IEEE P802.11
Wireless LANs

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| CC36 CR for remaining CIDs about Critical Update |
| Date: Feb 15, 2022 |
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 Abstract

This submission proposes resolutions for following CIDs received for TGbe CC36 based on TGbe D1.4:

4003 4347 4348 5590 5939 6764 4012 5744 6014 6754 7339 7570 (12 CIDs)

Revisions:

* Rev 0: Initial version of the document.

Interpretation of a Motion to Adopt

A motion to approve this submission means that the editing instructions and any changed or added material are actioned in the TGbe Draft. This introduction is not part of the adopted material.

***Editing instructions formatted like this are intended to be copied into the TGbe Draft (i.e. they are instructions to the 802.11 editor on how to merge the text with the baseline documents).***

***TGbe Editor: Editing instructions preceded by “TGbe Editor” are instructions to the TGbe editor to modify existing material in the TGbe draft. As a result of adopting the changes, the TGbe editor will execute the instructions rather than copy them to the TGbe Draft.***

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| **CID** | **Commenter** | **Clause** | **Page** | **Comment** | **Proposed Change** | **Resolution** |
| 4003 | Abhishek Patil | 9.4.1.4 | 109.38 | The Critical Update Flag subfield is set to 1 when either the reported AP or the reporting AP has incremented the BSS Parameter Change Count subfield. The text in clause 9.4.1.4 only describes the part about reported AP. | Update paragraph starting 36 to cover the case of BSS parameter updates to the reporting (i.e., transmitting) AP | Revised-Agree with the comment. Proposed resolution accounts for the suggested change.TGbe editor:Please implement the changes as shown in doc 11-22/0439r0 tagged as 4003 |
| 4347 | Arik Klein | 9.4.1.4 | 109.33 | Use unified terminology of AP affiliated with AP MLD rather than AP of AP MLD, as in the sentence: "The Critical Update Flag ... a Beacon or a Probe Response frame transmitted by an \*AP of an AP MLD\*" | The revised sentence shall be "The Critical Update Flag ... a Beacon or a Probe Response frame transmitted by an AP affiliated with an AP MLD" | Revised-Agree with the comment. Proposed resolution accounts for the suggested change.TGbe editor:Please implement the changes as shown in doc 11-22/0439r0 tagged as 4347 |
| 4348 | Arik Klein | 9.4.1.4 | 109.35 | Use unified terminology of AP affiliated with AP MLD rather than AP of MLD, as in the sentence: "An \*AP of an AP MLD\* sets the Critical Update Flag subfield to 1 if... " | The revised sentence shall be "An AP affiliated with an AP MLD sets the Critical Update Flag subfield to 1 if ...." | Revised-Agree with the comment. Proposed resolution accounts for the suggested change.TGbe editor:Please implement the changes as shown in doc 11-22/0439r0 tagged as 4347 |
| 5590 | John Wullert | 9.4.1.4 | 109.39 | Note indicates that "AP sets value to 1" but does not specify what parameter is being set to on | Revise to "sets value of Critical Update Flag to 1" | Rejected-The parameter is Critical Update Flag subfield and it has only one bit. Further clarification is not needed. |
| 5939 | Li-Hsiang Sun | 9.4.1.4 | 109.32 | When capability information field is included in Per\_STA profile, the critical Update Flag should be reserved | as in comment | Rejected-The commenter failed to identify the corresponding text change.To answer the question of the commenter, besides Beacon and Probe Response frames, Capability Information field can also be carried in other Management frames, like Association Request/Response frame |
| 6764 | Romain GUIGNARD | 9.4.1.4 | 109.06 | Why is the critical update flag related to MLD in the capability information field while it is not a capability? | Move the critical update flag subfield for instance to the common info field of the Basic variant Multi-Link element which is dedicated to MLD | Rejected-This flag provides info the regarding whether the receiver needs to parse the remaining Beacon/Probe Response frames or not. Because Capability Information field locates at the beginning of frame body (Its order is 1), so this field is the best place to have this flag. |
| 4012 | Abhishek Patil | 9.4.2.295b.1 | 128.24 | Link ID Info subfield and BSS Parameter Change Count subfield are applicable only to Basic variant Multi-Link element. | Remove the reference to these subfields from the general description and describe them in the subclause on Basic variant Multi-Link element | Revised-The proposed changed is reflected in 802.11be D1.4. Note to TGbe editor: there is no any text change for this CID |

