IEEE P802.11  
Wireless LANs

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| Additional MAC comment resolutions - II | | | | |
| Date: 2013-04-12 | | | | |
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|  |  |  |  |  |

Abstract

Proposed resolutions to the following CIDs are included in this document:

1229, 1222, 1638, 1469, 1549, 1410, 1430, and 1175 – Comment resolutions agreed on 2013-04-12 telecon (r1)

1102, 1151 – plan to discuss on 2013-04-19 telecon

**CID 1229**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1229 | 215.50 | 6.3.33.3.4 |  |  | Misuse of "may". "may be available" is not the standard giving permission for something. | Replace "may" with "might". |

**Discussion:**

The comment is on the use of “may” in the following text:



The text is referring to the MLME-NEIGHBORREPRESP.indication primitive.

From the description at L6-8, *“This primitive indicates that a neighbor report response has been received. This may be in response to an earlier neighbor report request (MLME-NEIGHBORREPREQ.request) or an autonomous report. It is valid only at a Radio Measurement capable STA.”*

The commenter states that the use of “may” is not correct, as no permission is being given.

The editor commented “EDITOR: 2013-03-11 22:33:19Z - There is no need to polish this statement as it says nothing useful. Recommend removing this statement. Transferred to MAC.”

Agree that the current text is of little value; however deleting the indicated text results in the entire contents of the “effect of receipt” section being deleted. Propose replacing the current text with text indicating that the neighbor report data is received.

Alternativees for new text, based on language used in other sections:

“On receipt of this primitive, the SME examines the received neighbor report data”, or

“The SME is notified of the receipt of the neighbor report data. “

**Proposed resolution: Revised**

Change the text at 215.50

From

“On receipt of this primitive, neighbor report data may be available to the SME.”

To

“The SME is notified of the receipt of the neighbor report data.”

**CID 1222**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1222 | 162.10 | 6.3.11.2.3 |  |  | Inadequate expression of a requirement: "may" is used when the real meaning is "shall". | Replace "may" with shall here and on line 14. |

**Discussion:**

The comment is on the MLME-START.request “When Generated” text; the current text is:

“An MLME-START.request primitive may be generated in an infrastructure BSS or IBSS only after an

MLME-RESET.request primitive has been used to reset the MAC entity and before an MLME-JOIN.request primitive has been used to successfully join an existing infrastructure BSS or IBSS.

An MLME-START.request primitive may be generated in an MBSS only after an MLME-RESET.request primitive has been used to reset the MAC entity and before any synchronization and mesh peering have been established. When the mesh STA uses the default synchronization method and the default mesh peering protocol, the MLME-START.request primitive shall be generated before an MLMEMESHNEIGHBOROFFSETSYNCSTART.request primitive and MLMEMESHPEERINGMANAGEMENT.request primitive have been used.”

The commenter states that while “may” is used here, “shall” is actually what is meant.

The editor notes: EDITOR: 2013-03-11 22:31:13Z - The entire sentence is questionable. In what sense is a START.request used before a JOIN.request at the same MAC?I think "shall ... only" is ambiguous and better represented as "An MLME-START.request primitive shall not be generated with the BSSType parameter equal to infrastructure BSS or IBSS until an MLME-RESET.request primitive has been used to reset the MAC entity." And why is mesh not included? Sounds like a small can of worms, transferred to MAC.

**Proposed resolution: Revised**

Delete the following text  
 “An MLME-START.request primitive may be generated in an infrastructure BSS or IBSS only after an MLME-RESET.request primitive has been used to reset the MAC entity and before an MLME-JOIN.request primitive has been used to successfully join an existing infrastructure BSS or IBSS.“   
It isn’t needed, since at 158.23, the text states “The MLME-RESET.request primitive shall be used prior to use of the MLME-START.request primitive.”

And change from   
“An MLME-START.request primitive may be generated in an MBSS only after an MLME-RESET.request primitive has been used to reset the MAC entity and before any synchronization and mesh peering have been established. When the mesh STA uses the default synchronization method and the default mesh peering protocol, the MLME-START.request primitive shall be generated before an MLMEMESHNEIGHBOROFFSETSYNCSTART.request primitive and MLMEMESHPEERINGMANAGEMENT.request primitive have been used.”

to

"The MLME-START.request primitive in an MBSS shall be generated before any synchronization or mesh peering have been attempted.”

