IEEE P802.11
Wireless LANs

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| CID487 Clarification on BF text |
| Date: 2010-08-24 |
| Author(s): |
| Name | Company | Address | Phone | email |
| Kenichi Maruhashi | NEC Corporation |  |  | maruhashi@ieee.org |
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Abstract

This document proposes additional clarifications required on TGad draft as part of the resolution to CID487. The page and line numbers are with respect to TGad Draft 0.2.

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| 487 | All | All | All | TR | The spec needs clarification in several subclauses. It is much easier to list them in separate documents. | Contributions will be submitted to clarify the spec. |

**Proposed Resolution:** Accept

**NOTE**: all page and line numbers below are with respect to TGad D0.2

**Discussion 1**:

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| 9.25.5.1 | 211 | 31 | "The initiator shall begin an ISS (9.25.1.1) at the start of the allocation, except when the allocation is an SP and the isInitiatorTXSS field for this SP is set to zero in which case the initiator shall begin an initiator RXSS to attempt to receive frames from the responder." - This is incorrect. The initiator always begins the transmission. |

***TGad Editor: Change P211L31 as follows:***

The initiator shall begin an ISS (9.25.1.1) at the start of the allocation with an initiator TXSS, except when the allocation is an SP and the isInitiatorTXSS field for this SP is set to zero in which case the initiator shall begin an ISS with an initiator RXSS.

**Discussion 2**:

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| 9.25.5.1 | 211 | 38 | "The RSS is a TXSS unless the allocation is an SP and the isResponderTXSS field for this SP is set to zero." -This is incorrect as the RXSS can be used in a CBP if the RXSS length field is > 0 during the ISS. |

***TGad Editor: Change P211L38 as follows:***

The RSS is a TXSS unless the allocation is an SP and the isResponderTXSS field for this SP is set to zero or the allocation is a TXOP and the RXSS Length field within the ScS frame used to obtain the TXOP is set to a non-zero value.

**Discussion 3**:

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| 9.25.5.2 | 212 | 40 | The text assumes that the AWV settings are discrete, but the definition in clause 3 (Definition) reads like the AWV is a vector of continuous parameters, and the usage of "refinement" in regards to AWV reinforces this notion.The AWVs can be discrete or continuous and the standard should not restrict implementations by specifying that the set of AWVs should be one or the other. The intention here was to state that the set of RX AWVs, chosen in an implementation-dependent manner, should be such that the probability of determining the RX AWVs that best match the chosen set of TX sectors is maximized. Note that this may involve using a set of RX AWVs that correspond to the “full set” of RX sectors. However, as the commenter points out, the current description can be misleading. |

***TGad Editor: Change P212L40 as follows:***

The MIDC sub-phase can be implemented such that small subsets of TX Sector IDs and RX AWVs are first chosen, followed by trials between these subsets to determine the optimal starting TX Sector ID and RX AWV pair. The set of TX sectors is chosen from an a priori TX sector sweep with a quasi omni RX antenna pattern (in the SLS phase). To enable the selection of the RX sectors, and the subsequent trial between the TX and RX sectors, the MIDC sub-phase consists of an MID sub-phase and a BC (or beam combining) sub-phase. In the MID sub-phase, a wide TX beam (e.g., quasi-omni) is used while the receiver sweeps through its choice of AWV settings to determine the set of RX AWVs with the highest link quality. This is followed by the BC sub-phase, which involves testing the multiple RX AWVs together with multiple TX AWVs.

This is conceptually illustrated in Figure 103. Note that the consecutive numbering of TX Sector IDs (e.g., TX Sector ID1, TX Sector ID2, …) or RX AWVs is just used for representation purposes. It is used to indicate the subset of TX Sector IDs without placing any restrictions on how these Sector IDs are selected (i.e., consecutive numbering of TX Sector IDs does not mean that the selected TX Sector IDs should be those that are consecutively numbered).

**Discussion 4**:

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| 9.25.5.2.1 | 215 | 5 | RHS of Fig 103 lists TX Sector ID1, ID2 … in sequential order, yet language talks about a "small set" (="small subset"?) which likely would be some consecutive and some non-consecutive. Also Nbeam is the same on TX and RX side - seems unduly constraining. **Figure 106 should be also changed with the same reason.** |

***TGad Editor: Replace Figures 103 and 106 as follows:***



**Figure 103 – Conceptual flow of a sample MIDC sub-phase execution with MID and BC sub-phases for the initiator link.**

**Figure 106 – Conceptual flow of a sample MIDC sub-phase execution with only the MID sub-phase for the initiator link.**