IEEE P802.11  
Wireless LANs

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| Resolutions to CIDs 3352, 3374 | | | | |
| Date:2013-09-18 | | | | |
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|  |  |  |  |  |

Abstract

The submission resolves the comments on Minimum Data Rate of FILS Request Parameters element.

Track changes is used to show changes to revision 1.0.

The submission solves CIDs 3352, 3374 on Mimum Data Rate.

**Solved CIDS:**

**CID 3352, 3374**

**Commenter:** Wookbong Lee, Yongho Seok

**Comment:**

"The Minimum Data Rate field is 3 octets long and contains an unsigned integer in units of kilobits per second that specifies the lowest total data rate specified at the MAC\_SAP for transport of MSDUs or AMSDUs that the STA is going to transmit. The minimum MAC\_SAP data rate does not include the MAC and PHY overheads incurred in transferring the MSDUs or A-MSDUs."

What is the definition of the lowest total data rate? Is it a long-term throughput? Is it a singly linked throughput? It is not clear to me.

**Proposed change**:

Clarify the definition of the Minimum Data Rate field.

**Discussion:**

The Minimum Data Rate was discussed in previous sessions and offline. And there two opinions collected.

Opinion 1:

The text in the draft tries to define the Minimum Data Rate at the MAC\_SAP point, but for AP, the usually measured data rate is PHY Data Rate. So a PHY Data Rate should be easier for AP.

If a STA really wants a Minimum Data Rate at MAC\_SAP, it can map this data rate to PHY Data Rate with some simple calculation of MAC and PHY overheads.

Minimum PHY Data Rate is already defined in section TSPEC element and has been widely accepted. Suggest change Minimum Data Rate to Minimum PHY Data Rate, which is similar to the definition in TSPEC.

Opinion 2:

This field is not very useful. It is very hard for a sta to get some useful information by setting the Minimum PHY Rate. So the Minimum Data Rate should be deleted from the Prarater element.

**Strawpoll**

Which option do you prefer to solve the **CID 3352, 3374**?

**Option 1**: Change Minimum Data Rate to Minimum PHY Rate and set it to 1 byte. The change is as Option 1 change text.

**Option 2**: Delete the Minimum Date Rate from the draft. The change is as Option 2 change text.

**The two comments are resolved with the following changes to 802.11 D1.0:**

**Option 1 change text:**

*Instructions to Editor: Change the text as below:*

**8.4.2.177 FILS Request Parameters element**

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 10.1.4.3.6 (Selecting the response frame to probe request)). The FILS Request Parameters element is defined in Figure 8-401ct— (FILS Request Parameters element).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Element Id | Length | Parameter Control Bitmap | FILS Criteria | Max Delay Limit | Minimum PHY Rate | RCPI  Limit | OUI Response Criteria |
| Octets: 1 | 1 | 1 | 0 or 1 | 0 or 1 | 0 or 1 | 0 or 1 | 0 or 2 |

**Figure 8-401ct—FILS Request Parameters element4 B5 B7e 8-ai2 CILS Cri refer to the same parameter defined in TSPEC.**

The Element ID is equal to the FILS Request Parameters element value in Table 8-54 (Element IDs).

The Parameter Control Bitmap field is 1 octet in length and illustrated in Figure 8-401cu (Parameter Control Bitmap field). Bits 0 to 4 of the Parameter Control Bitmap field correspond to the Parameter fields that may be present in the IE respectively. A value of 1 in a bit indicates the corresponding parameter is present, and the value of 0 indicates the corresponding parameter is not present.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| FILS Criteria present | Max Delay Limit present | Minimum PHY Rate present | Received Signal Strength Limit present | OUI Response Criteria present | Reserved |

Bits: 1 1 1 1 1 3

**Figure 8-401cu—Parameter Control Bitmap field**

The FILS Criteria field is 1 octet in length and is illustrated in Figure 8-401cv (FILS Criteria field).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Reduced Neighbor  Report Request | BSS Delay Criteria | HT Support Criteria | VHT Support Criteria | Reserved |
| Bits: | 1 | 3 | 1 | 1 | 2 |

**Figure 8-401cv—FILS Criteria field**

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 10.44.3 (Reduced Neighbor Report). 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 10.1.4.3.7 ( Criteria to respond to probe request). The delay type is selected as indicated in the Table 8-183ae (BSS Delay Criteria field).