**CID 1638**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1638 | 839.25 | 8.5.8.12 |  |  | "in accordance with the protocol specified in  the Advertisement Protocol element" -- what subclause is being referred to here? A protocol is being defined in clause 8? | I think it's the Advertisement Protocol ID in the Advertisement Protocol element's Advertisement Protocol Tuples, but I'm not clear on what happens if there's more than one said tuple |

**Discussion:**

The comment is on text describing the Query Request field in Figure 8-470:



The commenter is unclear which protocol is being referred to: “the protocol specified in the Advertisement Protocol element”.

The editor notes: EDITOR: 2013-03-08 01:29:25Z - I'm not sure what change is being proposed. But any change is unlikely to be purely editorial. Transferring to MAC.

Indeed, the protocol being referred to is the Advertisement Protocol ID; additionally there is only one Advertisement Protocol ID present, see the text at P839 lines 7-9:



Suggest clarifying that the protocol is identified rather than specified.

**Proposed resolution: Revised**

Change from

“with the protocol specified in the Advertisement Protocol element.”

Change from

“with the protocol identified in the Advertisement Protocol element.”

**CID 1469**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1469 | 834.33 | 8.5.8.7 |  |  | 8.5.8.7 on the ECSA frame says the Channel Switch Count field is described in 8.4.2.52 on the ECSA IE, but 8.4.2.52 talks of "the STA  sending the Extended Channel Switch Announcement element" -- no such IE is sent when the STA is sending an ECSA frame (this is different to the case of a CSA frame, which \*does\* contain a CSA IE) | Someone explain to me why the ECSA frame didn't just contain an ECSA IE first... |

**Discussion:**

The comment is on the Extended Channel Switch Announcement frame format (Page 834) and on the referenced ECSA element definition in 8.4.2.52 (P673):



The editor observes: “EDITOR: 2013-03-08 01:28:03Z - The commenter doesn't propose any change, so the comment is invalid. However if the group does decide to make any change it will be more than editorial. Transferring to MAC.”

It is true that the Channel Switch Announcement fields in the frame format: Channel Switch mode through Channel Switch count are as defined in the ECSA element.

**Proposed resolution: Revised**

While the initial design could have incorporated the ECSA directly, the design instead incorporated the fields directly, perhaps to eliminate inclusion of the element ID and length fields. No change is proposed by the commenter; and no change is made to the frame format definition, to preserve backwards compatability. To clarify that the Channel Switch Count field is used in the frame as per the element definition, change from

“…. until the STA sending the Extended Channel Switch Announcement element

switches to the new channel or a value of 0. A value of 1 indicates that the switch occurs immediately before

the next TBTT. A value of 0 indicates that the switch occurs anytime after the frame containing the element

is transmitted.

…, until the mesh STA sending the Channel Switch Announcement element switches to the new channel. A value of 0 for bits 6 to 0 indicates that the switch occurs at any time after the frame containing the element is transmitted. For example, a 200 TU channel switch time is encoded as X'82' and a 10 TU channel switch time is encoded as X'05'.”

to

“… until the STA sending the Channel Switch Count field

switches to the new channel or a value of 0. A value of 1 indicates that the switch occurs immediately before

the next TBTT. A value of 0 indicates that the switch occurs anytime after the frame containing the Channel Switch Count field is transmitted.

until the mesh STA sending the Channel Switch Count field switches to the new channel. A value of 0 for bits 6 to 0 indicates that the switch occurs at any time after the frame containing the Channel Switch Count field is transmitted. For example, a 200 TU channel switch time is encoded as X'82' and a 10 TU channel switch time is encoded as X'05'.”

**CID 1549**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1549 | 885.58 | 8.5.14.19 |  |  | "The value of the Length field is 16 or 43." is wrong | Change to "16 to 43", making sure the bounds are correct, if we haven't just deleted all this Length diarrhoea |  |

**Discussion:**

The comment is on the text describing the Length field in the WNM-Sleep mode GTK Sub-element format:



The commenter proposes changing from

“The value of the Length field is 16 or 43.”

