**IEEE 802.11  
Wireless LANs**

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| Normative Text for CIDs Related to ANQP Sequence Number feature and AP-List Query-Section 10 | | | | |
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Abstract

This submission proposes normative text for Section 10 of the LB1 TGai (FILS) corresponding to the following CIDS: 2084,3075,3231,3269,3305,2370,26,90,2790,2854,3233,3271,

* MLME

*Add text to the Clause 10.1.4.3.9*

* Sending a response to probe request

If dot11FILSActivated is true, Probe Response frames shall be transmitted either as directed frames to the address of the STA that generated the probe request or to the broadcast address. If dot11FILSActivated is false,

Probe Response frames shall be transmitted as directed frames to the address of the STA that generated the probe request. [CID #1230, 13/0470r3 except the submission does not specifically call for the deletion of end of this last sentence.]

[CID #1235)If the Probe Response Reception Time element is present in the Probe Request frame, the responding STA with dot11FILSActivated true shall discard the pending untransmitted Probe Response frame to the Probe Request frame when the elapsed time after reception of the Probe Request exceeds the time indicated by value of the MaxChannelTime field of the Probe Response Reception Time element of the Probe Request frame.

[13/0604r1]

[CID #1237 but already deleted by another submission]

If the Reduced Neighbor Report Request field of the FILS Request Parameters element of the Probe Request is 1, the Probe Response or Beacon frame of a STA with dot11FILSActivated may include the Reduced Neighbor Report if the criteria as defined in  10.1.4.3.6 are met for the included BSS. A Reduced Neighbor Report element is included in the Probe Response frame for each BSS of which information is available. The reported BSSs may have different primary channels to the responding STA [CID #1054, note that this replaces a change in deleted paragraph related to CID 1128)

If dot11InterworkingServiceActivated is true, the STA may include in the Probe Response frame a CAG Number element containing the CAG version of the AP's commonly used ANQP-element information. This group of ANQP-element information is configurable within the ANQP server.

It is also possible for a STA to determine the CAG version using an ANQP element as described in 10.24.3. [13/0725r1)

* ANQP procedures
* General

*Change the paragraph at the beginning of this clause as follows:*

A FILS STA should store, for later use, the CAG version available from an AP, and also store the ANQP attributes and information corresponding to that CAG version. ***[CID*** **3305**, ***3269]*** The STA stores the CAG version and the values of BSSID, HESSID, or SSID associated with the responding AP. A STA uses this CAG version to determine if the CAG changed from the last STA’s visit to that AP. In order to reduce the network selection delay, a if CAG version is provided from the AP, ***[CID 3231]*** a FILS STA should check the CAG version, available from an AP, to decide whether it should initiate an ANQP query for new information. If the received CAG version equals the stored value of an CAG version associated with the corresponding value of BSSID, HESSID, or SSID for the AP, the STA shall not ***[CID 2084]*** initiate an ANQP query request for any of the ANQP-elements of theCAGand shall use the stored ANQP attributes and information within that STA instead[CID #1459). ***[CID 3075]*** How the ANQP server maintains the CAG version associated to each BSSID, HESSID, or SSID is out of the scope of this document. [13/0725r1)

*Insert the following three new rows to Table 10-13*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| * ANQP usage | | | | | |
|  |  |  | BSS | | IBSS |
| ANQP-element name | ANQP-element (subclause) | ANQP-element type | AP | Non-AP STA | STA |
| Query AP List | 8.4.4.20 | Q | T,R | T,R | T,R |
| AP List Response | 8.4.4.21 | S | T | R |  |
| FILS Domain Information | 8.4.4.22 | S | T | R |  |
| CAG[13/0725r1) | 8.4.4.23 | Q,S | T,R | T,R | - |

*Add text to the clause 10.25.3.2.11as follows*

* Query AP List procedure

The Query AP List ANQP-element is used by a requesting STA to perform a single ANQP Query requesting the ANQP information on each AP indicated in the AP list using the procedures defined in 10.24.3.2.1. The requesting STA shall only include Info IDs in the Query List ANQP-element that have the sole ANQP-element type of S as shown in Table 10-10. Info IDs that have an ANQP-element type of Q shall not be included in the Query AP List ANQP-element (e.g., the Info ID for Vendor Specific ANQP-element shall not be included). [CID #1134, 1460)

A responding STA that encounters an unknown or reserved ANQP Info ID value in a Query AP List ANQP-element shall ignore that ANQP Info ID and shall parse any remaining ANQP Info IDs.

In the response to a Query AP List, the Query Response field should contain an AP List Response ANQP- element. The AP List Response contains multiple query response reports for the APs indicated in the Query AP List. If the responding AP does not provide the requested information for all APs specified in the Query AP List, or for all the requested InfoIDs, the STA should interpret it as that information not available. How the information obtained from the AP list is used by the STA is left to the implementation and is beyond the scope of this specification [***CID 2854***, ***3233]***.

*Change the clause text as follows:*

* CAG procedure

[***CID*** ***2370,*** ***2371,*** ***2690,*** ***2790,*** ***3287***] The CAG is an ANQP-element used by a requesting STA to perform an ANQP Query to retrieve the Info IDs contained within the CAG and the current CAG version associated with these Info IDs. For this purpose a STA shall use the ANQP Query procedure defined in  10.25.3.2.1. The requesting STA shall include in the ANQP Query the Info ID of the CAG ANQP-element as shown in Table 10-13. When an AP receives an ANQP Query List that contains the Info ID of CAG, the AP shall include in in the response frame the CAG version and the Info IDs of the ANQP-elements that are comprised in the CAG in the increasing order of the Info ID values. The response frame should also include the (other) ANQP elements that a STA requested in the ANQP query list in the increasing order of the element ID values. [13/0725r1)

The CAG version is a positive number that increases by 1 when there is any change in the CAG, including a change of the Info ID of the elements of the CAG or a change in the values of the ANQP elements included in the CAG. If a STA receives a value of zero for the CAG version, the value will be discarded and no action should be.