Minutes IEEE P802.11  
Wireless LANs

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| IEEE 802.11 TGbh Meeting Minutes, January 11, 2022  Randomized and Changing MAC addresses (RCM) | | | | |
| Date: 2022-11-01 | | | | |
| Author(s): | | | | |
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Abstract

This document contains the minutes of the IEEE 802.11bh telecom Interim meeting January 11, 2022.

Note: Highlighted text are action items.

Q- proceeds a question asked at the meeting

A- proceeds an answer

C- proceeds a comment

**Meeting Jan 11, 2022 9.00 to 11.00 am ET**

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

**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 9.03 hrs. EDT,**

Agenda slide deck 11-22/0037r0

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 Backup slides)
* Issues Tracking updates/status: 11-21/0332r29
* Contributions:
  + 11-21/1634r0 – Private Identifier Requirements (Kurt Lumbatis)
* Evaluation of proposed solutions
  + 11-22/0025r0 – Transient STA ID analysis (Nehru Bhandaru)
  + 11-21/1853r1 – ID Query analysis (Mark Hamilton), revisit since criteria have been agreed
  + 11-22/0054r0 – Signature based RCM STA identification solution analysis
* Next meetings: Jan interim session (Tues, Wed, Thus, Fri)

1. **Non-AP STA Identification**

Proposals received:

* [11-21/1083r0](https://mentor.ieee.org/802.11/dcn/21/11-21-1083-00-00bh-a-signature-based-method-for-identifying-stas-with-randomized-mac-addresses.pptx): A Signature-based Method for Identifying STAs with Randomized MACAddresses (reviewed July 15)
  + [11-21/2039r0](https://mentor.ieee.org/802.11/dcn/21/11-21-2039-00-00bh-random-index-assisted-scheme-for-reducing-rcm-sta-identification-complexity.pptx): Random index assisted scheme for reducing RCM STA identification complexity (reviewed Jan 6)
* [11-21/1585r11](https://mentor.ieee.org/802.11/dcn/21/11-21-1585-11-00bh-identifiable-random-mac-address.pptx): Identifiable Random MAC address (reviewed Nov 10, updated)
  + [11-21/1673r10](https://mentor.ieee.org/802.11/dcn/21/11-21-1673-10-00bh-proposed-text-for-irma.docx): Proposed Text for IRMA (briefly reviewed Oct 21, updated)
  + [11-21/1720r1](https://mentor.ieee.org/802.11/dcn/21/11-21-1720-01-00bh-irm-advantages-and-use-cases.docx): IRM advantages and use cases (reviewed Nov 4)
  + [11-21/2006r1](https://mentor.ieee.org/802.11/dcn/21/11-21-2006-01-00bh-irm-analysis-uses-cases-criteria.docx): IRM analysis, use cases, criteria (reviewed Jan 6)
* [11-21/1378r0](https://mentor.ieee.org/802.11/dcn/21/11-21-1378-00-00bh-client-id-query-concept.pptx): Client ID query concept (reviewed Aug 19)
  + [11-21/1379r3](https://mentor.ieee.org/802.11/dcn/21/11-21-1379-03-00bh-proposed-text-for-id-query-action-frame.docx): Proposed text for ID Query Action frame (reviewed Oct 21)
  + [11-21/1853r1](https://mentor.ieee.org/802.11/dcn/21/11-21-1853-01-00bh-id-query-analysis.docx): ID Query analysis (not reviewed since criteria were agreed)
* [11-21/1839r1](https://mentor.ieee.org/802.11/dcn/21/11-21-1839-01-00bh-transient-sta-id.pptx): Transient STA ID
  + [11-22/0025r0](https://mentor.ieee.org/802.11/dcn/22/11-22-0025-00-00bh-tsid-analysis.docx): Transient STA ID analysis (not reviewed yet)

Chair noted that Kurt was not present and had not updated his contribution. Hence this item (21/1394) removed from agenda.

Any comments? Any objections to agenda? - None

Agenda accepted.

Chair noted the timeline was off-track (slide 20)

1. **Issues Tracking Document 21/0332r29**

Chair shared the editorial updates to the document rev 28.

