IEEE P802.11
Wireless LANs

|  |
| --- |
| 11bi Comment resolution for multiple comments in 10.71.7 |
| Date: 2025-03-10 |
| Author(s): |
| Name | Affiliation | Address | Phone | Email |
| Domenico Ficara | Cisco |  |  | dficara@cisco.com |
| Ugo Campiglio | Cisco |  |  | ucampigl@cisco.com |
| Javier Contreras | Cisco |  |  | jacontre@cisco.com |
| Jerome Henry | Cisco |  |  | jhenry@cisco.com |
| Federico Lovison | Cisco |  |  | flovison@cisco.com |

Abstract

This submission resolves the following CIDs:

 96, 97, 132, 133, 358, 359, 360, 483, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 762, 822, 823, 824, 825, 826, 827, 828, 875

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: Improved addressing of CIDs 133, 602, 606, 762, 822,

***Editing instructions formatted like this are intended to be copied into the TGbi D1.0 Draft. (i.e. they are instructions to the 802.11 editor on how to merge the text with the baseline documents). TGbi Editor: Editing instructions preceded by “TGbi Editor” are instructions to the TGbi editor to modify existing material in the TGbi draft. As a result of adopting the changes, the TGbi editor will execute the instructions rather than copy them to the TGbi Draft.***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **CID** | **Clause** | **P.L** | **Comment** | **Proposed Change** | **Resolution** |
| 96 | 10.71.7 | 93.45 | "The CPE AP MLD may, at any point in time, generate a new AID List and..." Delete "at any point in timee", it is not needed and dangerous. | At cited location , delete ", at any point in time," | Accepted – TGbi Editor, please implement changes tagged #96 in 11-25-485 |
| 97 | 10.71.7 | 93.46 | "At latest the CPE AP MLD shall..." No idea what "at latest" means | At cited location delete "At latest" and capitalize "The" | Accepted –TGbi Editor, please implement changes tagged #97 in 11-25-485 |
| 132 | 10.71.7 | 93.39 | The sentence does not add much but causes confusion. Does it imply a CPE AP MLD can not generate and send new AID values APERIODICALLY? However, P93L46 says it may do that at any point in time. | Remove the sentence. | Accepted –TGbi Editor, please implement changes tagged #132 in 11-25-485 |
| 133 | 10.71.7 | 93.42 | Suggest to delete the acronyms "NE" and "SE" of the fields, instead, use the whole name of the fields, which is easier to read. | As in comment | Accepted – TGbi Editor, please implement changes tagged #133 in 11-25-485 |
| 358 | 10.71.7 | 92.62 | Missing articles: "A CPE non-AP MLD shall include an AID Storage Size field in the EDP element of (Re)AssociationRequest frame and EDP Request frame it transmits." | Change to" A CPE non-AP MLD shall include an AID Storage Size field in the EDP element of each (Re)AssociationRequest frame and EDP Request frame it transmits." | Accepted –TGbi Editor, please implement changes tagged #358 in 11-25-485 |
| 359 | 10.71.7 | 93.19 | Reword for clarity: "within as many epochs" | Change to:"continuing for as many epochs" | Revised –Combined with suggestion provided in #599TGbi Editor, please implement changes tagged #599 in 11-25-485 |
| 360 | 10.71.7 | 92.54 | Add requirements for AID list | The sections provides no guidance to the AP MLD on the generation of AIDs. Some direction such as: The rules in 35.3.5.1 apply aside from the reuse of AIDs across FA parameter sets for different MLDs. | Revised –Introduced a sentence to clarify that the rules in 35.3.5.1 apply and all AIDs are unique at any point in timeTGbi Editor, please implement changes tagged #360 in 11-25-485 |
| 483 | 9.4.2.350 | 62.52 | "Start Epoch (SE)" field has no normative behaviour associated with it (i.e. nothing in Clause >9) | As it says in the comment | Revised – In fact, we mention “Starting Epoch” in 10.71.7 (note -ing suffix). Fixing the name in 10.71.7TGbi Editor, please implement changes tagged #483 in 11-25-485 |
| 594 | 10.71.7 | 92.57 | "The AID Storage Size field indicates the minimum number of stored AID values for the AID list for any non-AP MLD shall be capable to store to be allowed to join in the EDP group. " is grammatically broken and seems like duplication of Clause 9 anyway | Delete the cited text | Accepted –TGbi Editor, please implement changes tagged #594 in 11-25-485 |
| 595 | 10.71.7 | 92.62 | "A CPE non-AP MLD shall include an AID Storage Size field in the EDP element of (Re)Association Request frame and EDP Request frame it transmits. The AID Storage Size field indicates the maximum number of AIDs that the CPE non-AP MLD can store." duplication of Clause 9 (and also missing article) | Delete the cited text | Revised – The first sentence is important to state that the EDP element in the (Re)Association request shall include the field. The second sentence is a repetition, removed. TGbi Editor, please implement changes tagged #595 in 11-25-485 |
