MAC address randomization

draft-ietf-mac-address-randomization-04

IETF 115 – MADINAS WG

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Introduction and goals (reminder)

- Privacy, an increasing concern
  - Layer-2 globally unique identifiers (MAC addresses) have been assigned to devices and are transmitted in the clear in, for instance, beacons, probe requests, or after association
  - MAC addresses can easily be intercepted and used to track location or behavior
- Several projects in IETF, IEEE 802 and among mobile OS vendors to deal with plain-text, unique, permanent MAC addresses
  - Assigning a random MAC address to a device per connection, per SSID, after some time period
  - Area of extensive research (see reference Martin et al (2017) in draft for more comprehensive list of research in this area, or IEEE 802.11 RCM TIG final report in 11-19/1442r9, also in draft)
- Goal of this draft: document Current State of Affairs regarding MAC address randomization

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A taxonomy of MAC address selection policies

- Per-Vendor OUI MAC address (PVOM)
  - This form of MAC address selection is the historical default
- Per-Device Generated MAC address (PDGM)
  - This form of MAC address is randomly generated by the device, usually upon first boot. The resulting MAC address is stored in non-volatile storage and is used for the rest of the device lifetime
- Per-Boot Generated MAC address (PBGM)
  - This form of MAC address is randomly generated by the device, each time the device is booted
  - *Not* stored in non-volatile storage, does not persist across power cycles
- Per-Network Generated MAC address (PNGM)
  - This form of MAC address is generated each time a new network connection is created, stored and indexed per SSID
- Per-Period Generated MAC address (PPGM)
  - This form of MAC address is generated periodically

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Changelog

- -ietf-*-00:
  - Adopted version
- -ietf-*-01:
  - Addressed comments from Hai Shalom
- -ietf-*-02:
  - Move section 7 (OS current practices) to GitHub
- -ietf-*-03, -04:
  - Added section on taxonomy, removed BCP 14 terminology, other GitHub pull requests accepted