**Table 8-183ae—BSS Delay Criteria field**

|  |  |
| --- | --- |
| Value | Explanation |
| 0 | 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 | 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 | 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 | 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 | 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 |

An HT Support Criteria field value of 1 indicates that responding STA must be HT capable. A value of 0 indicates otherwise.

A VHT Support Criteria field value of 1 indicates that responding STA must be VHT capable. A value of 0 indicates otherwise.

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 10.1.4.3.7 ( Criteria to respond to probe request).

The Minimum PHY Rate field is 1 octet long and contains an unsigned integer that specifies the desired minimum PHY rate to use, in Mbits per second, that is required for transport of the MSDUs or AMSDUs.

The RCPI Limit field is an unsigned integer in units of 0.5 dB. 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 field.Value 255 indicates that receiver is obliged to respond regardless of the reception power of the Probe Request frame.

OUI Response Criteria field is a bitmap in which the bits correspond to the Vendor Specific elements of the Probe Request frame in order of presence. Bit 0 corresponds to the first Vendor Specific element, bit 1 corresponds the second and so on. A bit in the OUI Response Criteria field of 1 indicates that the receiver must know the Organization Identifier field of the corresponding Vendor Specific element in order to respond to the request and otherwise is0. If the number of the Vendor Specific elements of the Probe Request frame is less than the number of bits of the OUI Response Criteria field, the remaining bits of the OUI Response Criteria field are 0.

**Option 2 change text:**

*Instructions to Editor: Change the text as below:*

**8.4.2.177 FILS Request Parameters element**

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 10.1.4.3.6 (Selecting the response frame to probe request)). The FILS Request Parameters element is defined in Figure 8-401ct— (FILS Request Parameters element).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Element Id | Length | Parameter Control Bitmap | FILS Criteria | Max Delay Limit |  | RCPI  Limit | OUI Response Criteria |
| Octets: 1 | 1 | 1 | 0 or 1 | 0 or 1 |  | 0 or 1 | 0 or 2 |

**Figure 8-401ct—FILS Request Parameters element4 B5 B7e 8-ai2 CILS Cri refer to the same parameter defined in TSPEC.**

The Element ID is equal to the FILS Request Parameters element value in Table 8-54 (Element IDs).

The Parameter Control Bitmap field is 1 octet in length and illustrated in Figure 8-401cu (Parameter Control Bitmap field). Bits 0 to 4 of the Parameter Control Bitmap field correspond to the Parameter fields that may be present in the IE respectively. A value of 1 in a bit indicates the corresponding parameter is present, and the value of 0 indicates the corresponding parameter is not present.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| FILS Criteria present | Max Delay Limit present |  | Received Signal Strength Limit present | OUI Response Criteria present | Reserved |

Bits: 1 1 1 1 4

**Figure 8-401cu—Parameter Control Bitmap field**

The FILS Criteria field is 1 octet in length and is illustrated in Figure 8-401cv (FILS Criteria field).

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Reduced Neighbor  Report Request | BSS Delay Criteria | HT Support Criteria | VHT Support Criteria | Reserved |
| Bits: | 1 | 3 | 1 | 1 | 2 |

**Figure 8-401cv—FILS Criteria field**

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 10.44.3 (Reduced Neighbor Report). A Reduced Neighbor Report Request field value of 0 indicates that such BSS information is not requested.

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| --- | --- |
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| 3 | 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 | 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 |

An HT Support Criteria field value of 1 indicates that responding STA must be HT capable. A value of 0 indicates otherwise.

A VHT Support Criteria field value of 1 indicates that responding STA must be VHT capable. A value of 0 indicates otherwise.

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 10.1.4.3.7 ( Criteria to respond to probe request).

The RCPI Limit field is an unsigned integer in units of 0.5 dB. 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 field.Value 255 indicates that receiver is obliged to respond regardless of the reception power of the Probe Request frame.

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