To

“The value of the Length field is 16 to 43."

Agree, since the Key field can have a range of length values (5, 13, 16, 32).

**Proposed resolution: Revised**

Since CID 1429 deletes length fields in subelement definitions,  
Change

“The value of the Length field is 16 or 43”

To

“The Length field is defined in 8.4.3.”

**CID 1410**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1410 | 850.39 | 8.5.8.26 |  |  | Is there a difference between "antenna port" and "antenna connector"? Antenna Connector is a defined term, and used 33 times. Antenna port is never defined, and used 43 times. | Change all "antenna port" occurances to "antenna connector" |

**Discussion:**

The commenter observes that the terms “antenna port” and “antenna connector” are used throughout the standard, and “antenna connector” is defined, while “antenna port” is not.

The cited text at 850.39 is:

“The TOD field contains a timestamp that represents the time at which the start of the preamble of the

previously transmitted Timing Measurement frame appeared at the transmit antenna port.”

The definition of antenna connector (P6L58) is:

“**antenna connector:** The measurement point of reference for radio frequency (RF) measurements in a

station (STA). The antenna connector is the point in the STA architecture representing the input of the

receiver (output of the antenna) for radio reception and the input of the antenna (output of the transmitter). for radio transmission. In systems using multiple antennas or antenna arrays, the antenna connector is a

virtual point representing the aggregate output of (or input to) the multiple antennas. In systems using active antenna arrays with processing, the antenna connector is the output of the active array, which includes any processing gain of the active antenna subsystem.”

An example use of “antenna port” (P280L27) is “NOTE 1—In Figure 6-16 (Timing measurement primitives and timestamps capture), t1 and t3 correspond to the point in time at which the start of the preamble for the transmitted frame appears at the transmit antenna port.”

Agree with the commenter that the single defined term should be used; believe that use of “port” has the same meaning as in the defined “connector” definition.

**Proposed resolution: Accepted.**

**CID 1430**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1430 | 793.00 | 8.4.4 |  |  | The 2-octet Length field in ANQP elements sometimes appears to be the usual length in octets, but sometimes a count of subelements. Is this intentional? | If it is, put a NOTE for those which are not the usual "length of stuff afterwards in octets" |

**Discussion:**

The comment is on the ANQP element length field definition. The length field is defined in the “general” section at 794.58: “The Length field specifies the number of octets in the Information field and is encoded following the conventions given in 8.2.2 (Conventions).”

Subsequent Length field definitions for the individual elements are:

8.4.4.2 P 795.25: “The Length field is a 2-octet field whose value is set to 2 times the number of ANQP Query ID fields.”

8.4.4.3 P 795.60 The Length field is a 2-octet field whose value is set to 2 times the number of ANQP Capability fields following the Length field plus the sum of the lengths of the Vendor Specific ANQP-elements.

8.4.4.4 P 796.39 The Length field is a 2-octet field whose value is set to two plus the total length of the Venue Name Duple fields.

8.4.4.5 P 797.23 The Length field is a 2-octet field whose value is set to the total length of the Emergency Call Number Unit fields.

798.5: The Length field is a 2-octet field whose value is set to the total length of the Network Authentication Type Units fields.

799.27: The Length field is a 2-octet field whose value is set to the total length of the OI Duple fields.

800.5: The Length field is a 2-octet field whose value is set to the length of the OI field plus the length of the

Vendor Specific Content field.

800.34: The Length field is a 2-octet field whose value is set to 1. (single fixed length field)

801.50: The Length field is a 2-octet field whose value is set to 2 plus the total length of the NAI Realm Data fields.

805.33: The Length field is a 2-octet field whose value is set to the length of the Payload field.

805.60: The Length field is a 2-octet field whose value is set to 18. (single fixed length field)

806.22: The Length field is a 2-octet field whose value is set to the length of the Location Civic Report.

806.47: The Length field is a 2-octet field whose value is set to the length of the AP Location Public Identifier URI field.

