IEEE P802.11
Wireless LANs

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| Comment Resolutions for Differentiated Link Setup and CAG |
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Abstract

This submission proposes comment resolutions for 6575, 6222, 6010, 6184, 6242, 6243, 6447, 6564, 6566, 6215, 6568, 6970, 6751, 6799, 6822, 6823, 6824, 6825, 6826, 6853, 6854, 6855, 6856, 6969, and 6567.

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** | **Clause Num** | **P** | **L** | **Comment** | **Propose Change** | **Resolution** |
| 6575 | 8.4.4.20 | 65 | 32 | "List ANQP-element declares that" -- what is a "List ANQP-element"? Is this some cut and paste error? | Delete the para? Hm, but the second sentence at least seems valid | Revised: Replace "List ANQP" with "Query List ANQP". Add reference (Section 8.4.4.2 in IEEE-802.11 -2012) |
| 6222 | 8.4.4.23 | 66 | 64 | Lots of confusion between this and 8.4.1.172. For instance, what is the difference between a "CAG Version" used here and a "CAG Number element" used there? The descriptions seem to be the same. If there is a difference, it needs to be explicitly stated. | Review and revise as needed. | REVISED: resolved as shown in 11-1-1507r2. The group sees the point taken in the comment and considered it in general while revising the corresponding section as part of resolving several comments made agains the clause |
| 6010 | 8.4.2.172 | 43 | 64 | "The Common ANQP Group (CAG) is a group of ANQP elements, which do not change on a rapid basis".Please learn the difference between "that" and "which". While syntactially correct, "that" is the correct word here, because "do not change" is part of the definition of a CAG. | ", which" -> "that" | REVISED: resolved as shown in 11-1-1507r2. The group sees the point taken in the comment and considered it in general while revising the corresponding section as part of resolving several comments made agains the clause |
| 6184 | 10.25.3.2.1 | 94 | 47 | SSID is not unique to an AP, but to an ESS. Please clarify whether the CAG Version should be associated with only an SSID? Since the sentence "stored CAG Version and the values of BSSID, HESSID, or SSID associated with the responding AP" seems to allow that possibility to allow a CAG Version to be associated with an SSID only. Similar comments for the rest of the paragraph. | If the CAG Version is associated with a BSS, instead of a ESS only, then change the text to read as "The STA stores the CAG Version and the BSSID or HESSID of the responding AP. In addition, it may store the SSID of the responding AP." make similar changes where appropriate in the same section. | REVISED: resolved as shown in 11-1-1507r2. The group sees the point taken in the comment and considered it in general while revising the corresponding section as part of resolving several comments made agains the clause |
| 6242 | 8.4.2.183 | 61 | 18 | The sentence "The Bit Pattern Length subfield is 3 bits in length, and the Bit Pattern subfield is 5 bits in length." adds no useful informaiton. | Remove it. | Accept. Remove "The Bit Pattern Length subfield is 3 bits in length, and the Bit Pattern subfield is 5 bits in length." |
| 6243 | 8.4.2.183 | 61 | 34 | "The values of the bits specify the MAC addresses of the STAs that are allowed to attempt fast initial link setup"Where is "the bits"? | Clarify it. | Revise. Replace "of the bits" with "of Bit Pattern bits" |
| 6447 | 10.45.5 | 102 | 42 | What is the incentive for a non-AP STA to use DILS? | Either provide evidence that DILS is to a STA's benefit even if other STAs don't implement DILS (such a claim was made during D2.0 comment resolution -- see http://www.ieee802.org/11/email/stds-802-11-tgai/msg00810.html -- but the evidence was never provided despite repeated requests) or get rid of the DILS feature | Reject. DILS providesystem wide benefit especially for the stations already associated or with higher priority established by the parameters. Its implementation (certification) is out of the TGai scope. |
| 6564 | 8.4.2.183 | 59 | 65 | "attempt initial link setup" -- what does this mean? Is this intended to cover non-fast ILS? | Either add "fast" or define the term "initial link setup" | Revised. Replace "attempt initial link setup" with "attempt fast initial link setup" |