| 596 | 10.71.7 | 93.02 | "If the AID Storage Size value indicated by the CPE non-AP MLD is lower than the value indicated by the CPE AP MLD" should refer to fields. Also at line 12 | Change to "If the AID Storage Size field indicated by the CPE non-AP MLD is lower than that indicated by the CPE AP MLD" | Accepted – TGbi Editor, please implement changes tagged #596 in 11-25-485 |
| 597 | 10.71.7 | 93.03 | "signals" too wishy-washy | Change to "shall signal" | Accepted –TGbi Editor, please implement changes tagged #597 in 11-25-485 |
| 598 | 10.71.7 | 93.10 | "fig." should be "Figure" and should be a hyperlink | As it says in the comment | Accepted – TGbi Editor, please implement changes tagged #598 in 11-25-485 and please add the hyperlink to the Figure |
| 599 | 10.71.7 | 93.19 | "Starting Epoch (SE), within as many epochs as defined in the Number of Epochs (NE) field." mixture of field names and values | Change to "epoch indicated in the Starting Epoch field, for the number of epochs indicated in the Number Of Epochs field" | Accepted –TGbi Editor, please implement changes tagged #599 in 11-25-485 |
| 600 | 10.71.7 | 93.22 | "The receiving CPE non-AP MLD, that has not been able to store every AID of the AID list, shall" weird grammar | Change to "A receiving CPE non-AP MLD that has not been able to store every AID of the AID list shall" | Accepted –TGbi Editor, please implement changes tagged #600 in 11-25-485 |
| 601 | 10.71.7 | 93.39 | "A CPE AP MLD shall generate and send new AID values periodically. " -- not clear how often this is | Add a MIB attribute to control this | Revised – Removed as part of #132 since the following sentences clarify that the AP shall send the AID List element, before the list is exhausted.TGbi Editor, please implement changes tagged #600 in 11-25-485 |
| 602 | 10.71.7 | 0.00 | "NE epoch" term undefined | Add definition | Revised –Removed the sentence as part of #133 and #827TGbi Editor, please implement changes tagged #133 and #827 in 11-25-485 |
| 603 | 10.71.7 | 93.45 | "a new AID List" should be lowercase "list" | As it says in the comment | Accepted –TGbi Editor, please implement changes tagged #603 in 11-25-485 |
| 604 | 10.71.7 | 93.50 | "SE field of the AID List " no such field and missing "element" | As it says in the comment | Revised -Added “element”. There is a Start Epoch field. TGbi Editor, please implement changes tagged ##604 in 11-25-485 |
| 605 | 10.71.7 | 93.55 | "Upon AID assignment failures" seems to suggest it's only in case of repeated failure | Change to "Upon AID assignment failure" | Accepted –TGbi Editor, please implement changes tagged ##605 in 11-25-485 |
| 606 | 10.71.7 | 93.58 | "If a CPE non-AP MLD has no available AID during next epoch, the CPE non-AP MLD should continue to operate with other epoch specific FA and send an AID Assignment Response frame with Status Code set to NO\_ASSIGNED\_AID to request AP to new AID value assignment." is missing articles and needs a hyphen in "epoch-specific" | As it says in the comment | Revised –TGbi Editor, please implement changes tagged #606 in 11-25-485 |
| 607 | 10.71.7 | 93.58 | "If a CPE non-AP MLD has no available AID during next epoch, the CPE non-AP MLD should continue to operate with other epoch specific FA and send an AID Assignment Response frame with Status Code set to NO\_ASSIGNED\_AID to request AP to new AID value assignment." suggests it's optional to continue to operate, i.e. it's OK to crash | Delete "continue to" | Accepted –TGbi Editor, please implement changes tagged #607 in 11-25-485 |
| 608 | 10.71.7 | 93.58 | "If a CPE non-AP MLD has no available AID during next epoch, the CPE non-AP MLD should continue to operate with other epoch specific FA and send an AID Assignment Response frame with Status Code set to NO\_ASSIGNED\_AID to request AP to new AID value assignment." -- not clear what "operating with other epoch specific FA" means | As it says in the comment | Revised – Changed to “operate with the rest of the FA parameter set”, combined together with #607TGbi Editor, please implement changes tagged #608 in 11-25-485 |
| 609 | 10.71.7 | 93.62 | "send an AID Assignment frame to the non-AP MLD and assign AIDs for the com-ing epochs" -- needs to be done in the opposite order! | As it says in the comment | Accepted –TGbi Editor, please implement changes tagged #609 in 11-25-485 |
