IEEE P802.11  
Wireless LANs

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| Comments related to FILS Indication Element | | | | | |
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Abstract

Comments related to FILS Indication Element

Resolves the following comments:

CID2821, CID2664, CID2823, CID2215, CID2570, CID2666, CID2825, CID2402, CID2447, CID2824, CID2826, CID2309, CID2543, CID3114, CID3204, CID3206, CID3207, CID3045, CID3046

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| 2821 | Lei Wang | 45.53 | 8.4.2.185 | FILS Indication IE actually specifies the capability of AP's FILA authentication and upper layer setup, not general FILS capability, e.g., nothing about scanning related features. | Change the sentence in line 55 page 45 to the following: The FILS Indication element contains information related to FILS authentication and higher layer setup Capabilities of the AP. |
| 2664 | Jarkko Kneckt | 46.20 | 8.4.2.185 | Confused paragraph | Clarify the sentence or delete the sentence. |
| 2823 | Lei Wang | 46.25 | 8.4.2.185 | The 2-bit FILS Security Type field is not specified. The term "FILS Security Type" appears only in subsectuion 8.4.2.185, but no encoding details specified.  There is another similar concept, i.e., FILS Authenticaiton Type, as specified in Table 8-53m in subsection 8.4.1.5.3. However, it is a 1-byte field. | In line 23 page 46, insert the followint text:  The 2-bit FILS Security Type field indicates the FILS authentication type, as defined in Table <ANA-a> below.  Table <ANA-a> -- Values of FILS Security type  Value Description  0 The FILS authentication exchange using a  TTP is performed without PFS.  1 The FILS authentication exchange using a  TTP is performed with PFS.  2 The FILS authentication exchange without a  TTP and with PFS.  3 Reserved |
| 2215 | David Goodall | 46.25 | 8.4.2.185 | There is no definition for the possible values of the FILS security type bits. | Provide a table that shows the possible values of the FILS Security Type bits and what they mean. |
| 2570 | Hiroki Nakano | 46.07 | 8.4.2.185 | The values and usages of FILS Security Type (B0-B1) are not defined, though the last paragraph of this page mentions a little. | Probably, FILS security type is mixed up with FILS authentication type defined at Table 8-53m, although FILS security type has only 2 bits while FILS authentication type has 8 bites. Change the word and refer that table here. |
| 2666 | Jarkko Kneckt | 46.30 | 8.4.2.185 | Only the use of a single value is introduced, i.e. Value 7 is described (Three times in two paragraphs) and use of other values are not explained. | Delete lines 30 - 33. Add sentence to line 34: " The Number of Domains indicates the number of available Domain information elements in FILS indication element." change the lines 35 :"... Domains are available, and Domain Information elements are not present in FILS Indication element." |
| 2825 | Lei Wang | 46.30 | 8.4.2.185 | There is a conflict between the paragraph in line 30 page 46 and the paragraph in line 35 page 46, regarding what are included in the FILS Indication IE when the number of domain is set to 7: one says Seven of the domains are included, and the other says Per domain information is absent. | Make the following changes: 1) Delete the parpagraph in line 30 on page 46. 2) insert the following text at the beginning of the paragraph in line 35 page 46: The 3-bit Number of Domains field indicates the number of domains that are inlcuded in the FILS Indication IE. Each domain is specifed by a 4-octets domain information field as defined in Figure 8-401df. |
| 2402 | Edward Reuss | 46.30 | 8.4.2.185 | What happens if there are exactly 7 more domains available in the Number of Domains field? The text specifies that 7 means that there are more than 7. How do I indicate that there are exactly 7? | Define how to signal exactly 7 more domains. Perhaps change "more than 7 domains" to "7 or more domains" in line 30 and line 35, and possibly other places as well. |
| 2447 | GEORGE CHERIAN |  | 8.4.2.185 | Create a uniform structure for both TTP & non-TTP case | Main changes: 1. Remove IP Address type from figure 8-401de 2. Number of domains set to 1 for non-TTP 3. Remove the restriction that the domain information is present only when EAP-RP is used (line 64, pp 46) 4. Hashed-domain-name ignored for non-TTP (pp47, line 12) |
| 2824 | Lei Wang | 46.26 | 8.4.2.185 | The encoding of B2 to B4, i.e., the 3-bit IP address type subfield, in the FILS Information field, shoule be specified. | Change the sentence in line 26 page 46 to the following: With Non-TTP type security, the IP address type information is carried in B2 to B4, as defined in Table 8-183ag. |
