IEEE P802.11 Wireless LANs

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| Proposed Resolution for CID 270 |
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Abstract

This submission proposes a resolution to the Comment, CID 270, in the TGai/D0.2 review comments database, regarding the need of further descriptions in Section 10.25.2 for FILS Discovery frame.

# Introduction

In TGai/D0.2 review comment database, 13/0036r9 [Ref-4], Comment of CID 270is as follows:

***Comment: Section 10.25.2, Page 51, by Jarkko Kneckt (11-13-0018r0)***

*The use of the elements and fields in FD frame is not specified. Is there any need for specifying how the fields are set in the FD frame?*

***Proposed change:***

*Clarify the need to explain the use of the fields and elements in the FD frame and add the required instructions.*

Note that the proposed change does not provide any specific text to the TGai Draft Specification.

This contribution proposes a detailed resolution to address Comment CID 270.

# Conventions

In this contribution, the proposed 802.11ai Specification Document text will be presented as modifications to the TGai draft specification 802.11ai/D0.4[Ref-3]. The following format conventions are used:

1. The new added text is marked as blue underline text;
2. The deleted text is marked as ~~red strikethrough text~~;
3. The unchanged baseline standard text stays in black text in the context of proposed TGai specification text;
4. The editorial instruction is marked as *italic text highlighted by Yellow*;
5. The quoted TGai SFD text is marked as *green italic text*; and
6. Any other text, e.g., discussions, proposed motions, etc., is in black text, but not in the context of proposed TGai specification text.

# Discussions

The comment, CID 270, has a valid point about the need of the specification for the information fields and element of the FILS Discovery frame in Section 10.25.2.

This contribution proposes a detailed specification for the information fields and element of the FILS Discovery frame.

# Proposed 802.11ai Specification Text

The following proposed 802.11ai Specification Document text will be presented as modifications to the TGai draft specification 802.11ai/D0.4 [Ref-3].

*Instructions to Editor: in Section 10.25.2, page 57, line 29, insert the following text:*

The format of the FILS Discovery (FD) frame is defined in Section 8.5.8.34.

A FILS Discovery Frame shall contain the SSID of the transmitting AP STA, to advertise the existence of the BSS on the channel.

A FILS Discovery Frame may contain a 3-octet FD Capability field as defined in Figure 8-460p, which provides the receiving STAs capability information of the AP, including: ESS, Privacy, QoS, indication of Multiple BSSID element included in Beacon, Operating Channel Bandwidth, Number of Spatial Streams (Nss), PHY Type, and Supported Minimum Rate. The purpose of the FD Capability field is to assist on a fast AP selection process.

A FILS Discovery Frame may contain an 1-octet FD AP's Next TBTT Offset (ANTO) field that indicates the time offset in number of TUs, between the transmission of the FILS Discovery frame and the next TBTT . After received a FILS Discovery frame with the ANTO field, if a STA needing further information from the AP for its initial link setup should use the information provided by the FD ANTO field to decide whether or not wait for the next Beacon transmission. For example, if the FD ANTO field indicates a long waiting time for next TBTT, the STA may switch to scan another channel and come back to this channel to receive the next Beacon frame, or the STA may send a Probe Request frame for active scanning.

A FILS Discovery frame may contain an 1-octet AP Configuration Change Count (AP-CCC) field that is set to the current version number of AP configuration information set, as defined in Section 10.1.4.3.8. If a non-AP STA retains AP configuration information sets of the preferred APs which the STA has previously obtained, the non-AP STA shall use the received FD AP-CCC information as follows:

* The STA checks if it has the AP’s configuration information set in its retained configuration information sets;
* If yes, the STA compares the AP-CCC value in the received FD frame and that in its record;
* if the values are equal, then the non-AP STA has the information of the AP’s current configuration information set that enables the non-AP STA to initiate fast initial link setup procedure, without waiting for next Beacon frame or Probe Response frame;
* Otherwise, the non-AP STA does not have valid information of the AP’s configuration information set.

A FILS Discovery frame may contain an 1-octet FD Access Network Options (ANO) field as specified in Figure 8-352 in Section 8.4.2.94. The ANO field in the FILS Discovery frame provides information about the access network that the AP is connected to, which is intended to assist the receiving STAs with its AP/Network selections.

A FILS Discovery frame may contain a Reduced Neighbour Report Information Element (IE) as defined in Section 8.4.2.175 and specified in Section 10.25.3. The Reduced Neighbour Report IE in the FILS Discovery frame provides the receiving non-AP STAs the information about neighbour APs for a fast AP discovery, such as, neighbour AP’s operation band and channel information, neighbour AP’s next TBTT information.

# Straw-Polls and Motions

The following lists the draft straw-polls and motions that are intended to present to the TGai Group in next Face-to-Face meeting.

**Motion-1:**Accept the text proposed in Section 4 of this contribution (13/0196) as the resolution to Comment, CID 270, in TGai review comment database (13/0036r9).

Yes: \_\_\_\_\_\_\_\_\_\_\_\_; No: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_; Abstain: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Move:

Second:

# References:

1. 11-12-0151-15-00ai-Proposed-Specification-Framework-Document.docx
2. IEEE Std 802.11 – 2012
3. IEEE Std 802.11ai/D0.4
4. 11-13-0036-09-00ai-tgai-draft-review-combined-comments