| 610 | 10.71.7 | 94.01 | "If a CPE non-AP MLD has no available AID during an epoch, due to failures in AID assignment operations, the AP MLD shall disassociate the CPE non-AP MLD. " is incompatible with "If a CPE non-AP MLD has no available AID during next epoch, the CPE non-AP MLD should continue to operate with other epoch specific FA" on the previous page | As it says in the comment | Revised –Added “due to repeated failures”TGbi Editor, please implement changes tagged #610 in 11-25-485 |
| 762 | 10.71.7 | 93.46 | If the CPE non-AP MLD performs association very close to the epoch termination, it might end up very soon with no AID. | Define a mechanism to pass a AID List element in the Association Response | Accepted – TGbi Editor, please implement changes tagged #762 in 11-25-485 |
| 822 | 10.71.7 | 92.57 | Word choice and structure make sentence confusing | Rephrase as "The AID Storage Size field indicates the minimum number of AID values that any non-AP MLD shall be capable of storing in its AID list in order to be allowed to join the EDP group." | Revised – Removed the sentence altogether as part of resolution of #594, since it is redundant w.r.t. Clause 9.TGbi Editor, please implement changes tagged #594 in 11-25-485. |
| 823 | 10.71.7 | 93.11 | Missing word - "than" | Rephrase as "The AID list size (indicated by the Number of Epochs field in fig. 9-1074dt (AID List Value field) shall besmaller than or equal to..." | Accepted –TGbi Editor, please implement changes tagged #823 in 11-25-485 |
| 824 | 10.71.7 | 93.15 | The word "encodes" in this sentence suggests that the AP MLD sends the AID values in some altered or encrypted form. While the frame is protected, the individual elements in the list are not encoded. | Rephrase as "The CPE AP MLD sends a protected AID Assignment action frame to the non-AP MLD with the AID List element that contains the AID values." | Accepted –TGbi Editor, please implement changes tagged #824 in 11-25-485 |
| 825 | 10.71.7 | 93.23 | Phrasing of initial part of the sentence is not clear | Rephrase as "If a CPE non-AP MLD that receives an AID List element is unable to store every AID of the AID list, it shall respond..." | Revised –Resolved with #600 that point to the same directionTGbi Editor, please implement changes tagged #600 in 11-25-485 |
| 826 | 10.71.7 | 93.27 | Given that the CPE non-AP MLD informs the CPE AP MLD of its AID storage limit and the CPE AP MLD is required to not send lists larger than that limit, when would the CPE non-AP MLD receive a list that it was only able to store a portion of? | Eliminate the status code "SUCCESS\_AID\_LIST\_PARTIALLY\_STORED" and associated text or provide a note as to how this code might be used. One option I can imagine is that AP MLD sends maximum number of AIDs a non-AP MLD can handle, which results in overflow when non-AP MLD tries to add the recieved AIDs to the set of AIDs it still has from the last list sent by the AP MLD. This may be possible, given that AP MLD is required to send new list prior to end of NE epochs.Note: if status code is eliminated, prior sentence should be reworded to indicate the CEP non-AP MLD was "unable to store the list" rather than not "able to store every AID". | Rejected –There are a few cases (such as the one the commented reported) and there might be other cases, implementation dependent, where such rejection happens, and this clause should not attempt to list all implementation and use cases. |
| 827 | 10.71.7 | 93.47 | The sentence that begins "At the latest the CPE AP MLD shall" replicates the requirement described in the prior paragraph that begins "Before the end of the NE epochs". | Delete the sentence " At latest the CPE AP MLD shall send a new AID List before the end of the NE epochs." | Accepted – TGbi Editor, please implement changes tagged #827 in 11-25-485 |
| 828 | 10.71.7 | 93.59 | Sentence is missing a verb that describes action of AP | Amend sentence as "If a CPE non-AP MLD has no available AID during next epoch, the CPE non-AP MLD should continue tooperate with other epoch-specific FA mechanisms and send an AID Assignment Response frame with Status Code set to NO\_ASSIGNED\_AID to request that the CPE AP MLD send a new AID value assignment." | Revised –Combined with #600 and #825 that point to the same directionTGbi Editor, please implement changes tagged #600 in 11-25-485 |
| 875 | 10.71.7 | 93.15 | It is not required to remind that the AID Assignment frame is protected because it is protected by definition. | Please modify the sentence such as "The CPE AP MLD sends an AID Assignment action frame to the non-AP MLD with the AID List element that encodes the AID values. " | Accepted –TGbi Editor, please implement changes tagged #875 in 11-25-485 |

