Minutes IEEE P802.11
Wireless LANs

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| IEEE 802.11 TGbh Meeting Minutes, 19 August 2021Randomized and Changing MAC addresses (RCM) |
| Date: 2021-08-19 |
| Author(s): |
| Name | Affiliation | Address | Phone | email |
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Abstract

This document contains the minutes of the IEEE 802.11 bh telecom Interim meeting 19 Aug 2021.

Note: Highlighted text are action items.

Q- proceeds a question asked at the meeting

A- proceeds an answer

C- proceeds a comment

**Meeting August 19, 2021 19.00 to 21.00 am ET**

**Chair: Mark Hamilton**

**Vice Chair: Peter Yee (NSA-CSD/AKAYLA)**

**Vice Chair: Stephen Orr (Cisco)**

**Secretary: Graham Smith (SRT Wireless)**

**Editor: Carol Ansley (Cox)**

**The teleconference was called to order by Chair 19.03 hrs. EDT,**

Agenda slide deck 11-21/1380r1

**Policies and procedures were presented by the chair. (Slides 4 to 14)**

There were no Patent declarations.

Copyright policy slides were presented (Slides 10 and 11)

1. **Agenda:**
* Attendance, noises/recording, meeting protocol reminders
* Policies, duty to inform, participation rules
* Organization topics (see also Backup slides):
	+ PAR/CSD: [https://development.standards.ieee.org/myproject-web/public/view.html#pardetail/8770](https://development.standards.ieee.org/myproject-web/public/view.html); [11-20/1117r5](https://mentor.ieee.org/802.11/dcn/20/11-20-1117-05-0rcm-rcm-sg-proposed-rcm-csd-draft.docx)
	+ Timeline estimate
* Issues Tracking/Contributions
* Next meetings: Aug 31 9:00 ET, Sept Interim

The Chair reviewed the agenda.

Any comments?

Q - Can the color of the links be made clearer

A – Will look into it

No more comments,

The proposed agenda was adopted without objection.

Attendance is listed at end of the Minutes.

1. **Timeline**
* PAR approved Feb 2021
* First TG meeting Mar 2021
* D0.1 Nov 2021
* Initial Letter Ballot (D1.0) Mar 2022
* Recirculation LB (D2.0) Jul 2022
* Initial SA Ballot (D3.0) Nov 2022
* Final 802.11 WG approval Mar 2023
* 802 EC approval May 2023
* RevCom and SASB approval May 2023
1. **TGbh Issues Tracking document: 11-21/0332r13**

Chair introduced latest version of the Tracking Document 21/0332r13.

Last meeting considered issues up to “4.7. Infrastructure (home or enterprise) with different SSIDs per band”

1. Document 1247r2

Presented by Chaoming Luo

Changes from R1 to slide 4 (FT key hierarchy) adding S0KH-ID to the key data.

New Straw Poll proposed:

*Do you agree that TGbh should consider a mechanism to assist the AP to identify the re-associating (with or w/o FT) non-AP STA when the non-AP STA uses a randomized MAC address or changes its MAC address, while not exposing any new user privacy concern?*

C – Change to (re)-associating

A – OK

C – Do you intend both re-association and initial association?

A – Yes

C – Current spec does not allow changing address when associated.

A – I don’t mean to say that. OK to change.

C – Clause 12.2.10. Refer you to 11/20/336r2 which is a proposed solution in TIG and decision was that it was better for 11bi.

C –Spec is clear on what restrictions are for re-association. Should deal with only with ability of STA to provide info when it associates.

C – Several problems. Should not use “re association”. Allows a vendor of a service to track a user at a low level. TGbh should make sure that the MAC address is not used for tracking and even disallowed. If an AP can identify a STA using a randomized MAC, then that sort of defeats the object.

C - Take out (re) association. STA can associate with whatever MAC it wants. All re-associations are within the same ESS and must maintain the same MAC.

Confusion about association and reassociation discussion.

C – This does not use the MAC address for tracking. Just delete the re-association and stick to the association, not a STA that is actually trying to re-associate, that needs to be the same.

C – If a STA wants to be identified, do not use MAC but use some other ID which AP can ask for and if STA wants to identified, then it can be. If a mechanism existed, then going forward no need to maintain same MAC when associating at a later time.

C – Idea of RCM is to stop any identification at all.

C – If user wants to be identified then need a mechanism otherwise MAC must be used.

C – Can be tracked at higher levels, not a solution we are looking at.

C – Not saying no other way to do it, but can do this.

Some discussion around what was meant by “state” in 11aq.

