IEEE P802.11
Wireless LANs

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| Resolutions to CID 1298 |
| Date: July 31 2018 |
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Abstract

This submission proposes resolutions for CID 1298 received for TGm LB232

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: Updated based on offline feedback
* Rev 2: Updated based on offline feedback (received after doc was presented during 7/31/18 Portland ad-hoc)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **CID** | **Commenter** | **Pg / Ln** | **Section** | **Comment** | **Proposed Change** | **Resolution** |
| 1298 | Abhishek Patil | 1944.24 | 11.1.3.8 | The spec does not provide the ability to not inherit certain elements. For example, if a particular nontransmitted BSSID doesn't want to support or enable a particular feature that is supported by the transmitted BSSID, it cannot do so. For example, let's say the transmitted BSSID supports TWT but a particular nontransmitted BSSID doesn't want to enable TWT (for whatever reason - let's say because the number of STAs associated with that BSSID is small and manageable without enabling TWT), the spec doesn't allow this. As a result, STAs associated with that nontransmitted BSSID believe the feature is enabled and the (TWT) element values are inherited from the transmitted BSSID. This can lead to unexpected behavior or unwanted signaling (such a request/reject) frames being exchanged between the AP and STAs. Further, STA may select and associate with a particular nontransmitted BSSID expecting certain features are (inherited and hence) supported. | Spec should provide a mechanism for a nontransmitted BSSID profile to indicate elements that this BSSID doesn't inherit from the transmitted BSSID and hence the corresponding feature is not support for STAs associated to that BSSID. | **Revised**Agree with the comment. AP can indicate that a particular nontransmitted BSSID does not inherit (i.e., non-inheritance of) an element by including a Non-Inheritance element in the corresponding nontransmitted BSSID profile and listing the Element ID value or Element ID Extension value in the element.**TGm Editor, please make changes as shown in document 11-18/1296r2 having a tag [1298]** |

This document uses REVmd draft 1.2 as the baseline.

Discussion:

As new features (esp. MAC features which can be BSS specific) are being added to the 802.11 standard, the spec needs to provide a mechanism for a particular nonTxBSSID to indicate that it doesn’t support a particular feature that is enabled by the TxBSSID. This non-inheritance may be temporary and may depends on the configuration of the BSS, type of traffic and/or the number or type of STAs currently associated with the BSS. At present, the spec doesn’t provide any such mechanism. As new amendments are being worked on, there are several new features like TWT which are enabled based on the size of the BSS (i.e., scheduling decisions at the AP) or for power-save for certain STAs associated with that particular BSS. TWT being just one example, many more such features are being developed as the 802.11 spec matures to satisfy a variety of requirements. Up until now, most legacy features were PHY related or were not tied to a particular BSS. Therefore, all of them were required to be inherited from TxBSSID. As a result, the proposed additions and mechanism described in this contribution won’t affect legacy STAs.

* **Multiple BSSID procedure**

***TGm Editor: Please add the following at the end of the 3rd paragraph in this section (REVmd D1.2, P2071L24):***

… If any of the optional elements are not present in a nontransmitted BSSID profile, the corresponding values are the element values of the transmitted BSSID unless the element is listed in the Non-Inheritance element (if included) in the nontransmitted BSSID profile for that BSS.[1298]

* Multiple BSSID element

***TGm Editor: Please add a new bullet to the paragraph below Table 9-180 (REVmd D1.2, P1111L64):***

The Nontransmitted BSSID Profile subelement contains a list of elements for one or more APs or DMG STAs that have nontransmitted BSSIDs and is defined as follows:

* …
* When included in the Nontransmitted BSSID Profile subelement for this nontransmitted BSSID, the Non-Inheritance element (see 9.4.2.233a (Non-Inheritance element)) appears as the last element in the profile and carries a list of elements that are not inherited by this nontransmitted BSSID from the transmitted BSSID.[1298]

***TGm Editor: Please add a new section after 9.4.2.233 (REVmd D1.2) as follows:***

9.4.2.233a Non-Inheritance element [1298]

The Non-Inheritance element when present in the Nontransmitted BSSID Profile subelement of a Multiple BSSID element identifies one or more elements that are not inherited by the BSS corresponding to the nontransmitted BSSID profile that carried it. The identified elements are present in the Management frame of the transmitted BSSID that carried the Multiple BSSID element.

The format of the Non-Inheritance element is shown in Figure 9-751aa (Non-Inheritance element format)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Element ID | Length | Element ID Extension | List Of Element IDs | List Of Element ID Extensions |
| Octets: | 1 | 1 | 1 | 1 or more | 1 or more |
|  | **Figure 9-751aa – Non-Inheritance element format** |

The Element ID, Length, and Element ID Extension fields are defined in 9.4.2.1 (General).

The format of the List Of Element IDs field is shown in Figure 9-751ab (List Of Element IDs field format). The Length subfield of the List of Element IDs field is set to the number of elements listed in the Element ID List subfield. If the Element ID List subfield is not present, the Length subfield is set to 0. The Element ID List subfield consists of a list of Element ID values, each one octet in length. Element ID values are in increasing order and no value occurs more than once. The List Of Element IDs field does not list elements that contain an Element ID Extension field (see 9.4.2.1 (General)).

|  |  |  |
| --- | --- | --- |
|  | Length | Element ID List |
| Octets: | 1 | 0 or more |
| **Figure 9-751ab – List Of Element IDs field format** |

The format of the List Of Element ID Extensions field is shown in Figure 9-751ac (List Of Element ID Extensions field format). The Length subfield of the List Of Element ID Extensions field is set to the number of elements listed in the Element ID Extension List subfield. If the Element ID Extension List subfield is not present, the Length subfield is set to 0. The Element ID Extension List subfield consists of a list of Element ID Extension values, each one octet in length. Element ID Extension values are in increasing order and no value occurs more than once. The List Of Element ID Extensions field lists only elements that have an Element ID value of 255 (see 9.4.2.1 (General)).

|  |  |  |
| --- | --- | --- |
|  | Length | Element ID Extension List |
| Octets: | 1 | 0 or more |
| **Figure 9-751ac – List Of Element ID Extensions field format** |

* **Elements**
* **General** [1298]

***TGm Editor: Please add a new row to Table 9-94 as follows:***

***Insert the following new rows into Table 9-94 (Element IDs) (header row shown for convenience):***

|  |
| --- |
| **Table 9-94 – Element IDs** |
| **Element** | **Element ID** | **Element ID Extension** | **Extensible** | **Fragmentable** |
| Non-Inheritance (see 9.4.2.233a (Non-Inheritance element)) | 255 | <ANA> | Yes | No |