***Proposal:***

**TGbi Editor: *Instruction: Please modify 10.71.7 as shown below***

* Frame anonymization and AID

Upon advertisement of EDP groups (as defined in 10.71.2.2 (EDP group operations)), the CPE AP MLD shall include an AID Storage Size field in the EDP element it transmits. (#594)

A CPE non-AP MLD shall include an AID Storage Size field in the EDP element of each (#358)(Re)Association Request frame and EDP Request frame it transmits. (#595)

If the AID Storage Size value indicated by the CPE non-AP MLD is lower than that(#596)indicated by the CPE AP MLD, then the CPE AP shall signal(#597) that the non-AP MLD is not allowed to join in the EDP group with an EDP Response frame indicating FAILURE\_AID\_STORAGE\_TOO\_SMALL in the Status field.

A CPE AP MLD generates a list of AIDs that an associated CPE non-AP MLD shall use in the subsequent epochs.

While generating the list of AIDs, the AP MLD shall apply the rules in 35.3.5.1 and ensure that, at any point of time, each non-AP MLD is assigned an unique AID value.(#360)

The AID list size (indicated by the Number of Epochs field in Figure(#598) 9-1074dt (AID List Value field) shall be smaller than (#823)or equal to the value of AID Storage Size provided by the CPE non-AP MLD.

The CPE AP MLD shall include the AID List element in the (Re)Association Response frame. (#762)

For subsequent AID assignments, the(#762) CPE AP MLD shall send (#762) a (#875)AID Assignment action frame to the non-AP MLD with the AID List element that contains(#824) the AID values.

If the AID assignment operation has been successful, the CPE non-AP MLD and the CPE AP shall use the AIDs in the AID List element for any communications, starting from the epoch indicated in the (#599) Start(#483) Epoch field(#133), for(#359, #599) the number of epochs indicated(#599) in the Number Of Epochs (#133) field.

A receiving CPE non-AP MLD that has not been able to store every AID of the AID list shall respond (#600)with an AID Assignment Response action frame. The Status Code field in the AID Assignment Response frame shall be set according to the result of the AID assignment operation as follows:

* Status Code SUCCESS\_AID\_LIST\_PARTIALLY\_STORED indicates that the AID assignment operation has been successful but only the initial part of the AID list has been stored by the CPE non-AP MLD. In this case, the CPE non-AP MLD shall include the Number Of Stored AIDs field and set it to the number of the stored AID values.
* Status Code FAILURE\_AID\_LIST\_NOT\_STORED indicates that the AID assignment operation has failed. The non-AP MLD has not stored any AID in the AID list.

NOTE 1—A CPE non-AP MLD that successfully stores the AID list is not required to respond with an AID Assignment Response frame.

(#132)

Before the end of the Number Of Epochs(#133) epochs, the CPE AP MLD shall generate a new list of AID values and send a new AID Assignment frame with the new AID List element to the non-AP CPE MLD.

The CPE AP MLD may(#96) generate a new AID list(#603) and send a new AID Assignment frame with the new AID List element to the non-AP CPE MLD. (#827, #97)

If the Start Epoch (#133) field of the AID List element(#604) indicates an epoch for which an AID has been already assigned, the AIDs in the AID List shall override the previously assigned AIDs beginning from the epoch number value indicated by the received Start Epoch(#133) field of the AID List element.

Upon AID assignment failure(#605), the CPE AP MLD may repeat the AID assignment operation. Upon subsequent failures, the CPE AP MLD may request the CPE non-AP MLD to join a different EDP group.

If a CPE non-AP MLD has no available AID during the (#606)next epoch, the CPE non-AP MLD should (#607, #608)operate with the rest of the (#606) FA parameter set and send an AID Assignment Response frame with Status Code set to NO\_ASSIGNED\_AID to request the AP a new AID value assignment (#606). If the CPE AP MLD receives such a frame, the AP MLD shall assign AIDs for the coming epochs to the non-AP MLD and (#609)send an AID Assignment frame to it. (#609)

If a CPE non-AP MLD has no available AID during an epoch, due to repeated (#610) failures in AID assignment operations, the AP MLD shall disassociate the CPE non-AP MLD.