Updated tables 1 and 2. Considers these Tables are now complete and ready for us to go forward with.

Any comments? - None

1. **TSID Proposal Analysis 22/0025r0 presented by Nehru Bhandaru**

Presenter went through the contribution; Applicability to Use Cases and criteria in Issues document.

C – Is it essential that a STA uses an ID? How does this work first time?

A – Every time you access you use the ID. First time could use permanent MAC address or start a temporary.

C- how many hash calculations? I count 7, are these needed every time?

A – To validate only two hash calculations, if that fails, then try another hash if client is protecting an update. TSID and Hash.

1. **ID Query analysis 21/1853r1, presented by Mark Hamilton**

Presenter went through the contribution; Applicability to Use Cases and criteria in Issues document.

C – Like that it is very simple. But ID exchanged each time. Hence ID being used many, many times. How does access control work if using ID for access control.

A - Access control mechanisms would need to store the ID. So at item 15 I considered that nothing extra compared to an AP storing MAC addresses.

C – Any access control happens after the association. Could be combined with the TSID scheme.

A – Could be used with PASN for pre-association.

C – Third party does not know? I thought STA and AP advertise support? Who asks who? How does AP know whether to ask?

A –AP advertises and the STA does not advertise. AP asks first. Need to check on STA support.

1. **Signature-based RCM STA Identification Solution Analysis – 22/0054r0 presented by Liuming Lu**

Presenter went through the contribution; Applicability to Use Cases and criteria in Issues document.

C – Question criteria 2. As the certificate and public key are in the clear, does that not identify the client?

A – Used to create signature.

C – There is a standard way to discover public key based on signatures, so can be used to track.

C – amount of storage 400 octets item 15, this seems very high and will take time and processing.

A – need to have off line discussion

Chair – please use Reflector for all discussions.

C – Does a STA use same certificate/signature for all APs?

A – Generates signature per MAC. Different APs receive different signatures. Need to think further.

C – STA is identifies by its certificate, so at item 14, set up, should include generation of the certificate. Also is this per network? If different certificate per network then STA needs to generate the certificate, maybe per network, and this requires processing.

A – I see your point. Need to consider before providing an answer.

Chair. Way forward is Draft text for the solutions and then as a group need to decide how to go forward. How to do this selection?

Any more business? None

**Out of agenda**

**Meeting adjoined at 10.29 am ET.**

**Attendance**

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| Breakout | Timestamp | Name | Affiliation |
| TGbh | 1/11 | baron, stephane | Canon Research Centre France |
| TGbh | 1/11 | Bhandaru, Nehru | Broadcom Corporation |
| TGbh | 1/11 | Fernandez, Olivia | L3Harris Technologies, Inc. |
| TGbh | 1/11 | Halasz, David | Morse Micro |
| TGbh | 1/11 | Hamilton, Mark | Ruckus/CommScope |
| TGbh | 1/11 | Kneckt, Jarkko | Apple, Inc. |
| TGbh | 1/11 | Lu, Liuming | Guangdong OPPO Mobile Telecommunications Corp.,Ltd |
| TGbh | 1/11 | McCann, Stephen | Huawei Technologies Co., Ltd |
| TGbh | 1/11 | Montemurro, Michael | Huawei Technologies Co., Ltd |
| TGbh | 1/11 | Orr, Stephen | Cisco Systems, Inc. |
| TGbh | 1/11 | Riegel, Maximilian | Nokia |
| TGbh | 1/11 | RISON, Mark | Samsung Cambridge Solution Centre |
| TGbh | 1/11 | Sevin, Julien | Canon Research Centre France |
| TGbh | 1/11 | Shalom, Hai | Google |
| TGbh | 1/11 | Smith, Graham | SRT Wireless |
| TGbh | 1/11 | Smith, Luther | CableLabs |
| TGbh | 1/11 | Torab Jahromi, Payam | Facebook |
| TGbh | 1/11 | Yang, Jay | Nokia |
| TGbh | 1/11 | Yee, Peter | NSA-CSD |