IEEE P802.11
Wireless LANs

|  |
| --- |
| Issues Tracking |
| Date: 2021-03-24 |
| Author(s): |
| Name | Company | Address | Phone | email |
| Mark Hamilton | Ruckus/CommScope | 350 W. Java DrSunnyvale, CA | +1 303 818 8472 | mark.hamilton2152@gmail.com  |
|  |  |  |  |  |

Abstract

Issues Tracking sheet for P802.11bh - Operation with Randomized and Changing MAC Addresses.

R0 – Initial discussion document.

R1 – With modifications/updates/notes from still-in-progress discussion of the Terminology section, from March 9 meeting.

R2 – Removed other “example” material in sections 3, 4 and 5. Task group will insert this material as it is reviewed and agreed.

**Table of Contents**

[1 Introduction 3](#_Toc65167137)

[2 Terminology 3](#_Toc65167138)

[3 Use cases 3](#_Toc65167139)

[3.1 Initial infrastructure connection steering 3](#_Toc65167140)

[3.2 Residential AP with “home” network, and public access network 4](#_Toc65167141)

[3.3 Airport security queue measurement 4](#_Toc65167142)

[3.4 Customer Support and Troubleshooting 4](#_Toc65167143)

[3.5 <Disruption of ongoing activities?> Mark H added this one (not in 11-19/1442) 4](#_Toc65167144)

[3.6 … 5](#_Toc65167145)

[4 Issues and analyses 5](#_Toc65167146)

[4.1 Rapidly changing MAC address, when not associated 5](#_Toc65167147)

[4.2 Periodically changing MAC address, associated 5](#_Toc65167148)

[4.3 … 5](#_Toc65167149)

[5 Proposed Solutions 5](#_Toc65167150)

[5.1 MAC address change timing 5](#_Toc65167151)

[5.2 Alternative identifiers 6](#_Toc65167152)

[5.3 Issue recommendations on SSID assignments 6](#_Toc65167153)

[5.4 Correlation of information elements 6](#_Toc65167154)

[5.5 … 6](#_Toc65167155)

# Introduction

This document serves as a tracking sheet for issues raised within the context of P802.11bh, Operation with Randomized and Changing MAC Addresses.

Section 3 has a set of use cases which provide real-world example contexts in which some issue(s) arise from randomized and/or changing MAC addresses.

Specific technical issue are then presented in Section 4, including a technical description of the scenario which raises the issue (and mapping back to relevant use case(s)), the technical details of the problem, and the impacts on the overall system including what users/components are impacted, what 802.11 features are

Section 5 provides proposed technical solutions to address the issues (including mapping back to the specific issue(s) addressed by each solution), and discussion of any trade-offs or shortcomings of the solution.

# Terminology

**Randomized MAC address:** An individual MAC address (layer-2 MAC/PHY entity identification, or more specifically a MAC SAP identification) used by a MAC entity as its identification, but that is either not assigned as a globally unique or is not a permanent identifier (in what scope?).

NOTE: Such randomized MAC address should have the U/L bit set to indicate a local MAC addresses, per Std IEEE 802-2014. For the scope of this document, no compliance with 802c-2017 or P802.1CQ direction is assumed.

NOTE: The duration of use of the randomized address could be permanent or only for a shorter duration. Such a randomized address can obscure the real identification of the device and/or its user, for purposes of privacy, for example.

Syn: Local MAC address (OR… do we say it is a special case of Local MAC address, and say something about how it is special?)

Something about 802c-2017??

When dot11MACPrivacyActivated??

P802.1CQ??

**Changing MAC address**: A ~~Randomized~~ MAC address which is also changed over time. Such changes may be periodic, event driven, or triggered by other inputs. Note that IEEE 802.11 requires that a device’s MAC address not change during the lifetime of an association to an ESS. However, the time bounds of such an ESS association are not clearly specified or signalled in 802.11, and the interpretation of this requirement is varying across implementations.

**Rapidly changing MAC address**: A Changing MAC address which is generally changed within a time-frame that is approximately equal or less than the time constants for an 802.11 feature, usually impacting the feature’s correct operation.

NOTE—the interval that defines whether a changing MAC is rapidly changing varies with the feature and use case being considered, but is generally on the order of several minutes or less. For instance, changing MAC address in each probe request, or changing MAC address between each new association to the same ESS.

Note – text in the remaining sections is just a placeholder for now, based on (an incomplete list of) discussion/topics in 11-19/1442r9, just as an example and a starting point for discussion. This list is not meant to be complete, nor necessarily are all items appropriate/correct.

# Use cases

## …

## …

# Issues and analyses

## …

## …

# Proposed Solutions

## …

## …