IEEE P802.11  
Wireless LANs

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| CC08 – Normative Text for CIDs allocated to Kneckt | | | | |
| Date: 2013-05-14 | | | | |
| Author(s): | | | | |
| Name | Affiliation | Address | Phone | email |
| Jarkko Kneckt | Nokia | Otaniementie 19b, 02150 Espoo Finland |  | Jarkko.Kneckt@Nokia.com |
|  |  |  |  |  |

Abstract

The document contains the text changes for the resolved comments of the submission 13-565.

**6.3.3.2.2Semantics of the service primitive**

**…**

***Insert the following rows to the primitives table:***

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid Range | Description |
| FILSRequestParameters | As defined in 8.4.2.177~~8~~ | As dAs defined in 8.4.2.177~~8~~ | The advertised security features supported by the found BSS. This parameter is optional. This field is present only when dot11FILSActivated is true. |
| ReportingOption | Enumeration | IMMEDIATE, CHANNEL\_ SPECIFIC, AT\_END | Indicates the result reporting mode. This field is present only when dot11FILSActivated is true. |
| APConfigurationChangeCount | As defined in 8.4.2.184~~5~~ | As defined in 8.4.2.184~~5~~ | When a specific BSSID is indicated in the MLME-SCAN.request, the AP ConfigurationChangeCount associated with the stored configuration of the AP is optionally provided when dot11FILSActivated is true. |

**6.3.3.3 MLME-SCAN.confirm**

**6.3.3.3.2 Semantics of the service primitive**

***Insert new row to the BSSDescription table as follows (Editorial note, only the changed elements are shown)***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Type | Valid Range | Description | IBSS Adoption |
| GAS Configuration  Sequence Number | Integer | 0 - 255 | The GAS Configuration  Sequence Number of the  found BSS. | Do not Adopt |

***Insert the follow text, subclause, and table to the end of subclause 6.3.3.3.2:***

Each BSSDescriptionFromFDSet consists of the following information items:

|  |  |  |  |
| --- | --- | --- | --- |
| Name | Type | Valid Range | Description |
| ~~FD Security~~ | ~~Security information field carried in FD frame~~ |  | ~~The advertised security features supported by the found BSS. This parameter is optional.~~ |
| RSNE | RSN element | As defined in 8.4.2.27 | The information for Robust security network.This parameter is optional. |
| FILS Indication | FILS Indication element | As defined in 8.4.2.185 | The information related to FILS The information related to FILS element authentication and upper layer set up Capabilities of the AP. |

***Insert a new clause 6.3.3.4 and subclauses as follows:***

**6.3.3.4 MLME-SCAN-STOP.request**

**6.3.3.4.4 Effect of receipt**

This request terminates any ongoing scan procedures. ~~The passive scanning is stopped immediately after the~~

~~primitive is received; and active scanning is stopped after the duration defined by the MaxChannelTime parameter.~~ The passive scanning is stopped immediately after the primitive is received as described in 10.1.4.2. The active scanning is stopped immediately of after the duration defined by the MaxChannelTime parameter as described in 10.1.4.3.2.The confirmation of the scan termination is provided through an MLME-SCAN.confirm primitive

**8.3.3.2 Beacon frame format**

***Insert new rows/elements to Table 8-20 (note that this table is 8-21 in REVmc D1.0 and 8-24 in***

***D1.1) as follows;***

|  |  |  |
| --- | --- | --- |
| Order | Information | Notes |
| 203 | GAS Configuration Sequence Number | The GAS Configuration Sequence Number is optionally present if dot11FILS~~InterworkingService~~Activated is true |

**8.3.3.10 Probe Response frame format**

***Change Table 8-27 as follows, inserting 5 new rows and changing one existing row;***

|  |  |  |
| --- | --- | --- |
| Order | Information | Notes |
| 70 | GAS Configuration Sequence Number | The GAS Configuration Sequence Number is optionally present if dot11FILS~~InterworkingService~~Activated is true |

**8.4.2.177 FILS Request Parameters element**

.***Insert the following paragraph to the end of the subclause.***

**Editorial note: Please change the Received Signal Strenght Limit (RSSL) to RCPILimit from figure 8-401v.**

The contents of the FILS Request Parameters element in Probe Request frame are used in determining whether to transmit a Probe Response frame as described in ~~(see~~ 10.1.4.3.5~~Criteria to respond to probe request)~~. The FILS Request Parameters element is defined in Figure 8- 401cv.