| 2826 | Lei Wang | 47.31 | 8.4.2.185 | The 1-bit Subnet-ID Token present, i.e., B10 in Figure 8-401de--FILS Information field definition, should be specified. | Insert the following paragraph in line 31 on page 47: The 1-bit Subnet-ID Token present subfield in FILS Information field indicates whether or not a subnet-ID Token corresponding to the IP subnet to which the domain is connected is present in the Domain information field, as defined in Table 8-183ah. |
| 2309 | David Hunter | 46.00 | 8.4.2.185 | Since B5-B7 is a named field, that name should be used consistently. And what is an "indication"? Why isn't it just called "domain information"? Also, there is a technical inconsistency between this paragraph and the next: This paragraph states that when there are 7 domains, information on them is present. But the next paragraph says that no information is available if the number of domains is 7. And the next paragraph contains a normative statement, which does not belong in a definitions clause. | Replace: "AP sets the Number of Domains field in the FILS indication to 7 to indicate that more than 7 domains are available Seven of the domains are included in the element. STA can" with: "The AP sets the Number of Domains field in the FILS Indication element to 7 if 7 or more domains are available. Information on up to 7 domains is included in the FILS Indication element. Per domain information is absent from the FILS Indication element if more than 7 domains are available. The STA can" Delete the paragraph: "If Number of Domains indication (B5-B7) indicates a value of 7, it indicates that more than 7 domains are available. Per domain information is absent in FILS Indication Element if B5-B7 indicate a value of 7. The STA shall use ANQP to obtain information if B5-B7 is set to 7" |
| 2543 | GEORGE CHERIAN | 47.08 | 46 | Clarify that the domain that is connected to is the "routing domain" | A subnet-ID Token corresponding to the IP subnet to which the routing domain is connected is not present in the Domain information field |
| 3114 | Ping Fang | 46.20 | 8.4.2.185 | Table 8-183af (FILS Indication Element field settings) cross-referenced is not same as Table 8-183af, which defines IP Address Assignment Method; And the possible field values are supposed to be for FILS Security Type. | Provide the table for FILS Security Type values. |
| 3204 | Santosh Ghanshyam Pandey | 46.20 | 8.4.2.185 | "Table 8-183af (FILS Indication Element field settings) shows the possible field values for the FILS security indication element." seems to be describing FILS Security Type subfield of FILS Information field. However is refering (incorrectly) to a table defining IP Address Assignment Method. | Rephrase this line to explain FILS Security Type and add a table to indicate different values that this field can take |
| 3206 | Santosh Ghanshyam Pandey | 47.18 | 8.4.2.185 | There is no text defining the IP Address Type subfield in Domain Information field, only a Table 8-183ag seems to be present | Add text to define the said subfield |
| 3207 | Santosh Ghanshyam Pandey | 47.40 | 8.4.2.185 | The subnet-ID Token present subfield does not have any defninition text | Add text to define the said subfield |
| 3045 | Mitsuru Iwaoka | 46.20 | 8.4.2.185 | A caption and contents of Table 8-183af, and its reference are wrong. The Table 8-183af shall be 'FILS Security Type'. Current Table 8-183af specifies 'IP Address Assignment Method', but there are no descriptions of 'IP Address Assignment Method' in 8.4.2.185. | Apply following changes. 1) Modify the 3rd paragraph of 8.4.2.185 (p46, line 20-21) as follows: --- Table 8-183af (FILS Security Type) shows the possible field values for the FILS Security Type subfield.  2) Rename current Table 8-183af to Table 8-183a+, and insert a new paragraph after 6th paragraph as follows: --- Table 8-183a+ (IP Address Assignment Method) shows the possible field values for the IP Address Assignment Method subfield.  3) Insert the new Table 8-183af after the 3rd paragraph by copying the Table 8-183af of IEEE P802.11ai D0.5 with modifications according to CID#1185 and 1022, and modification of caption to 'FILS Security Type'. |
| 3046 | Mitsuru Iwaoka | 46.30 | 8.4.2.185 | When the Number of Domains field is set to 7, the 4th paragraph specifies that seven of the domains are included in the element, but the 5th paragraph specifies that no per domain information is included in the element. They shall be consistent. | Replace the 4th paragraph and 5th paragraph as follows: --- AP sets the Number of Domains subfield in the FILS indication to 7 to indicate that more than 7 domains are available. Seven of the domains are included in the FILS indication element. a non-AP STA can obtain the information about the other domains by querying for FILS Domain Information ANQP element. |

* FILS Indication element [CID #1272, 1273, 1428]

The FILS Indication element contains information related to FILS authentication and higher layer setup [CID2821] Capabilities of the AP.

