IEEE P802.11
Wireless LANs

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| LB 200 Comment Resolution for Clause 9.2.4 |
| Date: 2014-01-01 |
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Abstract

This submission proposes resolutions for comments in clause 9.2.4 of TGah Draft 1.0 with the following CIDs:

2557, 1174, 1464, 1706, 1836, 1837, 2446, 2447, 2897

Revisions

- Rev 0: Initial comment resolution document.

- Rev 1: Changed “section” to “subclause”.

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 TGah Draft. This introduction is not part of the adopted material.

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

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

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| **CID** | **P.L** | **Clause** | **Comment** | **Proposed Change** | **Resolution** |
| 2557 |  | 9.2.4.1 | While the Table 8-363a (S1G Action field values) specifies Time Priority management frames, it is necessary to add the Table 8-363a (S1G Action field values) to the last paragraph of 9.2.4.1.Also, if a Flow Suspend frame is the Time priority management frame (see another comment to 8.5.26.1), the Table 8-363n (Flow Control Action field format) is also added. | Insert the subclause 9.2.4.1 (General) and modify the last paragraph of 9.2.4.1 as following:---Time priority management frames are transmitted outside of the normal MAC queuing process as per individually described transmission rules. Frames listed in Table 8-229 (HT Action filed values), Table 8-281ah (VHT Action field values), Table 8-363a (S1G Action field values) and Table 8-363n (Flow Control Action field format) with a value of "Yes" in the "Time Priority" column are time priority management frames. No other frames are time priority management frames. | Agree with the commenter. Proposed change is included in this resolution.Revised – TGah editor to make changes shown in 14/0021r1 under the heading for CIDs from 2557 to 2897.  |
| 1174 | 151.54 | 9.2.4.2 | The statement at line 54 contradicts that starting at line 47, because the exclusioni added at line 47 doesn't match the conditions of the new material at 54. | Resolve the contradiction, e.g. by making the exception condition at line 47 the same as the condition at line 54. | Agree in principle with the commenter. Proposed resolution solves the contradiction by specifying that statement in line 54 applies to non-S1G STAs while statement in line 47 to S1G STAs. Also see discussion below.Revised – TGah editor to make changes shown in 14/0021r1 under the heading for CIDs from 2557 to 2897. |
| 1464 | 151.30 | 9.2.4.2 | "Otherwise, the STA shall update its MIB values of the EDCA parameters as described for non-S1G STAs in this section..." but the two possible combinations of the Override field have already been described. When does the STA update the EDCA parameters again? | Clarify when the rules that follow in the section are used. | Proposed resolution is to clarify that any STA that has not previously received an EDCA Parameter Set frame with the override bit set to 1 shall follow the baseline rules. And the STA ignores the EDCA Parameters with Override field equal to 0 until the frame carrying the EPS element is an EPS frame.Revised – TGah editor to make changes shown in 14/0021r1 under the heading for CIDs from 2557 to 2897. |
| 1706 | 151.48 | 9.2.4.2 | The 11ah amendment proposes to replace "PS-Poll frames shall be sent using the access category AC\_BE" with "PS-Poll frames with a Duration/ID field that contains an AID value shall be sent using the access category AC\_BE". This revision changes the requirements on legacy (pre 11ah) devices, and so is outside the scope of 11ah. | Delete this proposed revision. | Agree with the commenter. Proposed change is included in this resolution.Revised – TGah editor to make changes shown in 14/0021r1 under the heading for CIDs from 2557 to 2897. |
| 1836 | 173.47 | 9.2.4.2 | PS Polls always have Duration/ID field containing AID. Hence can delete the addition here. My previous comments ask for a SF Poll to be specific and not to change the meaning of PS Poll. | Undo addition at line 47. | Agree with the commenter.Proposed change is included in this resolution. Also see discussion below.Revised – TGah editor to make changes shown in 14/0021r1 under the heading for CIDs from 2557 to 2897. |
| 1837 | 174.53 | 9.2.4.2 | Do not change meaning of PS Poll but use new SF Poll. Change added text accordingly. Also no idea what the reference to PS-Poll AC subfield in Control field in EDCA Parameter Set element is about. | Change insereted text to "When the first frame in an exchange from an S1G STA is a SF-Poll frame, the SF-Poll frame shall be transmitted using the access category AC\_VO by default." | See discussion below.Revised – TGah editor to make changes shown in 14/0021r1 under the heading for CIDs from 2557 to 2897. |
| 2446 | 151.20 | 9.2.4.2 | It's not clear when an EDCA Parameter Set with Override set to 0 would ever be sent or what the effect would be on S1G STAs which have not previously received an EPS with Override set to 1 | Get rid of the Override bit or add something making 0 useful. Ah, I think I see the point: if the Override bit is set then the PS-Poll AC field is valid. Is that it? It needs to be spelt out (probably in 8.4.2.28) and the PS-Poll AC field needs to be reserved otherwise (and is only to be used by S1G STAs). Also it might be useful in 9.2.4.2 at 151.29 to say that an example of the Override being 0 after a 1 is when the latter is in an EPS frame and the former in a Beacon | Proposed resolution is to clarify that any STA that has not previously received an EDCA Parameter Set frame with the override bit set to 1 shall follow the baseline rules. And the STA ignores the EDCA Parameters with Override field equal to 0 until the frame carrying the EPS element is an EPS frame.Revised – TGah editor to make changes shown in 14/0021r1 under the heading for CIDs from 2557 to 2897. |
| 2447 | 151.55 | 9.2.4.2 | "the overridden PS-Poll AC subfield" -- overridden by whom? | Change to something like "unless a previously-received EDCA Parameter Set element with 1 in the Override subfield of the Control field indicates a different access category in the PS-Poll AC subfield" | Rejected –Agree in principle with the commenter but no further changes are needed as this issue was already addressed by 13/1429r1 where it is specified: “…unless the overridden PS-Poll ACI subfield in the Update EDCA Info field in an EDCA Parameter Set element, received from the AP with which the S1G STA is associated, indicates a different access category for sending PS-Poll”. |
| 2897 | 151.21 | 9.2.4.2 | In 8.5.24.6, frame is defined as "EDCA Parameters Set" and in 8.4.2.28 IE is defined as "EDCA Parameter Set". And, throughout the subclause, regardless of frame format or IE, sometimes it is mentioned as "EDCA Parameters Set" and sometimes as "EDCA Parameter Set". It needs to be consistently used. | As mentioned in the Comment. | Agree with the commenter.Revised –TGah editor to replace all ocurrences of “EDCA Parameters Set” with EDCA Parameter Set” throughout the .11ah Draft (found a total of 11 occurrences). |

