Minutes IEEE P802.11  
Wireless LANs

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| IEEE 802.11 TGbh Meeting Minutes, October 21, 2021  Randomized and Changing MAC addresses (RCM) | | | | |
| Date: 2021-10-21 | | | | |
| Author(s): | | | | |
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Abstract

This document contains the minutes of the IEEE 802.11bh telecom Interim meeting October 21, 2021.

Note: Highlighted text are action items.

Q- proceeds a question asked at the meeting

A- proceeds an answer

C- proceeds a comment

**Meeting Oct 21, 2021 7.00 to 9.00 pm 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 7.03 hrs. EDT,**

Agenda slide deck 11-21/1695r0

1. **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
* Response to WBA liaison
* Issues Tracking/Contributions (see 3 below)
* Next meetings: Oct 26, Nov 4

1. **Issues Tracking/Contributions**

* Issues Tracking document: [11-21/0332r16](https://mentor.ieee.org/802.11/dcn/21/11-21-0332-16-00bh-issues-tracking.docx)
* Contributions for specification amendments to address/mitigate the impact
  + High-level/general overview submissions:
    - 11-21/1083r0 (A signature-based method for Identifying STAs with randomized MAC address)
    - 11-21/1378r0 (Client ID query concept)
    - 11-21/1585r5 (Identifiable random MAC addresses)
    - 11-21/1634 ??
  + Specific text proposals:
    - 11-21/1379r3 (Proposed text for ID Query action frame)
    - 11-21/1673r5 (Proposed Text for IRMA)
    - Review status/open items in Tracking document

The Chair reviewed the agenda.

Any comments? None

Agenda accepted

Chair pointed out that he is still looking for a contribution for a response to the WBA. Suggested it be along the lines of stating that we did consider their points and discussed them as to their relevance to TGbh.

1. **Non-AP STA identification**

Proposals received:

* 11-21/1083r0: A Signature-based Method for Identifying STAs with Randomized MAC Addresses (reviewed July 15)
* 11-21/1585r5: Identifiable Random MAC address (reviewed Oct 12, updated);
  + 11-21/1673r5: Proposed Text for IRMA (not reviewed yet)
* 11-21/1378r0: Client ID query concept (reviewed Aug 19);
  + 11-21/1379r3: Proposed text for ID Query Action frame (reviewed Oct 12, updated)

1. **Contributions**

**11-21/1585r5: Identifiable Random MAC address**

Presented by Graham Smith (SRT)

C – How similar to BLE?

A – BLE uses Resolvable address. 24 random plus 24 hash see 21/1535. Very simple scheme. IRMA is much more secure and flexible.

C – Anybody can send hash and forces AP to do computation. Giving out a computation of your key.

A – Computation is still huge. Can change IRMK. Can increase key size.

C – Key is 128 bits, exposing 8 bits still 124 bit strength. How much key strength do we need?

C – Does key have to change every association? What about PSKs etc. is there a correlation. Proposal in TGbi that encrypts the MAC address.

C – Blurred line with TGbi and randomized MAC behaviour.

C – Is IRM Element

11-21 1673r5 Proposed IRMA Text was presented.

No questions

**11-21/1379r3 Proposed Text ID Query Action frames**

Presented by Mark Hamilton (Ruckus/Commscope).

Q – If using same MAC each time, then AP knows it by the MAC address. If not using same MAC address, AP must ask every time? Does not know that it has been there before?

A – STA can provide unsolicited each time. MAC address can change each time.

Q – What type of Action frame is this.

A – New one. ID Query.

Chair stated that we have 3 different schemes, signature, client ID and identifiable random MAC.

Any concerns, opinions ?

Reminder of Straw Poll (Aug 31):

* “Do you agree that TGbh should consider a mechanism to assist the AP to identify an associated non-AP STA when the non-AP STA uses different MAC addresses for different associations in opt-in scenario. This identity is TBD in MAC layer, and should be secure, and does not expose a privacy concern for the non-AP STA.”
* 8-2-4

Question – Do these think these are exclusive and need to choose, or is a combination possible?

Do we need to pick one? Need slides of advantages (as was done with IRMA).

Any ideas on how to down-select and choose?

C – Is there any reason why we need choose just one?

C – Could look at Use Cases and see?

C – Networks may wish to operate in different manners. We have variations in other areas.

C – Take different methods and apply them to Use Cases, will make it clearer.

C - need to clear up the Use Cases – must cure, nice to cure, not necessary, etc.

A – Yes. Need to get the Use Case document clearer on that.

Chair – Authors need to think about Advantages and how they map to Use Cases

1. **Next meeting Oct 26th 9am**

**Out of agenda**

**Meeting adjoined at 8.33pm ET.**

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| Breakout | Timestamp | Name | Affiliation |
| TGbh | 10/21 | Ansley, Carol | Cox Communications Inc. |
| TGbh | 10/21 | Bhandaru, Nehru | Broadcom Corporation |
| TGbh | 10/21 | Coffey, John | Realtek Semiconductor Corp. |
| TGbh | 10/21 | Fernandez, Olivia | SR Technologies |
| TGbh | 10/21 | Hamilton, Mark | Ruckus/CommScope |
| TGbh | 10/21 | Henry, Jerome | Cisco Systems, Inc. |
| TGbh | 10/21 | Huang, Po-Kai | Intel Corporation |
| TGbh | 10/21 | Kneckt, Jarkko | Apple, Inc. |
| TGbh | 10/21 | Levy, Joseph | InterDigital, Inc. |
| TGbh | 10/21 | Lu, Liuming | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbh | 10/21 | Lumbatis, Kurt | CommScope, Inc. |
| TGbh | 10/21 | Orr, Stephen | Cisco Systems, Inc. |
| TGbh | 10/21 | Petrick, Albert | InterDigital |
| TGbh | 10/21 | Sevin, Julien | Canon Research Centre France |
| TGbh | 10/21 | Shalom, Hai | Google |
| TGbh | 10/21 | Smith, Graham | SRT Wireless |
| TGbh | 10/21 | Torab Jahromi, Payam | Facebook |
| TGbh | 10/21 | Wang, Lei | Futurewei Technologies |
| TGbh | 10/21 | Yee, Peter | NSA-CSD |