…

A Reduced Neighbor Report Request field value of 1 indicates that the information of other BSSs are requested to be included in the Probe Response frame transmitted in response to the Probe Request. The detailed descriptions of the information of other BSSs are provided in ~~10.1.4.3.7~~ 10.25.3. A Reduced Neighbor Report Request field value of 0 indicates that such BSS information is not requested.

The BSS Delay Criteria field indicates the delay type that is applied in the decision to respond to the Probe Request frame as described in 10.1.4.3.6. The delay type is selected as indicated in the Table 8-183ae.

|  |  |
| --- | --- |
| Value | Explanation |
| 0 | ~~The average access delay of the AC\_BK~~  Access delay is indicated as Average Access Delay for Background (AC\_BK) subfield of the BSS AC Access Delay element as described in 8.4.2.46. |
| 1 | ~~The average access delay of the AC\_BE~~  Access delay is indicated as Average Access Delay for Best Effort (AC\_BE) subfield of the BSS AC Access Delay element as described in 8.4.2.46. |
| 2 | ~~The average access delay of the AC\_VI~~  Access delay is indicated as Average Access Delay for Video (AC\_VI) subfield of the BSS AC Access Delay element as described in 8.4.2.46. |
| 3 | ~~The average access delay of the AC\_VO~~  Access delay is indicated as Average Access Delay for Voice (AC\_VO) subfield of the BSS AC Access Delay element as described in 8.4.2.46. |
| 4 | ~~The average access delay of all ACs~~  Access Delay is indicated as Average Access Delay as described in 8.4.2.21. |
| 5 6 | Reserved |
| 7 | Delay criteria is not in use |

**…**

The Max Delay Limit field is an unsigned integer in units of 200μs to calculate the value of the maximum

access delay for delay criteria as indicated by the BSS Delay Criteria field of the FILS Criteria of the FILS

Request Parameters element. Value 0 is reserved. The use of the maximum access delay and the delay criteria

are explained in 10.1.4.3.~~5~~6.

**…**

~~The Received Signal Strength Limit (RSSL) field is an unsigned integer. The receiver of Probe Request frame is obliged to respond, if the reception power of the frame is equal or higher than -82dBm + RSSL value \* 0.5dBm.~~ The RCPI Limit field is an unsigned integer.The receiver of Probe Request frame is obliged to respond, if the RCPI of the received probe request frame is equal or higher than -90 dBm + value of RCPI Limit \* 0.5dB. Value 255 indicates that receiver is obliged to respond regardless of the reception power of the Probe Request frame.

**10.1.4.2 Passive scanning**

.***Insert the following paragraph to the end of the subclause.***

If the MLME receives an MLME-SCAN-STOP.request primitive, the STA shall immediately stop the ongoing passive scanning process at the scanned channel, and ~~initiate scanning at any new channel~~ shall not continue the passive scanning process at unscanned channels listed in the ChannelList parameter of the MLME-SCAN.request primitive. The MLME shall issue an MLME-SCAN.confirm primitive with the BSSDescriptionSet containing the gathered information since the previous issue of MLME-SCAN.comfirm primitive, or if the primitive has not been issued since the beginning of the scan, having the ResultCode set to SUCCESS.

**10.1.4.3.2 Sending a probe response Active scanning procedure**

***Change 10.1.4.3.2 as follows.***

***…***

e) If PHY-CCA.indication (busy) primitive has not been detected before the ProbeTimer reaches MinChannelTime, then go to step f, else while the Probe Timer is less than the MaxChannelTime:

1) Process any received probe responses;

2) Process any received Beacons, measurement pilots and FILS Discovery frames if dot11FILSActivated is true in the STA; and

3) dot11FILSActivated is true in the STA, ReportingOption is IMMEDIATE, and new AP or new information of the AP is detected, issue MLME-SCAN.confirm primitive with the ResultCode equal to INTERMEDIATE~~IMMEDIATE~~\_SCAN\_RESULT and the BSSDescriptionSet containing information of the detected AP.

4) If dot11FILSActivated is true and the ReportingOption is CHANNEL\_SPECIFIC, issue at the time when the Probe Timer reaches the MaxChannelTime an MLME-SCAN.confirm primitive, with the ResultCode equal to ~~SUCCESS~~ INTERMEDIATE\_SCAN\_RESULT and the BSSDescriptionSet containing information of all APs that have been discovered from the scanned channel.

