduled for Thursdays 9 AM ET or 10 AM ET (if the 10 AM ET slot is available). Three teleconferences will be scheduled between the January Wireless Interim and the March 802 Plenary (2 Feb, 16 Feb, 3 Mar).  
       
     Discussion on timeline postponed until after submissions.

1. **Technical Presentations**
   1. **proposed spec texts for protected version of unicast management frames (**[**11-22/1975r3**](https://mentor.ieee.org/802.11/dcn/22/11-22-1975-03-00bi-proposed-spec-texts-for-protected-version-of-unicast-management-frames.docx))**,** Po-Kai Huang (Intel)  
        
      Presentation of suggested specification text for Client Privacy Enhancement (CPE) unicast management frames.

**Discussion:**

**C:** I would prefer not to have any reserved bits after the CPE capabilities information. Also the CPE capabilities should be spread out over three rows in table Extended RSN Capabilities field.  
**Q:** Do you think these mechanisms are reusable for the BPE requirements?  
A: Yes. We may need BPE capabilities fields too in the Extended RSN Capabilities field table. At the moment there is only a subclause for Client Privacy Enhancement, but we can have another subclause for AP Privacy Enhancement.

* 1. **Proposed spec texts for 802.1X authentication utilizing authentication frame (**[11-23-0031r1](https://mentor.ieee.org/802.11/dcn/23/11-23-0031-01-00bi-proposed-spec-texts-for-802-1x-authentication-utilizing-authentication-frame.docx)**),** Po-Kai Huang (Intel)  
       
     Presentation proposes a mechanism to carry IEEE 802.1X EAPOL PDUs in authentication frames.  
       
     Discussion:  
       
     **Q:** What is the background to the requirement used to support this text?  
     **A:** It is to extend the protection of authentication frames to 802.1X data.  
     **Q:** Would it not be better to encapsulate EAP frames in .11 frames?   
     **A:** This is the proposal.  
     **C:** If you are using Wrapped Data Element, that is particular to FILS. I propose to put a field after the AKM Suite Selector where, for instance, the EAP frame could be contained. It would make it easier to fragment and defragment the entire frame.  
     **C:** I do not believe it's good to have a field at the end of the frame, after the information element. The field should be before the first information element, RSNE (I believe).  
     **A:** You want it before the AKM Suite Selector?  
     **A:** Yes.  
     **C:** The current mechanism you are describing clearly describe a EAPOL PDU but we could simplify this and not have a .1X header. We will have to do more work if we introduce EAP into .11 directly, but it's worth it.  
     **A:** Can we talk more offline?  
     **A:** Yes.  
     **Q:** Would it be better to call this EAP authentication?  
     **A:** Let's discuss offline. The rest of the presentation is similar but I suspect the discussion will be the same.
  2. **Proposed spec text for pre-assoc keys establishmentm (**[**11-23-0068r0**](https://mentor.ieee.org/802.11/dcn/23/11-23-0068-00-00bi-proposed-spec-text-for-pre-assoc-keys-establishment.docx)**), Duncan Ho (Qualcomm)**  
       
     Presentation introduces an extended version of the pre-association key establishment mechanism (PASN) defined in TGaz.  
       
     **Discussion:  
       
     C:** This mechanism should work also for .1X and be valid over more than 3 messages.  
     Q**:** The requirement is to encrypt (re)association request and response frames, which requires authentication frame exchange key exchange. But KDF already does that. Why would we not use that? PASN does not encrypt the frame body, so this would have to be solved separately.  
     A**:** You are correct that PASN does not encrypt pre-association request and response frames. Presentation tries to change that.  
     A: Authentication frame based EAP authentication allows derivation of MSK/PMK, and EPASN could then be used for PMKSA caching. It is one step in the direction of getting rid of the 4-way handshake.  
     C: We can discuss offline.

1. **AoB**Chair reminds participants of the agenda.  
     
   Document 11-23-0087r0 containing a high-level skeletal structure of the future draft will be presented during the Wednesday time-slot.  
     
