IEEE P802.11
Wireless LANs

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| --- |
| MAC Address Policy ANQP-element |
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Abstract

This document proposes a new MAC Address Policy ANQP-element. This enables a STA to advertise that it has a relationship with a BSS that assigns MAC addresses based on a locally administered scheme.

This uses Draft P802.11REVmd\_D2.0.pdf as a baseline

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

* + 1. Access Network Query Protocol (ANQP) elements(11u)

|  |
| --- |
| Table 9-330 ANQP-element definitions(11u) |
| ANQP-element name | Info ID | ANQP- (Ed)element (subclause) |
| Reserved | 0 – 255 | n/a |
| … | … | … |
| MAC Address Policy | <ANA> | 9.4.5.29 (MAC Address Policy ANQP-element) |
| Reserved | <ANA+1> – 56796 | n/a |
| Vendor Specific | 56797 | 9.4.5.8 (Vendor Specific ANQP-element) |
| Reserved | 56798 – 65535 | n/a |

***Add the following subclause***

**9.4.5.29 MAC Address Policy ANQP-element**

The MAC Address Policy ANQP-element provides an indication of the parameters and protocols managed by a MAC Address Policy of the BSS.

The format of the MAC Address Policy ANQP-element is defined in Figure 9-820a.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Info ID | Length | Policy Flags | MAC Address Policy | CID (optional) |
| Octets: | 2 | 2 | 1 | 1 | 3 |

**Figure 9-820a – MAC Address Policy ANQP-element format**

The Info ID and Length fields are defined in 9.4.5.1 (General).

The Policy Flags field is a 1-octet field and is defined in Figure 9-820b.

|  |  |  |  |
| --- | --- | --- | --- |
|  | B0 | B1 | B2 B7 |
|  | Required/Requested | CID Present | Reserved |
| Bits: | 1 | 1 | 6 |

**Figure 9-820b – Policy Flags field format**

The Required/Requested bit is set to 1 to indicate that the MAC Address Policy is required by the transmitting STA, otherwise the bit is set to 0 to indicate that the MAC Address Policy is requested by the transmitting STA.

The CID (Company Identifer) bit is set to 1 to indicate that a CID, as defined in IEEE Std 802c™-2017, is present in the ANQP-element, otherwise the bit is set to 0 to indicate that a CID is not present.

The MAC Address Policy field is a 1-octet field with values used to advertise specific MAC address policies supported by the transmitting STA (typically an access point connected to a BSS). The values are defined as shown in Table 9-820a.

**Table 9-820a – MAC Address Policy field values**

|  |  |
| --- | --- |
| **MAC Address Policy field value** | **Description of MAC Address Policy** |
| 0 | No MAC Address Policy. |
| 1 | Use a random MAC address selected according to 12.2.10 (Requirements for support of MAC privacy enhancements). |
| 2 | Use a universal address. |
| 3 | Use a MAC address within the IEEE 802c-2017 Administratively Assigned Identifier (AAI) Space. The complete MAC address comprises the 2 bits of the AAI SLAP quadrant plus the local/global bit and the unicast/multicast bit and then the rest of the bits are random. |
| 4 | Use a MAC address within the IEEE 802c-2017 Extended Local Identifier (ELI) space. The complete MAC address comprises the 2 bits of the ELI SLAP quadrant plus the local/global bit and the unicast/multicast bit and then the rest of the bits comprise a specific CID1 with the remaining bits being a random number. |
| 5 | Use a MAC address configured by local administrator out-of-band. |
| 6 - 255 | Reserved. |

The CID field is a 3-octet field and is present when the MAC Address Policy field value is 4. It provides the CID (Company Identifier) by the transmitting STA to assist the receiving STA.

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

11.23.3.3 ANQP procedures(11u)

11.23.3.3.1 General(Ed)

…

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| --- |
| Table 11-15 ANQP usage (11u) |
|  |  | BSS | IBSS |
| ANQP-element Name | ANQP-element (subclause)(Ed) | ANQP-element Type | AP | Non-AP STA | STA |
| MAC Address Policy | 9.4.5.29 (MAC Address Policy ANQP-element) | S | T | R | — |
| **Symbols**Q element is an ANQP queryS element is an ANQP responseT ANQP-element may be transmitted by MAC entityR ANQP-element may be received by MAC entity— ANQP-element is neither transmitted nor received by MAC entity |

***Insert the following subclause***

**11.23.3.3.16 MAC Address Policy procedure**

The MAC Address Policy ANQP-element is used to discover the MAC Address Policy for a BSS. The STA receiving the MAC Address Policy ANQP-element may set dot11StationID to a MAC address which is conformant to the MAC address policy for the BSS, when it selects the BSS for association.