P802.11bh

Submitter Email:
Type of Project: Amendment to IEEE Standard 802.11-2016
Project Request Type: Initiation / Amendment
PAR Request Date:
PAR Approval Date:
PAR Expiration Date:
PAR Status: Draft
Root Project: 802.11-2016

1.1 Project Number: P802.11bh
1.2 Type of Document: Standard
1.3 Life Cycle: Full Use

2.1 Project Title: IEEE Standard for Information technology--Telecommunications and information exchange between systems Local and metropolitan area networks--Specific requirements - Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications
   Amendment: Enhanced service with randomized MAC addresses

3.1 Working Group: Wireless LAN Working Group(C/LM/802.11 WG)
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3.2 Society and Committee: IEEE Computer Society/LAN/MAN Standards Committee(C/LM)
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4.1 Type of Ballot: Individual
4.2 Expected Date of submission of draft to the IEEE SA for Initial Standards Committee Ballot: Jun 2023
4.3 Projected Completion Date for Submittal to RevCom: Dec 2024

5.1 Approximate number of people expected to be actively involved in the development of this project: 50
5.2.a Scope of the complete standard: The scope of this standard is to define one medium access control (MAC) and several physical layer (PHY) specifications for wireless connectivity for fixed, portable, and moving stations (STAs) within a local area.
5.2.b Scope of the project: This amendment specifies modifications to the IEEE Std 802.11 medium access control (MAC) specifications that preserve the existing IEEE Std 802.11 mechanisms that might otherwise be restricted in environments where STAs in an ESS use randomized or changing MAC addresses, without decreasing user privacy. User privacy concerns include exposure of trackable information to third parties or exposure of an individual's presence or behavior.

This amendment introduces mechanisms to enable session continuity in the absence of unique MAC address-to-STA mapping. This amendment also aims at preserving the ability to provide customer support and troubleshooting, as well as arrival detection in a trusted environment, that might otherwise be restricted in environments where STAs in an ESS use randomized or changing MAC addresses.

5.3 Is the completion of this standard contingent upon the completion of another standard? No
5.4 Purpose: The purpose of this standard is to provide wireless connectivity for fixed, portable, and

moving stations within a local area. This standard also offers regulatory bodies a means of standardizing access to one or more frequency bands for the purpose of local area communication.

5.5 Need for the Project: The number of mobile devices incorporating IEEE Std 802.11 is steadily increasing. Privacy concerns are pushing STA vendors to randomize the STAs' MAC addresses for a growing number of interactions with other IEEE Std 802.11 STAs. In turn, this randomization may affect the user experience, for example by disrupting services that assume a unique MAC address per STA. Additionally, many references in IEEE Std 802.11 to MAC address were made at times where the assumption of a unique assocation between a STA and a MAC address was strong.

There is a need to:

Ensure that IEEE Std 802.11 provisions that refer to a STA MAC address remain valid when that MAC address is random or changes.

Design mechanisms that enable an optimal user experience when the MAC address of a STA in an ESS is randomized or changes. These mechanisms should not decrease user privacy.

5.6 Stakeholders for the Standard: Manufacturers and users of semiconductors, personal computers, enterprise networking devices, consumer electronic devices, home networking equipment, and mobile devices; together with cellular operators, transportation industries, multiple system operators, and video content suppliers.

6.1 Intellectual Property

6.1.1 Is the Standards Committee aware of any copyright permissions needed for this project?
No

6.1.2 Is the Standards Committee aware of possible registration activity related to this project?
No

7.1 Are there other standards or projects with a similar scope? No

7.2 Is it the intent to develop this document jointly with another organization? No

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8.1 Additional Explanatory Notes :