Minutes IEEE P802.11  
Wireless LANs

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| IEEE 802.11 TGbh Meeting Minutes, June 28, 2022  Randomized and Changing MAC addresses (RCM) | | | | |
| Date: 2022-6-28 | | | | |
| Author(s): | | | | |
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Abstract

This document contains the minutes of the IEEE 802.11bh telecon meeting of June 28, 2022.

Note: Highlighted text are action items.

Q- proceeds a question asked at the meeting

A- proceeds an answer

C- proceeds a comment

**Meeting June 28, 2022 10.00 to 12.00 ET**

**Chair: Mark Hamilton (Ruckus/CommScope)**

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

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

**Secretary: Stephen Orr, acting**

**Editor: Carol Ansley (Cox)**

**The teleconference was called to order by the Chair at 10:03 a.m. EDT.**

Agenda slide deck [11-22/0941r01](https://mentor.ieee.org/802.11/dcn/22/11-22-0941-00-00bh-agenda-tgbh-2022-june-28.pptx)

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
  + Reminder: Comment Collection on D0.2 closes on June 29 (tomorrow)
* Issues Tracking: [11-21/0332r37](https://mentor.ieee.org/802.11/dcn/21/11-21-0332-37-00bh-issues-tracking.docx)
* Contributions (slide 16)
* Next meetings:
  + July plenary (4 slots)

Any comments?

* Update to the contribution from Jay Yang/Okan Mutgan to r2

Any objections to agenda? None

**Agenda accepted unanimously.**

1. **Organization topics**

The Comment Collection is now under way and closes on June 29 (tomorrow).

Timeline on slide 20

1. **Issues Tracking**

The Chair noted that the Issues Tracking document is at r37.

1. **Contributions**

*Kurt Lambis – Opt in Verbiage*

[**https://mentor.ieee.org/802.11/dcn/22/11-22-0832-01-00bh-opt-in-verbiage.pptx**](https://mentor.ieee.org/802.11/dcn/22/11-22-0832-01-00bh-opt-in-verbiage.pptx)

Q: Question on it being safer to Opt-in vs Opt-out.

A: IEEE does not handle the higher layer functions

Q: This is a key question on how to operate a TGbh mechanism – implementing Opt-in could be easier

A: Chair – TGbh can provide recommendations on user interface

Q: Is the procedure to Opt-in or out mentioned in GDPR, is this something like a EULA and the user may not be aware of what they are opting in or out of.

C: We need to define what Opt-in and Opt-out means – at least some text. Currently nothing in IEEE

Q: Can we work around not using Opt-in and say that the network may provide an identifier or allow for

Q: Upper layer support can be set by the app – but this may be an opt-in per network. You have to Opt-in to that network at a particular time.

A: Has to be an opt-in on a per network agreement. Whether you want to be identified on that network or not. Decision on per network basis by the user to be tracked.

C: We can use MLME another alternative is that this could be MIB controlled. Upper layer application controlling MIB attributes.

Q: The note on “opt-out” being the default behavior – does this mean that “you are participating”

Q: Opt-in and Opt-out are two separate mechanisms. There is more value on the opt-in mechanism to subscribe the station identifier vs opt-out which always has a random identifier.

A: If we view this as a check box on the user screen – if the check box is “I agree to be identified” vs the box being unchecked.

C: They have to take a positive action for the device to be tracked.

Q: You only need opt-in and not opt-out. You either opt-in or not. The action should be just to opt-in.

A: That makes sense – we can modify the doc. Or use different verbiage such as “allow or disallow.”

C: The initial state is opt-out or disagrees. They must do a positive action to allow tracking. We must take into account future state – meaning someone that has opted-in later wants to opt-out

Q: Are we in a position to make a call about L7 or the user interface? It has been done -but the 11be draft handled it well. Possibly say “when instructed to do so by a higher layer.”

Q: Question on how the MIBs actually would work. If you do it with a MIB do you have to say anything about opt-in or out.

C: Default behaviors can be set in the MIB definitions.

