IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Alignment of DMG field definition | | | | |
| Date: 2014-08-19 | | | | |
| Author(s): | | | | |
| Name | Company | Address | Phone | email |
| Carlos Cordeiro | Intel |  |  | [Carlos.Cordeiro@intel.com](mailto:Carlos.Cordeiro@intel.com) |

Abstract

This submission resolves inconsistencies in two areas:

1. Between the definitions of two fields: Total Number of Sectors and Number of RX DMG Antennas.
2. In the use of the constant aMinSSSlotsPerABFT, which is no longer required.

There is no CID associated with this change.

The proposed changes are in reference to Draft P802.11REVmc\_D3.0.

Discussion 1: There is an inconsistency between the definition of the Total Number of Sectors field in 8.4.2.127.2 and in 8.5.5. The same inconsistency applies to the definition of the Number of RX DMG Antennas in 8.4.2.127.2 and in 8.5.3.

**Proposed change:**

**8.5.3 Sector Sweep Feedback field**

***Change the third paragraph as follows***

The Number of RX DMG Antennas subfield indicates the number of receive DMG antennas the initiator uses during the following RSS. The value of this field is in the range of 1 to 4, with the value being equal to the bit representation plus 1.

**8.5.5 Beamforming Control field**

***Change the last two paragraphs as follows***

When the BF Control field is transmitted in a Grant frame, the Total Number of Sectors subfield indicates the total number of sectors the initiator uses during the ISS, including any LBIFS required for DMG antenna switching (see 9.38 (DMG beamforming)). When the BF Control field is transmitted in a Grant Ack frame, the Total Number of Sectors subfield indicates the total number of sectors the responder uses during the RSS. In both cases, the value of this field is in the range of 1 to 128, with the value being equal to the bit representation plus 1.

When the BF Control field is transmitted in a Grant frame, the Number of RX DMG Antennas subfield indicates the number of receive DMG antennas the initiator uses during the RSS. When the BF Control field is transmitted in a Grant Ack frame, the Number of RX DMG Antennas subfield indicates the number of receive DMG antennas the responder uses during the ISS. In both cases, the value of this field is in the range of 1 to 4, with the value being equal to the bit representation plus 1.

Discussion 2: The way the A-BFT Length field is defined in 8.3.4.1, it cannot be less than 1 (“The value of this field is in the range of 1 to 8, with the value being equal to the bit representation plus 1.”). Therefore, there is no need to define the constant aMinSSSlotsPerABFT.

**Proposed change:**

**9.38.5.1 Allocation of A-BFT**

***Change the second paragraph as follows***

Following the end of a BTI, the AP or PCP shall decrement the value of the Next A-BFT field by one provided it is not equal to zero and shall announce this value in the next BTI. ~~When the Next A-BFT field in a transmitted DMG Beacon frame is equal to 0, the value of the A-BFT Lengthfield is no less than aMinSSSlotsPerABFT as described in 9.38.5.2 (Operation during the A-BFT).~~ The AP or PCP may increase the Next A-BFT field value following a BTI in which the Next A-BFT field was equal to zero. A STA shall consider that a BTI is completed atthe expiration of the value withinthe Duration field of the last DMG Beacon frame received in that BTI.

**9.38.5.2 Operation during the A-BFT**

***Change the fourth paragraph as follows***

The A-BFT is slotted and the length of the A-BFT is an integral multiple of the sector sweep slot time. The structure of the A-BFT is shown in Figure 9-67 (A-BFT structure). The AP or PCP shall announce the size of the A-BFT in the A-BFT Length subfield of the Beacon Interval Control field (8.3.4.1 (DMG Beacon))~~, which shall be no less than aMinSSSlotsPerABFT sector sweep (SSW) slots~~. The first SSW slot begins at the start of the A-BFT, and the following SSW slots are adjacent and nonoverlapping. An SSW slot (Figure 9-68 (SSW slot (aSSSlotTime) definition)) is a period of time within the A-BFT that can be used by a responder to transmit at least one SSW frame. An SSW slot has a duration of aSSSlotTime. aSSSlotTime is defined to be …

**10.39 DMG MAC sublayer parameters**

***In Table 10-24, delete the row for*** “aMinSSSlotsPerABFT”

Discussion 3: Typo.

**Proposed change:**

**10.3.7 Communicating PBSS information**

***Change the first paragraph as follows***

Following the association or security association of a STA with a PCP, the PCP shall send an unsolicited Information Response frame (8.6.20.5 (Information Response frame format(11ad)) to all the STAs associated with the PBSS. The PCP shall set the Subject Address field of the Information Response frame to the broadcast address and shall include in the Information Response frame the DMG Capabilities element for each STA associated with the PBSS including the PCP. This process is referred to as PBSS information distribution.

Discussion 4: Incorrect IFS is being used in section 8. As specified in 9.38.6.2, it should be MBIFS instead of SIFS.

**Proposed change:**

**8.3.1.18 Sector sweep Ack (SSW-Ack) frame format**

***Change the second paragraph as follows***

The Duration field is set to the value of the Duration within the immediately preceding SSW-Feedback frame, minus MBIFS ~~SIFS~~, minus the time required to transmit the SSW-Ack frame.