IEEE P802.11 Wireless LANs

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| CID #268 and Proposed Text Resolution |
| Date:2013-03-15 |
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Abstract

This submission raises the same comment as Draft 0.2 comment CID #268 and proposed a text resolution for it.

# Introduction

The FD frame was introduced by TGai and was meant to be broadcasted more frequently than Beacon frame. Thus, keeping the overhead low is a critical consideration in designing the format, content, and coding for the FD frame.

In TGai/D0.2 review comment database, 13/0036r9, comment CID #268 raised the issue that there are too many bits reserved or equivalently reserved in the 24-bit FD Capability field in the FD frame and suggested that one octet may be saved from this field by eliminating the excessive reserved bits. However, comment CID #268 was prematurely rejected due to a lack of detailed text proposal. In this contribution, we raised the same comment again.

In Section 3, we discussed where the excessive reserved bits are.

In Section 4, we proposed a resolution with text changes made to P802.11ai Draft 0.4.

# 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. 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

According to P802.11ai Draft 0.4 Page 41, Figure 8-460p, 6 bits are explicitly reserved in the FD Capability field.

In addition, several subfields contain a large number of reserved values. For examples, 4 bits are allocated for the PHY Type subfield but only 4 values (out of 16) are used, and 4 bits are allocated for the Supported Minimum Rate Subfield but only 5 values (out of 16) are used. We can easily save 2 bits out of these two subfields by reducing the size of each subfield to 3 bits.

Thus the length of the FD Capability field can be reduced to 2 octets by removing these two bits plus the 6 reserved bits.

# Proposed 802.11ai Specification Text

*Instructions to Editor: in Section 8.5.8.34, page 39, make the following changes in Table 8-221f:*

|  |  |  |
| --- | --- | --- |
| 5 | FD Capability | An optional field in the FD frame. Its presence is indicated by a 1-bit Capability Presence Indicator in the FD frame Control. The format of the 2-octet FD Capability field is shown in Figure 8-460p. |

*Instructions to Editor: in Section 8.5.8.34, page 41, make the following changes in lines 9-10:*

The FD Capability field contains the information that advertises the capabilities of the STA transmitting the FD frame. Its length is 2 octets. The format of the FD Capability field is shown in Figure 8-460p.

*Instructions to Editor: in Section 8.5.8.34, page 41, replace Figure 8-460p with the following:*



*Instructions to Editor: in Section 8.5.8.34, page 42, make the following changes to line 23 to line 65:*

The 3-bit PHY Type subfield is defined as in Table 8-221i.

**Table 8-221i PHY Type Subfield**

|  |  |
| --- | --- |
| **PHY Type Field Subfield** **(3 bits)** | **PHY Type** |
| 0 | DSSS/HR (11b) |
| 1 | OFDM/ERP (11a/g) |
| 2 | HT (11n) |
| 3 | VHT (11ac) |
| 4 – 7 | Reserved |

The 3-bit Supported Minimum Rate subfield specifies the minimum rate, as coded in Table 8-221j.

**Table 8-221j Supported Minimum Rate subfield**

|  |  |
| --- | --- |
| **Supported Minimum Rate subfield (3 bits)** | **Supported Minimum Rate** |
| 0 | 1 Mbps  |
| 1 | 6 Mbps |
| 2 | 11 Mbps |
| 3 | 12 Mbps |
| 4 | 24Mbps |
| 5 – 7 | Reserved |

# Straw-Polls and Motions

**Motion-1:** Accept the text proposed in Section 4 as the resolution to the comment raised in this contribution (and to comment CID #268 in 11-13-0036r9 as well).

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

Move:

Second:

# References:

1. IEEE Std 802.11ai/D0.4
2. 11-13-0036-09-00ai-tgai-draft-review-combined-comments