| 6566 | 8.4.2.183 | 60 | 19 | "ending after the FILS Time elapses." What does this mean? How can a field elapse? | Change to say something like "time interval to which this element applies, starting from the time the frame containing this element was transmitted" | Revise. Replace:"The FILS Time field is an unsigned integer that specifies the time, expressed in units of 10 ms starting fromthe beginning of the frame transmission of the Differentiated Initial Link Setup element and ending after theFILS Time elapses" with "The FILS Time field is an unsigned integer that specifies the time duration for the validity of FILSC Information priority condition, expressed in units of 10 ms starting fromthe beginning of the frame transmission of the Differentiated Initial Link Setup element" |
| 6215 | 8.4.2.172 | 43 | 64 | Need to compare this clause with 8.4.4.23 (Common Group ANQP-element). The words/phrasing needs to be more compatible and cross-referencing between them to clarify their relationship. | Harmonize these two clauses, both in terms of the names being used and how they relate to each other. | REVISED: resolved as shown in 11-1-1507r2. The group sees the point taken in the comment and considered it in general while revising the corresponding section as part of resolving several comments made agains the clause |
| 6568 | 10.45.5.2 | 103 | 52 | I am never entirely sure a MAC address has more or less significant bits, and in any case the conversion to a sequence of octets always results in confusion | At the very least add a NOTE to explain what is intended by "the last 5 LSBs of its MAC address" | Revised: Add the following “NOTE: The last 5LSBs of its MAC address means the last 5 bits of the MAC address” |
| 6970 | 10.25.3.2.1 | 94 | 45 | This paragraph is rather hard to understand and requires re-writing. | Change the paragraph to read:A FILS STA stores the ANQP CAG Version Number available from an AP, together with the ANQP attributes and information from the Common Advertisement Group ANQP-element for later use. The STA stores the ANQP CAG Version Number and the values of BSSID, HESSID, or SSID associated with the responding AP.At a future time at an AP, a FILS STA should check its locally stored ANQP CAG Version Number with the ANQP CAG Version Number received from that AP. If the received ANQP CAG Version Number equals the stored value of an ANQP CAG Version Number (together with the same value of BSSID, HESSID, or SSID), the STA need not initiate an ANQP query request for any of the ANQP-elements contained within the CAG and shall use the stored Common Advertisement Group ANQP-element attributes and information within that STA instead. | REVISED: resolved as shown in 11-1-1507r2. The group sees the point taken in the comment and considered it in general while revising the corresponding section as part of resolving several comments made agains the clause |
| 6751 | 10.45.5.2 | 103 | 40 | "its link setup timer" -- what is a link setup timer (the term appears nowhere else)? | Clarify | Revise: Replace "until the time specified in FILS Time field elapses" Line 37 with “until the time specified in the last received FILS Time field elapses”. Delete "; the non-AP STA shall also update its link setup timer to the FILS Time value in the latest received Differentiated Initial Link Setup element if the non-AP STA's FILSC value is 0." |
| 6799 | 10.45.4 | 102 | 7 | "the FILS element" | Change to "the FILS Indication element" | Accept. |
| 6822 | 8.4.2.183 | 59 | 65 | What is "initial link setup"? | Add "fast" before the cited text | Accept.  |
| 6823 | 10.45.5.1 | 103 | 11 | What is "initial link setup"? | Add "fast" before the cited text | Accept. |
| 6824 | 10.45.5.1 | 103 | 13 | What is "initial link setup"? | Add "fast" before the cited text | Accept. |
| 6825 | 10.45.5.1 | 103 | 19 | What is "initial link setup"? | Add "fast" before the cited text | Accept. |
| 6826 | 10.45.5.2 | 103 | 41 | What is "initial link setup"? | Add "fast" before the cited text and change the "an" to "a" before that | Accept. |