…

If the MLME receives an MLME-SCAN-STOP.request primitive, the STA that has not transmitted Probe Request to the scanned channel shall immediately stop the scanning of the channel. If the STA has transmitted Probe Request frame, it shall listen to the channel for duration specified in the MaxChannelTime parameter of the MLME-SCAN.request primitive. The STA shall not continue the active scanning process at unscanned channels listed in the ChannelList parameter of the MLME-SCAN.request primitive.~~shall complete the ongoing active scanning process at the scanned channel, and shall not initiate scanning at any new channel.~~ The MLME shall issue an MLME-SCAN.confirm primitive with the ResultCode set to SUCCESS and BSSDescriptionSet containing all of the information gathered during the scan.

***Insert the new clause 10.1.4.3.5 with the contents as follows.***

**10.1.4.3.5 Selecting the response frame to probe request**

If the criteria for responding to Probe Request frames as described in 10.1.4.3.~~5~~6 are met, STAs receiving Probe Request frames shall respond as follows.

- with a Probe Response or a Beacon frame when dot11FILSActivated equal to true. More details on selecting the Probe Response or Beacon frame are described in 10.1.4.3. ~~6~~7.

- with Probe Response frame when dot11FILSActivated equal to false

…

**Insert the**

***Insert the new subclause 10.1.4.3.6.***

**10.1.4.3.6 Criteria to respond to probe request**

STAs, subject to the criteria below, receiving Probe Request frames shall respond with a probe response only if:

a) The Address 1 field in the probe request is the broadcast address or the specific MAC address of the STA, and either item b) or item c) below.

b) The STA is a mesh STA and the Mesh ID in the probe request is the wildcard Mesh ID or the specific Mesh ID of the STA.

c) The STA is not a mesh STA and

1) The SSID in the probe request is the wildcard SSID, or the SSID in the probe request is the specific SSID of the STA, or the specific SSID of the STA is included in the SSID List element, and

2) The Address 3 field in the probe request is the wildcard BSSID or the BSSID of the STA.

…

~~Probe Response frames shall be sent as directed frames to the address of the STA that generated the probe request. The SSID List element shall not be included in a Probe Request frame in an IBSS.~~

…

~~Only APs and STAs in an IBSS or in an MBSS respond to probe requests. A result of the procedures defined in this subclause is that in each infrastructure BSS and IBSS there is at least one STA that is awake at any given time to receive and respond to probe requests. In an MBSS, STAs might not be awake at any given time to respond to probe requests. In an infrastructure BSS or in an IBSS, a STA that sent a Beacon frame shall remain in the Awake state and shall respond to probe requests, subject to criteria in the next paragraph, until a Beacon frame with the current BSSID is received. If the STA is contained within an AP, it shall remain in the Awake state and always respond to probe requests, subject to criteria in the next paragraph. There may be more than one STA in an IBSS that responds to any given probe request, particularly in cases where more than one STA transmitted a Beacon frame following the most recent TBTT, either due to not receiving successfully a previous Beacon frame or due to collisions between beacon transmissions.~~

…

STAs with dot11FILSActivated equal to true receiving a Probe Request frame with FILS Request Parameters element shall respond to Probe Request frame only if all the criteria below that are present in the corresponding Probe Request frame are met:

a) The Max Delay Limit field of the FILS Request Parameters indicates a delay larger than the selected average access delay of the responding STA. The BSS Delay Criteria field of the FILS Criteria field of the FILS Request Parameters element indicates the selected average access delay for the comparison as defined in 8.4.2.177. If the compared average access Delay indicates value 255 Measurement not available, the STA shall respond and the response shall include BSS AC Access Delay element as described in 8.4.2.46 and Average Access Delay as described in 8.4.2.21. If the compared Average Access Delay indicates value 254 Service unable to access channel, the response shall not be transmitted.

b) The HT Support Criteria of the FILS Criteria field of the FILS Request Parameters element is 1 and the responding STA is HT STA.

c) The VHT Support Criteria of the FILS Criteria field of the FILS Request Parameters element is 1 and the responding STA is VHT STA.

d) The Minimum Data Rate field of the FILS Request Parameters element indicates a data rate lower than the one that can be provided over the MAC\_SAP.

e) The RCPI Limit field of the FILS Request Parameters element as described in 8.4.2.177 indicates RCPI lower than the RCPI of the Probe Request frame.~~The Received Signal Strength field of the FILS Request Parameters element indicates a reception power limit lower than the reception power of the Probe Request frame as explained in 8.4.2.ai1(FILS Request Parameters element).~~

f) The STA knows the OUIs as specified by the OUI Response Criteria of the FILS Request Parameters element as explained in 8.4.2.178(FILS Request Parameters element).