**Discussion:** *CIDs 1174, 1706, 1836, 1837: Agree with the commenter of 1837 that the PS-Poll frame for S1G includes additional signaling and functionality (e.g.., including the PS-Poll as the initial frame of a SF exchange). However, in this subclause, we only specify the access category used by S1G STAs to send frames of type PS-Poll. And, according to the already existing spect text in this subclause and the instered paragraph in subclause 10.2.2.2 (see page 219 lines 46-49 of D1.1: “An S1G STA uses AC\_VO to send PS-Poll frame as the default setting. The S1G AP shall inform the S1G STA of the access category specified in the PS-Poll ACI subfield in the EDCA Update Info field in the EDCA Parameter Set element for sending PS-Poll frames at Beacon and Probe Response frames, over-writing the default value”. Hence the proposed resolution is to be inline with existing draft and specify that S1G STAs transmit PS-Poll frames using AC\_VO by default, adding the appropriate exceptions for those cases when the AP indicates a different value in the PS-Poll ACI field of the EPS element or in case the STA implements a single AC, while reverting changes for non-S1G legacy STAs. In addition the proposed resolution further clarifies the access category used by S1G STAs that send SF-Poll frames and NDP PS-Poll frames.*

*Note regarding resolution for CID 2557: Depends on resolutions for subclauses 8.5.26 (Flow Control Action frame details)-e.g., CID 2581 (assignee Amin Jafarian), and of subclause 8.5.24.1 (S1G Action field)-e.g., CID 1158 (assignee Yongho Seok).*