   One presentation will be given during the Thursday slot.
2. **Recess 17:49 local time.**

**2nd slot. Wednesday 18 January 2023 16:00 local time.**

1. **Meeting called to order at 10:05 local time.**
2. **Reminder of policies and procedures (see para 1-3 above under 1st slot).**
   1. Reminder to do attendance issued, together with reminder to register for meeting.
   2. No response to call for essential patents.
   3. Reminder of policies and procedures.
   4. Copyright policy was presented.
3. **Agenda review (**[**11-22-2145r3**](https://mentor.ieee.org/802.11/dcn/22/11-22-2145-03-00bi-january-interim-meeting-agenda.pptx) **, slide #18)**
   1. Agenda approved by unanimous consent (12 participants online, 8 in the room).
4. **Possible organisation of TGbi requirements (**[**11-23-0087r0**](https://mentor.ieee.org/802.11/dcn/23/11-23-0087-00-00bi-possible-organization-for-tgbi-requirements.docx)**),** Carol Ansley (Chair)Chair presents an suggested structure for the amendment. The document introduces headlines and maps requirements (see [11-21-1848r16](https://mentor.ieee.org/802.11/dcn/21/11-21-1848-16-00bi-requirements-document.docx)) to these headlines.  
     
   **Discussion:**  
     
   There is discussion on the grouping and numbering of different headlines. E.g. grouping of beacon headlines, placing all management frame requirements under same overarching heading, etc. Chair will provide a revision 1 of the doc after the meeting.  
     
   Q: On requirement 53, would someone explain what was the idea?  
   A: It is a spoofing protection requirement.  
   Q: There is a lot of overlap between BSS Privacy enhanced (BPE) and Client Privacy enhanced (CPE). Should they be in separate headings?  
   A: Needs more discussion.  
   Q: How to map this on to sub.clauses?  
   A: We should also consider whether at some point we need a separate clause for these topics.  
     
   More discussion on organization of topics.
5. **AoB.**

Chair announces one presentation and time-line discussion for Thursday AM1 slot.

1. Recess at 17:17 local time.

**3rd slot. Thursday 19 January 2023 10:30 local time**

1. **Meeting is called to order at 10:32 local time**
2. **Reminder of policies and procedures (see para 1-3 above under 1st slot).**

18.1 Reminder to do attendance issued, together with reminder to register for meeting.

18.2 No response to call for essential patents.

1. **Agenda review (**[**11-22-2145r5**](https://mentor.ieee.org/802.11/dcn/22/11-22-2145-05-00bi-january-interim-meeting-agenda.pptx)**, slide #18)**Agenda approved by unanimous consent.
2. **Support for rotating MAC addresses while associated** ([11-23-0133r0](https://mentor.ieee.org/802.11/dcn/23/11-23-0133-00-00bi-support-for-rotating-mac-addresses-while-associated.docx)), Antonio de la Oliva (Interdigital)  
     
   Presentation includes proposal for specification text that accommodate support for rotating MAC addresses while associated.  
     
   Discussion:  
     
   **C:** I have some objections to the language in your figure 5.1. We can work on it.  
   **C:** This feature should not apply only to data traffic and we might want to make it more general.   
   **Q:** The key associated with the aaMAC, how is it transmitted?  
   **A:** It's in figure 12-18 in the presentation.  
   **Q:** How will you set up the binding between the aaMAC and the otaMAC?  
   **A:** It's a to-be-determined.  
   **Q:** How does this submission take into account multi-link operation?  
   **A:** This presentation is a first step towards this kind of approach, but we can include multi-link operation as well if this is an approach supported by the group.  
   **C:** The design for non-MLD cases is very different from the MLD cases. But the proposed design is good for non-MLD. Directly transplanting it might be challenging.  
   **C:** There will be a huge market for non-MLO even in the future, so we don't need to have these solutions developed jointly or make this solutions dependent on the completion of an MLO solution. Sensors will not be MLO, for instance. TKIP will still be around, that's another issue.  
   **Q:** You are still using a MAC here?  
   **C:** Yes, this is correct. Before association there is a MAC that is later the aaMAC. The otaMAC is then changed.  
   **Q:** How will this impact retransmission of frames?  
   **A:** The presence of the aaMAC will allow retransmission.
3. Administrative  
     
   21.1 Timeline discussion  
     
   Chair presents current timeline. Comment collection is currently anticipated for March 2023. There was discussion on the timeline. No changes were proposed.  
     
   21.2 A draft agenda for the joint meeting with TGbh has been posted: [11-23-0135r0](https://mentor.ieee.org/802.11/dcn/23/11-23-0135-00-00bh-agenda-joint-tgbh-tgbi-2023-jan-interim.pptx)
4. **Chair adjourns the meeting at 11:40 local time.**

**4th slot. Thursday January 2023 13:30, TGbh/TGbi ad-hoc**

For minutes from the ad-hoc meeting, please refer to the TGbh meeting minutes posted by Peter Yee.