C – Back to SP, authentication 802.1X does address this. But this path may be better for TGbi.

C – If we do not agree to this SP in some form, then TGbh should pack up and disband.

C – 802.1X agree could solve this, but not everybody deploys 802.1X based networks (tends to be Enterprise).

A – 802.1X is very much in scope. Uses identities not necessarily related to MAC.

C – Please use Reflector to discuss.

C – Use cases 4.2 and 4.3 in tracking document we were leaning to any opt-in solution being within scope.

C – BLE uses ‘resolvable private address’, uses an identity resolving key (IRK). Put some details on Reflector and my thought is that this SP is sort of asking for the same thing? Definitely an opt-in idea, as also has non-resolvable private address

A – BLE has a certain one-to-one and limited range. Does change some aspects, so would be skeptical

Chair – Suggest we have an agenda item for the future on this.

Chair - please continue discussion on Reflector

Straw Poll suggestions on the Chat

Do you agree that TGbh should consider a mechanism to assist the AP to identify a non-AP STA that is associating to the AP assuming the non-AP STA wants to be identified? The ID being unrelated to the MAC address. The mechanism will not expose any new user privacy concern.

Do you agree that TGbh should consider a mechanism to assist the AP to identify the associationt non-ap STA when the non-AP sta uses a redomized MAC address with each association which does not expose a privacy concern for the STA.

1. **Document 21/1378r0 Presented by Mark Hamilton**

Based on document presented to SG by Carol Ansley

Peter Yee took over the Chair

* *Proposal to add a new action frame request/response that an AP and STA can use to exchange a unique identifier for the STA (within a secured link).*
* *Proposes a new action frame exchange that an AP can initiate with an associated STA to request a unique identifier from the STA for future use*
* *Could be pre-association using 802.11az security.*

C – Slide 8 need to re-order TTL and ID as ID is variable length.

C – Maybe, Response informs if both ID and TTL present, or neither.

C – Use cases? Pre-association case?

A - Example frequent shopper use case, want to be identified and get coupons. May not want to associate to network, but do want to let store know I am there.

A – Can do good quality authentication in 11az

C – Could this ID be used elsewhere, as a TLV?

A – Make the 2 fields as an element? Not sure where else to use it.

C - You could add an ID Type which defines the ID length to get around the variable length.

C – I still believe this is out – of – scope but is a palatable solution. Is this pre or post association? If post then could simply be an exchange of data frames?

A – Originally post but realized pre-association may be possible. Trying to replace a mechanism (MAC Address) that is now not allowed. Diagnostic Use Case may be a good example. Could re-address in tracking document.

Declined to present the proposed text document 21/1379r0 due to time.

**General Discussion**

Chair - Suggest we need to sort out on Reflector on where we are and what our scope should be.

Chair – will start the Reflector conversation

**Out of agenda**

**Next calls Aug 31 9:00 ET**

**Meeting Adjoined at 20.54 ET.**

**Attendance**

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| Breakout | Timestamp | Name | Affiliation |
| TGbh | 8/19 | Carney, William | Sony Group Corporation |
| TGbh | 8/19 | Dong, Xiandong | Xiaomi Inc. |
| TGbh | 8/19 | Hamilton, Mark | Ruckus/CommScope |
| TGbh | 8/19 | Huang, Po-Kai | Intel Corporation |
| TGbh | 8/19 | Levy, Joseph | InterDigital, Inc. |
| TGbh | 8/19 | Lu, Liuming | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbh | 8/19 | Lumbatis, Kurt | CommScope, Inc. |
| TGbh | 8/19 | Luo, Chaoming | Beijing OPPO telecommunications corp., ltd. |
| TGbh | 8/19 | Montemurro, Michael | Huawei Technologies Co., Ltd |
| TGbh | 8/19 | Ng, Boon Loong | Samsung Research America |
| TGbh | 8/19 | Orr, Stephen | Cisco Systems, Inc. |
| TGbh | 8/19 | Petrick, Albert | InterDigital |
| TGbh | 8/19 | RISON, Mark | Samsung Cambridge Solution Centre |
| TGbh | 8/19 | Shafin, Rubayet | Samsung Research America |
| TGbh | 8/19 | Shalom, Hai | Google |
| TGbh | 8/19 | Smith, Graham | SRT Wireless |
| TGbh | 8/19 | Thakur, Sidharth | Apple Inc. |
| TGbh | 8/19 | Torab Jahromi, Payam | Facebook |
| TGbh | 8/19 | Wang, Lei | Futurewei Technologies |
| TGbh | 8/19 | Yee, Peter | NSA-CSD |

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