IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| TGaq – ANQP update for Venue URI | | | | |
| Date: 2014-11-06 | | | | |
| Author(s): | | | | |
| Name | Company | Address | Phone | email |
| Stephen McCann | BlackBerry Ltd | 200 Bath Road, Slough, Berkshire, SL1 3XE, UK | +44 1753 667099 | smccann@blackberry.com |

Abstract

This document proposes to update ANQP with new elements for Venue URI and cost information.

This uses Draft P802.11REVmc\_D3.2.pdf as a baseline.

***Add the following reference to Annex A***

[B56] ISO 4217 currency codes, <http://www.currency-iso.org/en/home/tables/table-a1.html>

***Modify the table in the following clause:***

* Access Network Query Protocol (ANQP) elements(11u)

|  |  |  |
| --- | --- | --- |
| Table 8-259 ANQP-element definitions  (11u) | | |
| ANQP-element name | Info ID | ANQP- (Ed)element (clause) |
| Reserved | 0 – 255 | n/a |
| Query List | 256 | 8.4.4.1 (Query List ANQP-element (11u)) |
| Capability List | 257 | 8.4.4.2 (Capabililty List ANQP-element (11u)) |
| Venue Name | 258 | 8.4.4.3 (Venue Name ANQP-element (11u)) |
| Emergency Call Number | 259 | 8.4.4.4 (Emergency Call Number ANQP-element (11u)) |
| Network Authentication Type | 260 | 8.4.4.5 (Network Authentication Type ANQP-element (11u)) |
| Roaming Consortium | 261 | 8.4.4.6 (Roaming Consortium ANQP-element (11u)) |
| IP Address Type Availability | 262 | 8.4.4.8 (IP Address Type Availability ANQP-element (11u)) |
| NAI Realm | 263 | 8.4.4.9 (NAI Realm ANQP-element(11u)) |
| 3GPP Cellular Network | 264 | 8.4.4.10 (3GPP Cellular Network ANQP-element(11u)) |
| AP Geospatial Location | 265 | 8.4.4.11 (AP Geospatial Location ANQP-element(11u)) |
| AP Civic Location | 266 | 8.4.4.12 (AP Civic Location ANQP-element(11u)) |
| AP Location Public Identifier URI | 267 | 8.4.4.13 (AP Location Public Identifier URI ANQP-element(11u)) |
| Domain Name | 268 | 8.4.4.14 (Domain Name ANQP-element(11u)) |
| Emergency Alert Identifier URI | 269 | 8.4.4.15 (Emergency Alert URI ANQP-element(11u)) |
| TDLS Capability(#13018) | 270 | 8.4.4.17 (TDLS Capability ANQP-element  (#13018)) |
| Emergency NAI | 271 | 8.4.4.16 (Emergency NAI ANQP-element(11u)) |
| Neighbor Report | 272 | 8.4.4.18 (Neighbor Report ANQP-element) |
| Venue URI | <ANA> | 8.4.4.20 (Venue URI ANQP-element) |
| Cost | <ANA+1> | 8.4.4.21 (Cost ANQP-element) |
| Reserved | <ANA+2> – 56796 | n/a |
| Vendor Specific | 56797 | 8.4.4.7 (Vendor Specific ANQP-element (11u)) |
| Reserved | 56798 – 65535 | n/a |

***Amend the following new subclause***

**8.4.4.4 Venue Name ANQP-element**

***Insert the following paragraph after the last paragraph***

A URI associated with the Venue can be provided by the Venue URI ANQP-element defined in 8.4.4.20

***Insert the following new subclauses***

**8.4.4.20 Venue URI ANQP-element**

The Venue URI ANQP-element provides an URI which can be used for for webpage advertising services or providng information, particular to a venue, to a STA. The format of the Venue URI ANQP-element is defined in Figure 8-404aq

|  |  |  |  |
| --- | --- | --- | --- |
|  | Info ID | Length | URI |
| Octets: | 2 | 2 | variable |

**Figure 8-404aq – Venue URI ANQP-element format**

The Info ID field is equal to the value in Table 8-259 corresponding to the Venue URI ANQP-element.

The Length field is a 2-octet field whose value is set to the length of the URI field.

The Venue URI field is a variable-length field used to indicate the URI at which information relevant to the venue

may be retrieved as described in 10.25.3.2.11. The Venue URI field is formatted in accordance with

IETF RFC 3986.

**8.4.4.21 Cost ANQP-element**

The Cost ANQP-element provides cost information to a STA. The format of the Cost ANQP-element is defined in Figure 8-405aq

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Info ID | Length | Cost Duple #1 | … | Cost Duple #N |
| Octets: | 2 | 2 | variable | … | variable |

**Figure 8-405aq – Cost ANQP-element format**

The Info ID field is equal to the value in Table 8-259 corresponding to the Cost ANQP-element.

The Length field is a 2-octet field whose value is set to the length of the Cost Duple fields.