*Jay Yang/Okan Mutgan: Some proposals for further discussion*

[**https://mentor.ieee.org/802.11/dcn/22/11-22-0933-01-00bh-11bh-proposals-further-discussion.pptx**](https://mentor.ieee.org/802.11/dcn/22/11-22-0933-01-00bh-11bh-proposals-further-discussion.pptx)

Q: The probe (slide 6) – is it directed or wild card?

A: No strong preference of the type of probe

Q: Question on WPA3 specification – on ANQP

C: WFA is trying to do what it can with the tools it has. If TGbh introduces new tools/mechanism we can work with the WFA.

Q: What if we have a fake AP?

A: We did study – and this is why the MAC is changed on every assoc. If an AP can attract a STA it doesn’t matter what scheme you have chosen. Although they are Random – there is nothing in the MAC that identifies the STA – only when you assoc.

C: As we do comparison between proposals – we need a better understanding of the details on what information is protected with each of these proposals. Like styles of probing the STAs would use – then we can see the interaction between these proposals.

Q: Doesn’t the STA need to generate a new seed every time for RRCM? Can you explain how this is “low overhead”

A: There are several slides to help understand the computational cost.

Q: Comparison of RRCM to old IRMA is of course better.

C: We went away from the original IRMA scheme – lets keep it very simple, by using the MAC address as the identifier, the AP and applications are easily able to be maintain. This was addressed in the new IRMA

Q: How does the STA know what MAC address to use for scanning (RRCM)

C: This goes back to the question on broadcast or directed probes.

Q: If you are using a pre-defined MAC address for a probe – it is a directed probe. If you don’t know what network you are looking for – which MAC address do you use?

C: Last meeting we decided that we want some identification pre-association. We need a presentation and discussion around this.

Q: Should have a 4th option for the proposed Straw Poll – “neither.” The group needs to make progress, but we need to clarify pre-association state.

C: Last call we had discussion to address use cases to address 4.1, 4.2, 4.8 and 4.26 – are we saying that we need to re-open this discussion.

C: One network does not own the MAC address. I should not dictate when and how to use that MAC address. Has implications that we may not have thought through, We need to clarify the impact of assigning a MAC address pre-assoc.

Q: We have added use cases that cannot be handled by D0.2. Its strange to have use cases that cannot be implemented by the current draft while collecting comments.

Chair: We do not have time to run the straw poll.

1. Chair covered slide 15 and discussed the F2F in Montreal.

**Meeting adjoined at 12: p.m. ET.**

**Attendance**

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| **Breakout** | **Timestamp** | **Name** | **Affiliation** |
| TGbh | 6/28 | Andersdotter, Amelia | Sky UK group |
| TGbh | 6/28 | Ansley, Carol | Cox Communications Inc. |
| TGbh | 6/28 | baron, stephane | Canon Research Centre France |
| TGbh | 6/28 | Chng, Shi Baw | BAWMAN LLC |
| TGbh | 6/28 | Hamilton, Mark | Ruckus/CommScope |
| TGbh | 6/28 | Henry, Jerome | Cisco Systems, Inc. |
| TGbh | 6/28 | Levy, Joseph | InterDigital, Inc. |
| TGbh | 6/28 | Liu, Der-Zheng | Realtek Semiconductor Corp. |
| TGbh | 6/28 | Lu, Liuming | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbh | 6/28 | Lumbatis, Kurt | CommScope, Inc. |
| TGbh | 6/28 | Mutgan, Okan | Nokia |
| TGbh | 6/28 | Nezou, Patrice | Canon Research Centre France |
| TGbh | 6/28 | Orr, Stephen | Cisco Systems, Inc. |
| TGbh | 6/28 | Sam, Harvey | Broadcom Corporation |
| TGbh | 6/28 | Sevin, Julien | Canon Research Centre France |
| TGbh | 6/28 | Smith, Graham | SRT Wireless |
| TGbh | 6/28 | Smith, Luther | Cable Television Laboratories Inc. (CableLabs) |
| TGbh | 6/28 | Sosack, Robert | Molex Incorporated |
| TGbh | 6/28 | Thakur, Sidharth | Apple Inc. |
| TGbh | 6/28 | Torab Jahromi, Payam | Facebook |
| TGbh | 6/28 | Varshney, Prabodh | Nokia |