| 6853 | 10.45.5.1 | 103 | 1 | "and to 0 otherwise" -- this is too far from the corresponding "to 1" and in any case appears to duplicate statements made in clause 8.4.2.183 | Move the description of the meaning of the bits to clause 8 and just state here that the AP can specify who can connect by splitting STAs into three groups | Revise. Delete "and to 0 otherwise". Replace the text “An AP may set the FILS User Priority B0, B1, and B2 to 1 to indicate high priority link setup without additionaldelays for the STAs that have frames with User Priority 4-7 in their transmission queues, STAs thathave frames with User Priority 0-3 in their transmission queues, and STAs that have no frame in their transmission queues respectively and to 0 otherwise.” with "An AP may set the FILS User Priority B0, B1, and B2 to 1 to indicate high priority link setup without additionaldelays for the STAs based on the queued type of traffic as specified in 8.4.2.183." Add at the end of Section 8.4.2.183 bit description "Values of 1 of the FILS User Priority B0 indicates high priority link setup without additionaldelays for the STAs that have frames with User Priority 4-7 in their transmission queues, B1, indicates high priority for the STAs thathave frames with User Priority 0-3 in their transmission queues. B2 indicates high priority for the STAs that have no frames in their transmissionqueues." |
| 6854 | 10.45.5.1 | 103 | 4 | "An AP should always allow a STA that has frames with User Priority 4-7 in its transmission queue(s) to attempt fast initial link setup before STAs that have frames with User Priority 0-3 and the STAs that have no frame in their transmission queues." -- I'm not sure what "should always" means, and if you're supposed to allow 4-7 STAs in first, why is there a bit to allow other STAs in first? | Clarify | Revised; Replace "always allow" with "give preference to" |
| 6855 | 10.45.5.2 | 103 | 41 | "All non-AP STAs transmit an initial link setup request frame to the AP after this time expires." -- They do? Even if, say, they've been turned off? | Delete this sentence (the bit which matters, "shall postpone the link setup with the AP until the time specified in FILS Time field elapses", is already stated above) | Accept. Delete this sentence. |
| 6856 | 10.45.5.2 | 103 | 52 | "shall exclusive-OR (XOR) the last 5 LSBs of itsMAC address with B3 to B7 of the Bit Pattern subfield in MAC Address Filter subfield. If the last n bits of the result are zero," -- this is an implementation choice. You can achieve the same effect by other means, e.g. checking whether the last <whatever> bits match the required pattern | Make the statement more general | Revised Replace "shall exclusive-OR (XOR) the last 5 LSBs of itsMAC address with B3 to B7 of the Bit Pattern subfield in MAC Address Filter subfield. If the last n bits of the result are zero," with " the last 5 LSBs of itsMAC address match the B3 to B7 of the Bit Pattern subfield in MAC Address Filter subfield" |
| 6969 | 8.4.2.172 | 44 | 21 | I think the sentences at P44.21 and P44.25 require some more explanation as to what happens what the CAG version reaches 255. | Change the sentences to read:The CAG Version is incremented every time the value of, or presence of, an advertisement protocol element within the CAG of the associated advertisement protocol or InfoID are added, deleted, or changed. The CAG Version shall increment from 255 to 1, so that if a STA receives a value of zero in this subfield, this will be discarded. | REVISED: resolved as shown in 11-1-1507r2. The group sees the point taken in the comment and considered it in general while revising the corresponding section as part of resolving several comments made agains the clause |
| 6567 | 8.4.2.183 | 61 | 7 | What do the "FILS User Priority Bit<n>" subfields indicate? | Add some words to describe them (there are some vague hints in clause 10) | Revised. Instruct the editor to add "Values of 1 of the FILS User Priority B0, B1, and B2 indicate high priority for the link setup without additionaldelays for the STAs. Value of 1 for B0 indicates high priority for the STAs that have frames with UP 4-7; value of 1 for B1 indicates high priority for the STAs that have frames with UP 0-3. Value of 1 for B2 indicates high priority for STAs with no frames in their queues." Add reference to 10.45.5.1 |
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