A (very) quick update on RCM work at 802.11

(Primarily TGbh)

Mark Hamilton (personal opinion, per IEEE SASB Op Manual)

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v01

IEEE 802.11 has 2 projects related to “RCM”

- TGbh: Randomized and Changing MAC addresses
  - Formed in response to “changing MAC addresses can have a wide range of repercussions impacting not only 802.11 networks, but also many related services.”
  - Developed scope and list of issues, based on use cases that have been identified as impacted by use of RCM, and then considering which were within IEEE 802.11 scope [1].
  - Draft 1.0 is nearly complete – more details on following slides
- TGbi: Enhanced Data Privacy
  - Much broader scope: “Protecting personal information such as location, movements, contacts and activities.” Again, within 802.11 scope…
  - Longer schedule – 2026?

IEEE 802.11 TGbh Draft 1.0 rough content

- “Device ID”
  - Infrastructure (network) allocates an identifier, and provides it to the client device, within secured communications (part of the security negotiation exchange)
  - Optional mechanism is provided to make the identifier “opaque” (self-encrypted), for cases where the identifer will/may be transmitted in unsecured frames.
    - Note: Device ID might also be “garbage” to a third-party (a local identifier only useful to the network), and could be transmitted visibly _once_ without creating loss of privacy or tracking opportunities. So, for pre-association use (for example), which exposes the ID, it is rotated on every use.
- “IRM” (identifiable MAC address)
  - Allocated by client device (“randomized”), and used as source (TA) of transmissions.
  - Also communicated in security negotiation exchange, to allow the network to associate the MAC address with the client’s known/true identity.
  - Rotated frequently, at client’s discretion.
- Both schemes can be used to identify the client for the duration of an association, or can be used for pre-association interactions using the 802.11az “PASN” authentication

IEEE 802.11 TGbh Draft 1.0 status/schedule

- Draft 1.0 target for completion at the May 802.11 F2F session. [2]
- Slightly optimistically?:
  - 802.11 Working Group Letter Ballot, running between May and July sessions.
  - If that LB is successful (> 75% approval), the draft can be considered stable enough for public sharing. This sharing is typically only for IEEE members, but could also include liaison organizations.
    - Sharing with IETF is TBD, but should be considered (in my opinion).
    - Suggest we formalize/confirm a liaison between Madinas and 802.11, specifically on this topic.
  - “SA Balloting” process targeted to start March 2024. Often, implementers find this point stable enough to get started.
  - Final publication expected in Q3’24.

References

[1] https://mentor.ieee.org/802.11/dcn/21/11-21-0332-37-00bh-issues-tracking.docx

[2] https://grouper.ieee.org/groups/802/11/Reports/802.11_Timelines.htm