IEEE P802.11  
Wireless LANs

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| Resolution for CIDs related to beacon optimization | | | | |
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Abstract

This submission proposes resolutions for the following CIDs received for TGbn D0.1 CC:

3338, 3843

**Revisions:**

* Rev 0: Initial version of the document.
* Rev 1: Revised based on offline feedback
* Rev 2: Further revision based on offline feedback
* Rev 3: Editorial fixes based on feedback from Binita
* Rev 4: Additional revisions based on offline feedback from Binita, Reza and Vishnu

***TGbn editor: Baseline for this document is 11bn D0.2***

Interpretation of a Motion to Adopt

A motion to approve this submission means that the editing instructions and any changed or added material are actioned in the TGbn Draft. This introduction is not part of the adopted material.

***TGbn Editor: Editing instructions preceded by “TGbn Editor” are instructions to the TGbn editor to modify existing material in the TGbn draft. As a result of adopting the changes, the TGbn editor will execute the instructions rather than copy them to the TGbn Draft.***

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| **CID** | **Commenter** | **Clause** | **Page.line** | **Comment** | **Proposed Change** | **Resolution** |
| 3338 | Ahmadreza Hedayat | 37 | 67.05 | To avoid worsening the issue of Beacon bloat, it's wise to avoid adding UHR IEs to Beacon, and instead let non-AP STAs to obtain them during association. Define rules for UHR APs and non-AP STAs accordingly. | As in comment | **Revised**  Agree with the comment. As mentioned by the comment, beacon length has reached critical threshold causing interop issues with legacy devices. Each amendment adds more IEs to the Beacon frame which worsens the issue. UHR must break this pattern.The proposed resolution disallows the inclusion of static parameters defined by UHR (i.e., UHR Capabilities element) and proposes to include a ‘restricted’ UHR Operation element (i.e., does not include parameters). The UHR Capabilities element is carried in Probe and (Re)Association Response frames which allows unassociated STAs discover the full capabilities and parameters of the AP.  **TGbn editor, please make changes as proposed in this document.** |
| 3843 | Abhishek Patil | 9.3.3.2 | 55.45 | Beacon bloat is an industry wide problem. A large Beacon frame occupies more medium time and in some cases creates legacy interop issues. UHR must provide mechanisms to address beacon bloating. For example, consider not including static and semi-static parameters (such as UHR Capabilities etc) in the Beacon frame. | The commenter will bring a contribution | **Revised**  Agree with the comment. As mentioned by the comment, beacon length has reached critical threshold causing interop issues with legacy devices. Each amendment adds more IEs to the Beacon frame which worsens the issue. UHR must break this pattern.The proposed resolution disallows the inclusion of static parameters defined by UHR (i.e., UHR Capabilities element) and proposes to include a ‘restricted’ UHR Operation element (i.e., does not include parameters). The UHR Capabilities element is carried in Probe and (Re)Association Response frames which allows unassociated STAs discover the full capabilities and parameters of the AP.  **TGbn editor, please make changes as proposed in this document.** |

***TGbn editor: Please insert a new subclause in clause 37 as shown below:***

**37.x Beacon Optimization**

A UHR AP shall not include UHR Capabilities element in a Beacon frame that it transmits. A UHR AP with dot11MultiBSSActivated equal to true shall not include UHR Capabilities element in a Nontransmitted BSSID Profile subelement of the Multiple BSSID element carried in a Beacon frame that it transmits. A UHR AP shall include UHR Capabilities element in a Probe Response and (Re)Association Response frames that it transmits.

A UHR AP shall include the UHR Operation element in a Beacon, Probe Response and (Re)Association Response frames that it transmits. A UHR AP shall only include the Basic UHR-MCS And NSS Set field in the UHR Operation element carried in the Beacon frame it transmits.

A UHR AP shall provide, in the Beacon frame it transmits, an indication of which operating modes defined by UHR are currently enabled at the AP. The UHR AP shall not include the parameters associated with operating modes defined by UHR in the Beacon frame, except when there is a critical update corresponding to any of those operation modes.

NOTE – A UHR AP provides the parameters for enabled operating modes defined by UHR in the Probe Response and (Re) Association Response frames that it transmits.