IEEE P802.11  
Wireless LANs

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| TGad sponsor ballot comment resolution | | | | |
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Abstract

This document addresses comments provided by D5.0 sponsor ballot CIDs: 6361, 6448, 6447, 6210, 6242, 6241

| **CID** | **Page** | **Line** | **Clause** | **Duplicate of CID** | **Resn Status** | **Comment** | **Proposed Change** | **Resolution** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 6361 | 38.00 | 6 | 3.2 |  | V | The 11ad draft text includes no introduction, description, much less requirements for an "address link". The Definitions sections are \*auxiliary\* in an IEEE standard to the body of the standard. All of these concepts -- address link, multiple MAC address link, MMAL cluster, all need to be introduced and specified in the draft text. | In clause 4 introduce address links, MMAL and MMAL clusters. In clause 9 give the operating procedures for working with each of these, including delivering MMAE between coordinated STAs. For instance, what is the process for an MMAE to be 'delivered' from one STA to another in an MM-SME coodinated set of STAs? If there is no interoperable specification here, then the 802.11 standard has no business postulating the existence of internal proprietary processes and all of this MMAL/MMAE text needs to be deleted. | See the text below |
| 6448 | 50.00 | 23 | 4.9.3 |  | V | Is the backoff procedure used to resolve contention between the various MAC sublayers permitted to delay a scheduled transmission (due to SP, CBAP, or even a beacon transmission following TBTT)? It would seem that scheduled transmissions ought to take precedence over other contending traffic, since such information is available from the various, collocated MAC entities, unlike the case for collisions on the WM between disjoint STAs. | Clarify the operation of this backoff procedure, presumably by reference to a subclause where the rules, or at least the permissible disruption to scheduled transmissions within the BSS or PBSS, are specified. This potential for disruption of scheduled transmissions suggests that the statement in 7.3.5.16.4 regarding the effect of PHY-TxBusy.indication on the MAC being unspecified may also need to be revised. | See text below |
| 6447 | 50.00 | 23 | 4.9.3 |  | R | Is the backoff procedure mentioned on this line the same backoff procedure defined in 9.3.4.3? If so, how does the contention window size changes due to repeated requests from this internal contention interact with contention window size changes due to contention on the WM? It would seem to violate the premise underlying the exponentional backoff (temporary reduction of instantaneous offered load by randomizing the contending transmission attempts across a wider interval) to have intra-entity collisions and collisions on the WM to contribute to the same contention window. The effects on EDCA contention could be even worse. If the back off procedure is not the one defined in 9.3.4.3, please include a definition of this backoff procedure in the appropriate subclause and include a reference here. | Specify the operation of this backoff procedure (presumably in clause 9 or a later clause), or at the very least, specify that this backoff procedure is totally internal and does not interact with, affect, or otherwise modify the parameter values used by the backoff procedure specified in clause 9.3.4.3. | The backoff procedure mentioned on this line is defined in 9.19.2.5 (EDCA backoff procedure) and follows the rule of EDCA internal collision. |
| 6210 | 128.00 | 16 | 8.3.1.16 |  | A | The format of the DBandCF-End frame is the same as the CF-End frame in 8.3.1.6.  There is no need for this gratuituous variation. | Move the para at 128.19 to 8.3.1.6 and make specific to DBand. Change all references to DBandCF-End to CF-End within rest of document. | See text below |
| 6241 | 391.00 | 28 | 10.3.3.5 |  | A | "The PCP/AP shall not allocate a single AID for all STAs if the Single AID field is 0" - I think the statement needs to be stronger than this. | "If the Single AID field is 0, the AP shall allocate a distinct AID for each STA specified in the MMAE." - see also my comment on use of "each STA" terminology at line 25 | See text below |
| 6242 | 391.00 | 25 | 10.3.3.5 |  | A | "...the PCP/AP may allocate a single AID for all the STAs included in the 24 MMAE. If the PCP/AP allocates the same AID to all STAs, ..."  The "all STAs" language doesn't align well to the description of the MMAE structure, which identifies only one STA address.  Same comment throughout 10.3 where the MMAE is mentioned. | Revise language to relate to the fields in the MMAE structure directly. | See text below |

CID6361

*Discussion:*

*“Multiple MAC address link” is defined as a link between two stations (STAs), wherein one of the STAs is coordinated by an MM-SME that delivered a MMAE to the other peer STA. Each one term used in the definition is already defined in the basic standard. Combination of “address link” is not in use and does not exist as specific term hence no need to define it.*

*MMAL and MMAL cluster operating procedures as belonging to MLME are defined in 10.33 (MMAL cluster operation) including derlivering of MMAE from one STA to another. The MMAE and frame formats used to delivery the element are defined in 8.4.2.155 (Multiple MAC Addresses element), 8.3.3.5 (Association Request frame format), 8.3.3.6 (Association Response frame format), 8.3.3.7 (Reassociation Request frame format), 8.5.3.2.1 (Basic ADDTS Request frame variant) and some others.*

*Establishment of the MMAL cluster extends functionality of other protocol features. Subclauses that are devoted to definition of the mentioned features contain rules related to the MMAL cluster functionality. For example see 9.35 DBand Beamforming P309L1.*

*Deifinetly concept of MMAL cluster is not introduced in the subclause 4.9.3.*

*Editor: change text at P50L27as follows:*

STAs that are coordinated by the same MM-SME can establish a MMAL with peer STA by delivereding a MMAE to the peer STA. The set of all multiple MAC address links between a pair of STAs create a MMAL cluster.

CID6448

*Discussion: The backoff procedure is not used for SP and CCA is optionally used for beacon transmission following TBTT. The CBAP backoff procedure is clarified in 11-12-0058-00-00ad-sponsor-ballot-text-changes-part-3.docx per CID6015.*

*The effect of PHY-TxBusy.indication on the MAC is specified in 9.19.2.5 (EDCA backoff procedure)*

*Editor: change text at P114L25 as follows:*

The effect of receipt of this primitive by the MAC is unspecified if the STATE of the primitive is set to IDLE.

The effect of receipt of this primitive by the MAC is specified in 9.19.2. 5 if the STATE of the primitive is set to BUSY.

CID6210

*Editor: Remove the sublcaluse 8.3.1.16. Change all references to DBandCF-End to CF-End within the document.*

*Editor: move the text on page 128 between L19 and L28 to the end of subclause 8.3.1.6 (CF-End frame format) and change at start of the inserted text as follows:*

“In the DBand the Duration field in the ….”

*Editor: In the subclause 8.3.1.6 change as follows:*

“In the OBand the BSSID field is the address of the …”

*Editor: Remove line that contains DBandCF-End from Table 8-1a (Control Frame Extension) and inform ANA about release of the combination: frame type = control, subtype =Control Frame Extension, Control Frame Extension value = DBandCF-End*

CID6241

*Editor: at P391L28 and P388L9 change the text as follows:*

2) If the Single AID field is 0, the AP shall allocate a distinct AID for each STA specified in the MMAE.

*CID6242*

*Editor: at P391L25 change the text as follows:*

… all STAs whose MAC address was included in the MMAE

*Editor: at P196L17 change the text as follows:*

When present in the element, the Interface Address(es) field contains one or more MAC addresses that can be used to identify the STAs, in addition to the STA MAC address, coordinated by the same MM-SME (see 10.34 MMAL cluster operation).

**References:**

1. IEEE P802.11ad/D5.0, September 2011