*Note regarding resolution for 1837: The resolution accounts for renaming the PS-Poll frame that is sent as the initial frame of a SF exchange to SF-Poll which is the proposed resolution for CID 2511 of subclause 8.2.5.2.*

**Proposed Changes:**

* **Hybrid coordination function (HCF)**
* **General**

**Instructions to TGah Editor*: Change the last paragraph of this subclause as follows (@802.11ac D5.0):***

Time priority management frames are transmitted outside of the normal MAC queuing process as per individually described transmission rules. Frames listed in Table 8-229, Table 8-281ah (VHT Action field values), Table 8-363a (S1G Action field values), and Table 8-363n (Flow Control Action field format) with a value of "Yes" in the "Time Priority" column are time priority management frames. No other frames are time priority management frames.

* **HCF contention-based channel access (EDCA)**

***Change the following NOTE 1 in sub-clause 9.2.4.2 as follows:***

NOTE 1—A DMG or S1G(#8) STA that implements a single AC (see 9.20.2.1 (Reference implementation)) has all of its UP values in Table 9-1 (UP-to-AC mappings) mapped to AC\_BE.

***Insert the following paragraphs after 4th paragraph in sub-clause 9.2.4.2 as follows:***

An S1G QoS AP may assign to an S1G STA EDCA parameters different from the ones in dot11EDCATable, by sending to the STA an EDCA Parameter Set frame with an EDCA Parameters Set element with the Override field set to 1. An S1G STA receiving an EDCA Parameters Set element with the Override field set to 1 shall update its MIB values of the EDCA parameters based on the values indicated by the EDCA Parameters Set element.

**Instructions to TGah Editor*: Change this paragraph as follows:*** (#484)

An S1G STA shall update its MIB values of the EDCA parameters as described for non-S1G STAs in this subclause with the following exception:

An S1G STA that receives an EDCA Parameter Set frame with an EDCA Parameter Set element with the Override field set to 1 shall disregard any EDCA Parameter Set elements with the Override field equal to 0 received afterward during the current association until it receives the EDCA Parameter Set element with the Override field equal to 1 carried in an EDCA Parameter Set frame.

(#484)

**Instructions to TGah Editor*: Change this paragraph as follows (@802.11ah D1.1):*** (#484)

* If dot11QMFActivated is false or not present for a QoS STA, a QoS STA should send individually ad-dressed Management frames that are addressed to a non-QoS STA using the access category AC\_BE and shall send all other Management frames using the access category AC\_VO, whether or not it is associated with a BSS or there is a QoS facility in the BSS. If dot11QMFActivated is false or not present for a QoS STA, a QoS STA that does not send individually addressed Management frames that are addressed to a non-QoS STA using the access category AC\_BE shall send them using the access category AC\_VO. Management frames are exempted from any and all restrictions on transmissions arising from admission control procedures. If dot11QMFActivated is true for a STA, the STA shall send Management frames as described in 10.26 (Quality of-service management frame (QMF)). BlockAckReq and BlockAck frames shall be sent using the same access category as the corresponding QoS Data frames. PS-Poll frames generated by a non-S1G STA shall be sent using the access category AC\_BE (to reduce the likelihood of collision following a Beacon frame) and are exempted from any and all restrictions on transmissions arising from admission control procedures. When the first frame in a frame exchange sequence is an RTS or CTS frame, the RTS or CTS frame shall be transmitted using the access category of the corresponding QoS Data/QoS Null frame(s) or AC\_VO for management frames.The S1G STA shall transmit the frame that is a PS-Poll, SF-Poll or NDP PS-Poll frame using the access category AC\_VO by default, unless the overridden PS-Poll ACI subfield in the Update EDCA Info field in an EDCA Parameter Set element, received from the AP with which the S1G STA is associated, indicates a different access category for sending PS-Poll frames. After reception of the EDCA Parametern Set element from the AP with which it is associated, an S1G STA, that does not implement a single AC, shall transmit the frame using the access category indicated in the PS-Poll ACI subfield. An S1G STA that implements a single AC transmits all the frames (including PS-Poll, SF-Poll and NDP PS-Poll frames) using the same access category AC\_BE as described in 9.20.2.1.

Control Wrapper frames shall be sent using the access category that would apply to the carried control frame.