The format of the Cost Duple field is shown in Figure 8-405aq1

|  |  |  |  |
| --- | --- | --- | --- |
|  | Length | Language | Cost Information |
| Octets: | 1 | 3 | variable |

**Figure 8-405aq1 – Cost Duple field format**

The Length field is a 1-octet field whose value is equal to 3 plus the number of octets in the Cost Information field.

The Language Code is a 3-octet ISO-14962-1997 [B45] encoded string field that defines the

language used in the Cost Information field. The Language Code field is a two or three character

language code selected from ISO-639 [B44]. A two character language code has 0 (“null” in ISO-

14962-1997) appended to make it 3 octets in length.

The Cost Information field is a variable-length field used to indicate a cost of operation. The format of the Cost Information field is shown in Figure 8-405aq2

|  |  |  |  |
| --- | --- | --- | --- |
|  | Cost Type | Currency Code | Plan Information |
| Octets: | 1 | 2 | variable |

**Figure 8-405aq2 – Cost Duple field format**

The Cost Type field is a 1-octet bit-field with the following values:

**Table 8-405 Cost Type field values**

|  |  |
| --- | --- |
| **Cost Type Value** | **Meaning** |
| 0 | Free |
| 1 | Time Based |
| 2 | Pay as you go |
| 3 | Unlimited |
| 4 | Unknown |
| 5-255 | Reserved |

The Currency Code field is a 2-octet ISO 4217 currency numeric code [B56] encoded string field. The Currency Code field is a 3 digit code within the range 000 – 999.

The Plan Information field is a variable length field used to indicate information about cost plans assocated with access to the STA and is defined as an XML schema.

***Modify the text and table in the following clause:***

* + - 1. ANQP procedures(11u)
         1. General(Ed)

…

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Table 10-16 ANQP usage (11u) | | | | | |
|  | |  | BSS | | IBSS |
| ANQP-element Name | ANQP-element (subclause)(Ed) | ANQP-element Type | AP | Non-AP STA | STA |
| Query List | 8.4.4.1 (Query List ANQP-element (11u)) | Q | T, R | T, R | T, R |
| Capabililty List | 8.4.4.2 (Capabililty List ANQP-element(11u)) | S | T, R | T, R | T, R |
| Venue Name | 8.4.4.3 (Venue Name ANQP-element (11u)) | S | T | R | — |
| Emergency Call Number | 8.4.4.4 (Emergency Call Number ANQP-element (11u)) | S | T | R | — |
| Network Authentication Type | 8.4.4.5 (Network Authentication Type ANQP-element(11u)) | S | T | R | — |
| Roaming Consortium | 8.4.4.6 (Roaming Consortium ANQP- element(11u)) | S | T | R | — |
| Vendor Specific | 8.4.4.7 (Vendor Specific ANQP-element(11u)) | Q, S | T, R | T, R | T, R |
| IP Address Type Availability | 8.4.4.8 (IP Address Type Availability ANQP-element (11u)) | S | T, R | T, R | T, R |
| NAI Realm | 8.4.4.9 (NAI Realm ANQP-element(11u)) | S | T | R | T, R |
| 3GPP Cellular Network | 8.4.4.10 (3GPP Cellular Network ANQP-element(11u)) | S | T | R | — |
| AP Geospatial Location | 8.4.4.11 (AP Geospatial Location ANQP-element(11u)) | S | T | R | T, R |
| AP Civic Location | 8.4.4.12 (AP Civic Location ANQP-element(11u)) | S | T | R | T, R |
| (#13006)AP Location Public Identifier URI | 8.4.4.13 (AP Location Public Identifier URI ANQP-element(11u)) | S | T | R | T, R |
| Domain Name | 8.4.4.14 (Domain Name ANQP-element(11u)) | S | T | R | — |
| Emergency Alert Identifier URI | 8.4.4.15 (Emergency Alert URI ANQP-element(11u)) | S | T | R | T, R |
| TDLS Capability (#13018) | 8.4.4.18 (TDLS Capability ANQP-element) | Q, S | T,R | T,R | T, R |
| Emergency NAI | 8.4.4.16 (Emergency NAI ANQP-element(11u)) | S | T | R | — |
| Neighbor Report | 8.4.4.19 (Neighbor Report ANQP-element) | S | T | R | - |
| Venue URI | 8.4.4.20 (Venue URI ANQP-element) | S | T | R | - |
| Cost | 8.4.4.20 (Venue URI ANQP-element) | S | T | R | - |
| **Symbols**  Q element is an ANQP query  S element is an ANQP response  T ANQP-element may be transmitted by MAC entity  R ANQP-element may be received by MAC entity  — ANQP-element is neither transmitted nor received by MAC entity | | | | | |

***Insert the following new subclause***

**10.25.3.2.11 Venue URI procedure**

The Venue URI ANQP-element is used to transmit webpage advertising services or information particular to the venue netweem STAs.

**10.25.3.2.12 Cost procedure**

The Cost ANQP-element is used to transmit cost advertisments between STAs.

Note: As ANQP-elements are transmitted in the clear, prior to STA association, it is recommened that the protected dual of public action frame be use post-association to verify this information.