807.12: The Length field is a 2-octet field whose value is set to the total length of the Domain Name Fields.

807.51: The Length field is a 2-octet field whose value is set to the length of the Emergency Alert Identifier URI field.

808.13: The Length field is a 2-octet field whose value is set to the length of Emergency NAI Information field.

808.36: The Length field is a 2-octet field whose value is set to the length of the Peer Information field (needs aperiod at the end of the sentence)

808.62: The Length field is a 2-octet field whose value is set to the number of octets in the Neighbor Report field.

Is the definition in the general section adequate, rendering the additional length definitions redundant? It seems to be, and would be consistent with our removal of the specific length defintions for elements to apply the same changes (CIDs 139, 137) here. (There is still an element ID/length fix to be applied at 790.42-45, and missing “is” after length at 780.35)

**Proposed resolution: Revised**

Delete the individual Info ID and length field statements from the element definitions in sections 8.4.4.2 through 8.4.4.19, replacing with a statement: “The Info ID and Length fields are defined in 8.4.4.1 (General).” except merge in any non-trivial semantics attached the length field.

**CID 1175**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1175 | 845.53 | 8.5.8.19 |  |  | The response to the QMF Policy Change frame should indicate that it includes any changes since the most recently received QMF Policy it received from the destination STA. | Change the following text "It indicates the new access categories requested for Management frame(s)"  to  "It indicates the new access categories requested for Management frame(s), including changes to the QMF policy it most recently received from the destination STA." |

**Discussion:**

The comment is on the description of the QMF policy element field:



The commenter observes that the QMF Policy Change frame should also indicate that it includes any changes since the most recently received QMF Policy it received from the destination STA, and proposes to change from:

"It indicates the new access categories requested for Management frame(s)"  
to  
"It indicates the new access categories requested for Management frame(s), including changes to the QMF policy it most recently received from the destination STA."

This change reflects information in the first sentence of this section “The QMF Policy Change frame uses the Action frame format and is transmitted by a requesting STA to request a change to the QMF policy it most recently received from the destination STA.” Agree with the change.

Discussion: are just changes sent, or the entire policy? Entire policy.

**Proposed resolution: Revised**

Change from:

"It indicates the new access categories requested for Management frame(s)"  
to  
"It indicates the access categories requested for Management frame(s), including any changes to the QMF policy it most recently received from the destination STA."

**CID 1102**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1102 | 1024.09 | 9.21.10.3 |  |  | Surely we could just cross-reference to some other part of the spec, without having to repeat the 11n expected response text? | Replace the paragraph between lines 9 and 20 with a reference to 9.19.3.2.4 |

**Discussion:**

The commenter observes that the process in the cited text is also used in another section and proposes to replace the following text:



With a reference to section 9.19.3.2.4 (Recovery from the absence of an expected reception).

The steps in the bullet lists at 1024.09 (9.21.10.3) and 985.30 (9.19.3.2.4) are the same. However, 9.19.3.2.4 deals with “Recovery from the absence of an expected reception”, and the text in 9.21.10.3 deals with “The beginning of reception of an expected response to a BlockAckReq frame”.

In this case, the current text is correct; it may add confusion to reference 9.19.3.2.4.

**Proposed resolution: Rejected**

The referenced text is correct. Rather than risk confusing the reader with a reference to part of a section that addresses a different topic, leave the text as is.

**CID 1151**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1151 | 1090.55 | 10.1.4.3.3 |  |  | The mesh STA is not using associations, it is generating peer links. Thus, there cannot exist an associated mesh STA. | Change the "An associated mesh STA... " to " A STA..." |

**Discussion:**

The comment is on text in 10.1.4.3.3 (Sending a probe response)



The commenter observes that a mesh STA does not use the association service, and suggest changing from

An associated mesh STA that receives a Probe Request frame shall not respond…

To

A STA that receives a Probe Request frame shall not respond…

While it is true that mesh STAs do not use the association service, they do use Probe Request and response frames, see for example 1090.9.

**Proposed resolution: Revised**

Change from

“An associated mesh STA that receives a Probe Request frame shall not respond…”

To

A mesh STA that receives a Probe Request frame shall not respond…”

**References:**