IEEE P802.11  
Wireless LANs

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| TGbi Teleconference Minutes 10 February 2022 | | | | |
| Date: 2022-02-10 | | | | |
| Author(s): | | | | |
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Abstract

This document contains the minutes for the IEEE 802.11bi task group meeting that took place on 10 February 2022 at 09:00 ET.

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 Henri, Cisco; Stephen McCann, Huawei**

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

Chair calls meeting to order at 09:03 ET.

Agenda slide deck: 11-22-300r0:

1. Reminder to do attendance
2. Review of policies and procedures.
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.
   1. No questions
5. **Discussion of agenda 11-22-300r0 (slide #16)**
   1. Chaoming Luo (Oppo) wants to add document 11-22-310r0 (control-frame-protection-requirements) to the agenda for presentation, time permitting.
   2. Adoption of agenda 11-22-300r1 slide #16 as amended by unanimous consent.
6. **Administrative:** 
   1. Teleconferences: there is a conflict with the CAC meeting on Thursday March 3. Teleconference is moved to Wednesday March 2, 9:00AM ET. Jon Rosdahl (Qualcomm) commits to updating imat, Stephen McCann (Huawei) updates teleconference info, given Carol Ansley (Chair, Cox) sends notification to reflector.
7. **Technical presentations:** 
   1. **Usecase 6 and 8, continued discussion (11-22-291r0), Jarkko Knecht (Apple) et al**

**Discussion on use-case 6:**

Q: On exchanging persistent identifiers, I'm seeing all the examples are downlinks but do you have any examples of such exchange in the uplink?

A: Presumably this would happen in association requests.

Q: Would this mean the AP is tracked though? It's just I assumed tracking would happen more on transmit side than receive side.

A: That is true, but we're just highlighting it can all create traces here.

Q: The fact that other stations in the area could broadcast the mobile AP MAC to communicate with it doesn't, in my view, mean that this mobile AP can be identified. Stopping something from being transmitted in order to stop it from being tracked is different from trying to establish what it is, or to whom it is, that you are trying to transmit. Isn't this going too far given our scope? I'm worried in particular about the mention of the word "exchange" here.

A: What we're doing here is listing ways of tracking the mobile AP and probably we will be coming up with ways to stop the tracking of the mobile AP. Whether it be protecting the BSSID or something similar. For the associated devices I'm guessing we will avoid the situation where protection against tracking disrupts connectivity.

C: When a device is associated, and the STA and the mobile AP change MAC synchronously, is this the type of situation you want to address here?

A: I'm not going into this level of specificity yet.

Q: So if you have this synchronous MAC rotation behaviour, how does an external, as yet unassociated, STA know where to associate?

A: We'll have to look into this.

C: I think the point is well made that you need to change both the MAC addresses to have full protection from tracking for both the STA and the mobile AP.

**Discussion on use-case 8:**

C: Some of the proposals in this use-case may require future changes in the PAR.

C: I don't think this needs to conflict with the PAR since there's even a bullet point here that says we don't necessarily need to address privacy problems in use-case 8 through the standard.

* + 1. **Strawpoll #1:** do you support updating the technical issues 6) and 8) from submission 291r0 to the 21/641r6 Proposed Issues document?  
       Results:

14 YES,

0 NO,   
3 ABSTAIN,   
1 N/A  
Po-Kai Huang to update Proposed issues document 11-21-641r6 to be updated in accordance with submission 291r0.

* 1. **control-frame-protection-requirements (11-22-310r0), Chaoming Luo (OPPO)**

**Discussion**

Q: You're not really protecting the AID as such, right, in your slide - so I'm wondering if maybe protect is not the right word? AID is spread across a lot of use-cases so I don't think we can easily protect it in every instance. At the same time encrypting it here, but not there, will also quickly lead us into a mess. So what are we protecting here? Maybe this word can be better chosen?

A: What if we put the AID value?

C: Well, AID is not only in frame header but also in PHY header so we have a lot of different things going on. It may be easier to simply change the AID every now and then.

A: Even if you change the AID during the association, then after the association you'll still have the other AID being used. I don't get your point about changing it, I think.

C: In my view, we're now post-association, and any time in post-association where you have an over-the-air address, and encrypting that is not really feasible because we'll have problems then actually shipping traffic back and forth. And so what we're doing to mitigate that problem is regularly or irregularly changing the over-the-air address, and maybe for the AID we could or should look at a similar principle.

A: Ah, I have to think about this I think. I still maintain we should be protecting more of the header fields though.

C: There might not be a strong conflict here.

C: I also do not agree that we should encrypt the fields where the AID occurs. Of course, "protect" might mean something different than encryption in this case, and if that's the case I think it's fine, but if we do start thinking about protection as encryption it's very problematic to me. On the other hand, rotating a lot of identifiers is easier - I support on the high-level doing something about the issue of AID remaining fixed while the MAC, for instance, is being rotated. Currently we do this sort of haphazardly with some parts of the PHY permitting it and other parts not permitting a rotation of the AID. I would like to have this requirement at least mildly reworded before I can support it.

A: Thank you for the feedback. The word protect here means protection against tracking, or that was the intention. I will think about a potential rewording to reflect comments.

1. AoB
   1. No other business.
   2. Reminder for call for presentations.
2. Chair adjourned the meeting at 09:55 ET.

**Attendance**

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| **Name** | **Affiliation** |
| Andersdotter, Amelia | Sky UK Group |
| Ansley, Carol | Cox Communications Inc. |
| baron, stephane | Canon Research Centre France |
| DeLaOlivaDelgado, Antonio | InterDigital, Inc. |
| Halasz, David | Morse Micro |
| Hawkes, Philip | Qualcomm Incorporated |
| Henry, Jerome | Cisco Systems, Inc. |
| Ho, Duncan | Qualcomm Incorporated |
| Huang, Po-Kai | Intel Corporation |
| Kain, Carl | USDOT; Noblis, Inc |
| Kneckt, Jarkko | Apple, Inc. |
| Levy, Joseph | InterDigital |
| Luo, Chaoming | Beijing OPPO telecommunications corp., ltd. |
| Malinen, Jouni | Qualcomm Incorporated |
| McCann, Stephen | Huawei Technologies Co., Ltd |
| Montemurro, Michael | Huawei Technologies Co., Ltd |
| Orr, Stephen | Cisco Systems, Inc. |
| RISON, Mark | Samsung Cambridge Solution Centre |
| Rosdahl, Jon | Qualcomm Technologies, Inc. |
| Smith, Luther | CableLabs |
| Torab Jahromi, Payam | Facebook |