IEEE P802.11
Wireless LANs

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| Proposed Text for ID Query Action Frame  |
| Date: 2019-03-11 |
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Abstract

This submission proposes a new action frame to allow an AP to query a STA for a unique identifier after association.

The proposal includes a modification to Table 9-53 to create a new Category Value.

Revisions:

* Rev 0: Initial version of the document.
* Rev 1: Some updates after feedback

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

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

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

***Insert new row in Table 9-53 in 9.4.1.11, after the last non-vendor specific entry***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Code** | **Meaning** | **See Subclause** | **Robust** | **Group Addressed Privacy** |
| <ANA> | ID Query | 9.6.30a | Yes | No |
| <ANA+1> - 125 | Reserved | - | - | - |

***Insert new row in Table 9-77 in 9.4.2.1***

|  |  |  |  |
| --- | --- | --- | --- |
| **Element** | **Element ID** | **Element ID Extension** | **Extensible** |
| IDQuery\_Support | 260 | <ANA> | Yes |

***Insert new row in Table 9-134 in 9.4.2.26***

|  |  |  |
| --- | --- | --- |
| **Bits** | **Information** | **Notes** |
| <ANA> | ID Query\_Support | The IDQuery Support subfield to 1 to indicate the STA supports the ID Query action frame. It is set to 0 to indicate that it does not support this action frame exchange. |

***Add a new subclause at the end of subclause 9.6 (Action frame format details)***

**9.6.30a Unique identification Action frame details**

**9.6.30a.1 ID Query Action field**

Two Action frame formats are defined to allow an AP to query a non-AP STA for a unique identifier. An ID Query Action field, in the octet field immediately after the Category field differentiates the formats. The ID Query Action field values associated with each frame format are defined in Table 9-aaa (ID Query Action field values).

**Table 9-aaa – ID Query Action field values**

|  |  |
| --- | --- |
| ID Query Action field value | Description |
| 0 | ID Query Request |
| 1 | ID Query Response |
| 2-255 | Reserved |

**9.6.30a.2 ID Query Request frame**

The ID Query Request frame uses the Action frame body format. It is transmitted from an AP to a non-AP STA to request that the non-AP STA provide an identifier that the AP may store and use for future identification of the non-AP STA. The format of the Action field in the ID Query Request frame is shown in Figure 9-bbb.

|  |  |  |
| --- | --- | --- |
| Category | ID Query Action | Vendor Specific (optional) |

 Octets: 1 1 Variable

**Figure 9-bbb – ID Query Request frame Action field format**

The Category field is defined in 9.4.1.11 (Action field).

The ID Query Action field is defined in 9.6.30a.1 (General).

The ID QueryVendor Specific field is optionally present and includes one or more vendor-specific elements, as defined in 9.4.2.25 (Vendor Specific element).

**9.6.30a.3 ID Query Response frame**

The ID Query Response frame uses the Action frame body format. It is transmitted from a non-AP STA to an AP in response to a request that the non-AP STA provide a unique non-transitory identifier. The format of the Action field in the ID Query Request frame is shown in Figure 9-ccc.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Category | ID Query Action | ID Query Response | Length (optional) | ID (optional) | TTL (optional) | Vendor Specific (optional) |

Octets: 1 1 1 2 16 2 Variable

**Figure 9-ccc – ID Query Response frame Action field format**

The Category field is defined in 9.4.1.11 (Action field).

The ID Query Action field is defined in 9.6.30a.1 (General).

The ID Query Response field is defined in table 9-ccc (ID Query Response). The STA has the option to indicate that it will not provide an ID value or that it will.

**Table 9-ccc – ID Query Response field values**

|  |  |
| --- | --- |
| ID Query Response field value | Description |
| 0 | Decline to provide ID |
| 1 | Provide ID |
| 2-255 | Reserved |

When the ID Query Response field value is 0, the Length, ID field, TTL and Vendor Specific fields are not present. When the ID Query Response field value is 1, the Length field and ID field are present, and the TTL and Vendor Specific fields are optionally present.

The Length field indicates the length of the response in octets.

The ID field provides the identification value that the requesting AP may use to identify this STA without regard to the MAC address used by the STA in the MAC header.

The TTL field is defined in Table 9-ddd (Time to Live field values). A STA indicates that an ID is permanent by not including this field while including an ID in the response. Otherwise, the lifetime of the ID is as indicated.

**Table 9-ddd – Time to Live field values**

|  |  |
| --- | --- |
| ID QueryTTL field value | Description |
| 0 | The ID is usable for the duration of this ESS association |
| 1-65535 | The ID is usable for the indicated time to live, in minutes |

The ID QueryVendor Specific field is optionally present when the ID Query Response field is 0 or 1, and includes one or more vendor-specific elements, as defined in 9.4.2.25 (Vendor Specific element).

***Add a new subclause at the end of clause 11 (MLME)***

**11.aa Identification Management**

A non-AP STA may present a local MAC address or an otherwise randomized MAC address while probing or after association. For some APs and associated network services, a local MAC address that may change with each ESS association will restrict the services that an AP can offer without additional authentication. An AP may use the ID Query request message to request that an associated STA provide an identifying value that can be used across association events to consistently identify the particular STA, even if its MAC address changes. The ID Query request message may also include Vendor Specific information.

NOTE--Since the ID Query Request message is sent after a secure association is in place and PMF has been negotitated between the requesting AP and the target STA, then the ID in the response will be secure and kept private.

A non-AP STA may receive an ID Query request message from its associated AP after a secure association is in place. The STA may respond with an ID Query response that declines to provide the requesting AP with an ID, for example, if the STA does not trust the AP. The STA may respond with an ID and also indicate the amount of time that the AP may expect that ID to be valid in the time to live field. If the STA does not indicate a time to live for the ID, then the AP may consider it to be permanent. The ID Query response may also include Vendor Specific information.

NOTE--An AP might restrict access to the DS in an implementation specific manner based on the query response or lack thereof from the STA.