IEEE P802.11
Wireless LANs

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| TGbi Text Changes for MAC Privacy Enhancements section |
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**Abstract**

This document contains proposed text for Section 4.5.4.10 MAC privacy enhancements updated from discussions at the July Plenary. Text for other sections was moved to a new submission

The text below is based on REVme D3.0 text and P802.11beD3.1 text.

4.5.4.10 MAC privacy enhancements

When a non-AP STA searches for, and connects to, an infrastructure BSS, IBSS, or PBSS or attempts to discover services on a network preassociation, it defines the addressing of its MAC layer for the particular connection, if Enhanced Data Privacy (EDP) is not used. If the STA uses a fixed MAC address it is trivial to track the STA. An MSDU transmitted by a STA is assigned a sequence number that, if never reset, can also be used to track a device irrespective of the MAC address. If OFDM is used, the PHY DATA scrambler used can enable tracking of a device irrespective of the MAC address if it is not reseeded. The dynamic nature of BSS membership combined with this tracking information allows for construction of a network of connections, locations, and behavior.

This network can be used to glean private and sensitive information regarding the individual behind the device. Furthermore, even without establishing a connection, a mobile or portable STA that gratuitously transmits Probe Request frames containing SSIDs of favored infrastructure BSS networks, or announces the existence of IBSS networks, can reveal potentially sensitive information about its location and location history. To mitigate this sort of traffic analysis a STA can support the ability to periodically and randomly change its MAC addresses and reset counters and seeds prior to association. A STA or MLD STA can support EDP features that enable OTA identifying information to be altered while a STA or MLD STA is associated and when it reassociates. APs as well as non-AP STAs can use EDP features to restrict OTA transmission of identifying parameters in management frames as well as data frames. AP MLDs as well as non-AP MLDs can use EDP features to restrict OTA transmission of identifying parameters. While discovering networks, a STA can refrain from gratuitously transmitting Probe Request frames containing SSIDs of favored BSS networks.