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| --- | --- | --- | --- | --- |
|  | Element ID | Length | FILS  Information | Domain information [CID #1295 |
| Octets | 1 | 1 | 2 | Variable |
| * FILS Indication element[CID #1272, 1273 | | | | |

The definitions of FILS Information field is as follows:

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| --- | --- | --- | --- | --- | --- |
|  | B0 B2 | B3 B5 | B6 B7 | B8 | B9 – B15 |
|  | FILS Security Type | Number of Domains | IP Address Assignment Method | Subnet-ID Token present | Reserved |
| Bits | 3 | 3 | 2 | 1 | 7 |
| * FILS Information field definition [CID #1014, 1184 | | | | | |

[CID #1216, 1210, 1431 [CID #1216, 1210, 1431

Table  8-183<ANA> (FILS Security Type) shows the possible field values for the FILS security indication element. [CID2664, CID2823, CID2215, CID2570, CID3114, CID3204, CID3045]

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| --- | --- |
| Table -183 <ANA> FILS Security Type [CID #1317, 1214 | |
| Bit values | FILS Security type |
| 0 | The FILS authentication exchange using a TTP is performed without PFS. |
| 1 | The FILS authentication exchange using a TTP is performed with PFS |
| 2 | The FILS authentication exchange without a TTP and with PFS |
| 3-7 | Reserved |

[CID2666, CID2825, CID2402, CID2309, CID3046] AP sets the Number of Domains field in the FILS Information field to the number of domain information fields (Fig 8-401df) included in the FILS indication element. [CID2447, CID2824] If the FILS Security type is set to 2 (Non TTP), then the number of domains is set to 1. [CID2666]If Number of Domains indication is set to 7, it indicates that more than 6 domains are available, and only the first six domain information are present in the Per domain information of the FILS indication Element. The STA shall use ANQP to obtain domain information of other domains that are not included in the FILS indication element..

The IP address assignment method supported by the Access Point is defined in Table 8-183af.

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| * IP Address Assignment Method [CID #1317, 1214 | |
| Bit values | IP Address Assignment Method supported by the AP |
| 00 | IP Address assignment during Association is not supported by the AP |
| 01 | STA may use FILS HLP wrapped data to request IP address during Association |
| 10 | STA may use FILS IP Address Request TLV to request IP address during Association |
| 11 | STA may use either FILS HLP wrapped data or FILS IP Address Request TLV to request IP address during Association |

[CID2826, CID3207] The 1-bit Subnet-ID Token present subfield in FILS Information field indicates whether or not a subnet-ID Token corresponding to the IP subnet to which the domain is connected is present in the Domain information field, as defined in Table 8-183ah

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|  | |
|  |  |
|  | [CID2543] IP routing |
|  | [CID2543] IP routing |

The domain information field is a 4[CID #1215, 1296 octet field formatted as defined in Figure 8-401df (Domain information field).[CID2447].

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | B0 B15 | B16 B18 | B19 B23 | B24 B31 |
|  | Hashed Domain Name | IP Address Type | Reserved | subnet ID token |
| Bits | 16 | 3 | 5 | 8 |
| * Domain information field | | | | |

[CID2447] If the FILS Security Type field is set to 2 (non TTP authentication), then the hashed domain name field is set to 0. If the FILS Security Type field is set to 0 or 1, then the hashed domain name is computed from the Domain Name that is compliant with the “Preferred Name Syntax” as defined in IETF RFC 1035 (same as the domain name used in 8.4.4.15[CID #1187). The exact computation method for the hashed domain name is given in  10.44.5 (FILS Indication element)[CID #.1429, 1316, 1187 except the submission gives reference to 10.43.11 and there is no such clause, assume it is 10.43.1

[CID3206] The IP Address Type field of the Domain Information field indicates the IP address type supported by the domain to which the AP is connected.

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| --- | --- |
| * IP Address Type [CID #1430 | |
| Bit Value | IP address type |
| 000 | IPv4 only |
| 001 | IPv6 only |
| 010 | IPv4 & IPv6 |
| 011 - 111 | Reserved |

The Subnet-ID Token[CID #1432 is an identifier derived from the subnet using a hash of the subnet or other means that is out of scope of this specification. The Subnet-ID Token is used by the STA to select an AP that is connected to the same IP domain as the current AP.

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