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| 5744 | Laurent Cariou | 9.4.2.295b.2 | 130.01 | If the critical update corresponds to CSA/eCSA/quiet element, all information is contained in the frame and the non-AP MLD that receives it gets all the information there and doesn't need to retrieve it elsewhere. However, if the critical udpate corresponds to a CSA/eCSA/quiet element and another critical update element, the non-AP MLD that receives it doesn't know if all info is included in the frame or if it needs to retrieve it elsewhere. | Add a bit, for instance in the same place as the Critical Update flag, to indicate that the critical update info is entirely included in the frame or not | Revised-Agree with the comment in principle. The corresponding resolution was resolved in 21/1562r11Note to TGbe editor : there is no further text change for this CID |
| 6014 | Liwen Chu | 9.4.2.295b.2 | 130.01 | the BSS Parameters Change Count should be defined different from Critical Update. | As in comment | Rejected-The group agreed that BSS Parameters Change Count subfield is defined by following the critical update in 11.2.3.15 (TIM Broadcast). The commenter failed to identify the technical motivation and corresponding text change. |
| 6754 | Romain GUIGNARD | 9.4.2.295b.2 | 128.40 | The common info of the Multi-Link element mixes information for MLD level and information related to the reporting STA (link id, BSS parameter change count). For sake of clarity, it may be valuable to separate the information in different elements. | Use one element for MLD information and one element for reporting STA | Rejected-The commenter failed to identify the technical issue. Regarding suggesting to have a new element for the info of reporting AP, this will add complexity to the receiver since it needs to parse more than one element to get the whole info of the MLD. |
| 7339 | stephane baron | 9.4.2.295b.2 | 130.01 | Is the value of this field equal to the counter indicated in the Check Beacon field of the TIM Frames ? If yes, why introducing a different name and duplicating the informatin by adding a counter related to the current BSS in the common Multi Link Information Element ? A counter (handled at MLD level) indicating a change on beacon sent on any links would be much more useful for a non-AP STA affiliated to an non-AP MLD to indentify a change on the parameters. | Rename the field with "MLD BSS Parameters change", and replace the sentence by : "The MLD BSS Parameters Change Count subfield in the Common Info field is an unsigned integer, initialized to 0, that increments when a critical update occurs to the operational parameters for any APs affiliated with the same MLD as the AP that transmits the Basic variant Multi-Link element or the nontransmitted BSSID in the same multiple BSSID set as the AP that transmits the Basic variant Multi-Link element. | Rejected-The BSS Parameters Change Count subfield is specific to an AP, not MLD. Please refer to the critical events defined in 11.2.3.15 (TIM Broadcast). Moreover, BSS Parameters Change Count subfield is for the reporting AP, please refer to page 130, line2 in 802.11be D1.0 and page180 line1 in 802.11be D1.4. |
| 7570 | Tomoko Adachi | 9.4.2.295b.2 | 130.11 | "The condition for the presence of the MLD MAC Address subfield, the Link ID Info subfield, and the BSS Parameters Change Count subfield in the Common Info field is defined in 35.3.5.4 (Usage and rules of Basic variant Multi-Link element in the context of multi-link setup), 35.3.4.4 (Multi-Link element usage rules in the context of discovery), and 35.3.8 (BSS parameter critical update procedure)." For the MLD MAC Address, it already has a similar description in pp.ll 129.46 saying "The condition for the presence of the MLD MAC Address subfield in the Common Info field is defined in 35.3.5.4 (Usage and rules of Basic variant Multi-Link element in the context of multi-link setup) and 35.3.4.4 (Multi-Link element usage rules in the context of discovery)." 35.3.8 seems to only apply to the BSS Parameters Change Count subfield. | Delete the paragraph starting from pp.ll 130.11.Add "The condition for the presence of the Link ID Info subfield is defined in 35.3.5.4 (Usage and rules of Basic variant Multi-Link element in the context of multi-link setup) and 35.3.4.4 (Multi-Link element usage rules in the context of discovery)." at the end of the paragraph starting from pp.ll 129.51.Add "The condition for the presence of the BSS Parameters Change Count subfield is defined in 35.3.8 (BSS parameter critical update procedure)." at the end of the paragraph starting from pp.ll 130.1. | Revised-Agree with the comment to some extent, the corresponding text was changed, and there is no such issue in 802.11be D1.4 Note to TGbe editor : there is no further text change for this CID |

***TGbe editor: Please note baselines are 802.11-2020 and 11be D1.4***

**9.4 Management and Extension frame body components**

**9.4.1 Fields that are not elements**

**9.4.1.4 Capability Information field**

***Insert the following three paragraphs after the fourteenth paragraph (“An ERP STA sets ...”):***

The Critical Update Flag subfield is reserved except when the Capability Information field is carried in a Beacon or a Probe Response frame transmitted by an AP affiliated with (CID #4347) an AP MLD.

An AP affiliated with (CID #4348)an AP MLD sets the Critical Update Flag subfield to 1 if there is a change to a value carried in the BSS Parameters Change Count subfield of the MLD Parameters field in the Reduced Neighbor Report element for any AP in the same AP MLD, if there is a change to a value carried in the BSS Parameters Change Count subfield in the Common Info field of the Basic Multi-Link element, if a new affiliated AP is added to the AP MLD with which the reporting AP is affiliated following the procedure defined in 35.3.6.2.1 (Adding new affiliated APs) or if a Reconfiguration Multi-Link element is included by the reporting AP affiliated with an AP MLD, following the procedure defined in 35.3.6.2.2 (Removing affiliated APs) (CID #4003). Otherwise the AP sets the subfield to 0.

NOTE—An AP sets the value to 1 in one or more Beacon frames by following the procedure defined in 35.3.8 (BSS parameter critical update procedure).