IEEE P802.11  
Wireless LANs

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| Annex G – Frame exchange sequences | | | | |
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| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Carlos Cordeiro | Intel |  |  | carlos.cordeiro@intel.com |
|  |  |  |  |  |

Abstract

This submission proposes resolutions to CIDs 1805, 1390, 1675, 2169, 1990, 1883, 2230, 1436, 1428, 1677, 1832, 1923, 2222, 1175, 1560, 2183.

Changes are in relation to 11md D1.0 and 11ay D1.2.

**G.1 General**

*Change the indicated rows in Table G-1 as follows*

|  |  |
| --- | --- |
| … | … |
| *QAP* | Frame is transmitted by a QoS AP or a PCP. |
| … | … |
| *RD* | For a non-DMG STA, f~~F~~rame includes an HT Control field in which the RDG/More PPDU subfield is equal to 1. For a DMG STA, frame has RDG/More PPDU subfield in the QoS Control field equal to 1. |
| … | … |
| CT | A frame that contains a control trailer |
| TRN | A DMG PPDU that carries a TRN field |

**G.2 Basic sequences**

*Change the following paragraph*

(\* This rule defines all of the allowable frame exchange sequences \*)

frame-exchange-sequence =

( [CTS] (Management +broadcast | Data +group) ) |

( [CTS | RTS CTS | PS-Poll] {frag-frame Ack} last-frame Ack ) |

(PS-Poll Ack) |

hcf-sequence |

mcf-sequence |

s1g-sequence |

dmg-sequence

*Change the section heading as follows*

**G.4 HT, ~~and~~ VHT, ~~and~~ S1G and DMG sequences**

*Insert at the end of the subclause*

(\* A dmg-sequence represents additional sequences that may be generated by a DMG STA during a BTI, A-BFT, ATI, CBAP and SP.\*)

dmg-sequence =

bti-sequence |

abft-bf-sequence |

ati-sequence |

([DMG CTS+self[+CT]] 1{(Data +group +QoS | Management +broadcast)} |

([DMG CTS+self[+CT] | RTS[+CT] DMG CTS[+CT] | Grant [Grant Ack] | Poll SPR Grant] {frag-frame Ack} last-frame Ack) |

dmg-bf-sequence |

(RTS[+CT] DMG DTS[+CT]) |

([DMG CTS+self[+CT] | RTS[+CT] DMG CTS[+CT] | Grant [Grant Ack] | Poll SPR Grant] 1{dmg-txop-sequence});

bti-sequence =

(1{DMG Beacon});

ati-sequence =

(Management +individual Management +individual) |

(Management +individual Ack);

abft-sequence =

(1{SSW} SSW-Feedback) |

([1{Short SSW} SSW-Feedback]);

dmg-bf-sequence =

(1{SSW} 1{SSW} SSW-Feedback SSW-Ack) |

([1{Short SSW} 1{Short SSW} SSW-Feedback SSW-Ack]) |

([BRP BRP] 1{BRP[+TRN] BRP[+TRN]}) |

([BRP BRP 1{BRP[+TRN]} BRP BRP 1{BRP[+TRN]} BRP 1{BRP[+TRN]} BRP]);

(\* A TXOP may be filled with dmg-txop-sequences, which are initiated by a TXOP holder. \*)  
dmg-txop-sequence =

dmg-bf-sequence |

(((RTS[+CT] DMG CTS[+CT]) | DMG CTS+self[+CT]) Data +individual +QoS +(block-ack | no-ack)) |  
[RTS[+CT] DMG CTS[+CT]] (txop-part-requiring-ack txop-part-providing-ack) |  
[RTS[+CT] DMG CTS[+CT]] (Management | (Data +QAP)) +individual Ack |  
[RTS[+CT] DMG CTS[+CT]] (BlockAckReq BlockAck) |   
dmg-nav-protected-sequence |  
1{initiator-sequence};

(\* a dmg-nav-protected sequence consists of setting the NAV, performing one or more initiator-sequences and then resetting the NAV if time permits \*)  
dmg-nav-protected-sequence =

dmg-nav-set 1{initiator-sequence} [CF-End];

(\* These are the series of frames that establish NAV protection for a DMG sequence \*)

dmg-nav-set =

(RTS[+CT] DMG CTS[+CT]) |

DMG CTS+self[+CT] |

(Grant [Grant Ack]) |  
(Data +individual [+null] [+QoS +normal-ack] Ack) |  
Data +individual +QoS [+(no-ack|block-ack)] |  
Data +group [+null] +QoS |  
(1{ Data +individual +QoS +implicit-bar +a-mpdu} +a-mpdu-end BlockAck) |  
(BlockAckReq BlockAck) |  
1{RTS[+CT] DMG CTS[+CT]};