IEEE P802.11
Wireless LANs

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| Sponsor Ballot Proposed Resolutions of Comments in Clauses 7, 9 and 11 |
| Date: 2009-1-12 |
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Abstract

This submission proposes resolutions to comments in Clauses 7, 9 and 11.

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|  | **Sponsor Ballot Comment Resolution** |

1. **COMMENT:**

| **ID** | **Commenter** | **Page** | **Sub-clause** | **Ln** | **Comment** | **Proposed Change** | **Resolution Status/Detail** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1005 | Goodall, David |   |   |   | There does not appear to be a way to signal which rates are supported by a station. Only a subset of rates are mandatory in Clause 17 so a station supporting only mandatory rates may have difficulty receiving all packets. In addition how will new PHY rates be introduced to existing 802.11p installations in the future if there is no way to advertise their use? | Add a means for a station to advertise the rates that it supports before data frames are sent to it. | TBD |
| 1006 | Goodall, David |   |   |   | There is no advertisement of a basic rate set. How does a station know what rates to use for control frames? | Add a means for stations to know which rates to use for control frames. | TBD |
| 1011 | Armstrong, Lee | 17 | 11.3 | 53 | The added footnote is changing normative behavior, and thus cannot be a footnote. | Change the footnote into an in-line statement | Agree.1. On Page 17, line 53, remove the words “***to add a footnote to***” from the editing instructions
2. On Page 18 Line 1:
	1. Remove the underlining from “STA”
	2. Remove the superscript “1” after “STA”
	3. Insert "for which dot11OCBEnabled is false" after "A STA" and before "keeps two".

On Page 18, line 7, elevate the inserted sentence from a note to a regular sentence. |
| 1012 | Armstrong, Lee | 18 | 11.3 | 7 | The inserted footnote contains information that should be presented in body text. Also, authentication and assocition variables define a state that is used in filtering frames. What classes are frames when OCBEnabled is true? How are they filtered? | Remove footnote. Replace "A STA" at P18L1 with "A STA in which dot11OCBEnabled is true". Add note after it: "NOTE--For operation of a STA in which dot11OCBEnabled is true, see 11.20". | Principle.1. On Page 17, line 53, remove the words “***to add a footnote to***” from the editing instructions
2. On Page 18 Line 1:
	1. Remove the underlining from “STA”
	2. Remove the superscript “1” after “STA”
	3. Insert "for which dot11OCBEnabled is false" after "A STA" and before "keeps two".

On Page 18, line 7, elevate the inserted sentence from a note to a regular sentence. |
| 1014 | Armstrong, Lee | 18 | 11.2 | 18 | 11.3 also deals with frame classification. This is not used with OCBEnabled. | Add "classification" to the list after "association". | Agree.In item a) in 11.20, change the first part of the sentence to the following: “Synchronization, authentication, association, and classification” |
| 1026 | Vlantis, George | 18 | 11.2 | 24 | The statement "After a STA joins a BSS or if the STA is the AP within a BSS, dot11OCBEnabled shall be set to FALSE." lacks temporal scope. The MIB variable should be FALSE from the inception of associating with a BSS through disassociating with the BSS. Similarly, an AP is only obligated to set the MIB variable to TRUE while operating as an AP. | Change this statement to: "When a STA is joining a BSS and throughout its association with a BSS, or while the STA is the AP within a BSS, dot11OCBEnabled shall be set to FALSE." | Principle.Use the word “set” for the action of setting the value.Change the statement to: “When a STA joins a BSS, it shall set dot11OCBEnabled to FALSE. The STA shall keep dot11OCBEnabled false throughout its association with the BSS or while the STA is the AP within a BSS. |
| 1034 | Vlantis, George | 5 | 7.2.3.14 | 39 | Add the following citation to the "Notes" Field for the "Timestamp" row (Order 1): "See 7.3.1.10" | See comment. | (already done by CRC, resolution to CID 1008) |
| 1037 | Roebuck, Randal | 4 | 7.1.3.5.1 | 41 | PIC needs to be added for "No tracffic streams when dot11OCBEnabled is true" | Change from "traffic streams are not used" to "traffic streams shall not be used". Add PIC QP8. | DisagreePIC is not required for this functionality. |
| 1042 | Roebuck, Randal | 17 | 11.1 | 48 | PIC needs to be added for "No Synchronization Required to Common Clock" | Change "is not required" to "shall not be required" in last sentence. | DisagreePIC is not required for this functionality. |
| 1057 | Thomson, Allan | 8 | 7.3.2.65 | 41 | The Time Error field explanation is written in a way that implies it is the definition for all values of the Timing Capabilities | The text should be rewritten to clarify and structure for easy extension. See TGv document 09/1205r0 for proposed changes to 11p base text. | PrincipleMake the changes specified in 09/1205r1, with the following exceptions:1. Don’t use the word “set”, since that implies the action of setting a value
2. Only include the text for Timing Capabilities = 0 and 1, since those are covered in D9.0.
3. Rephrase the start of each bullet in the list since we are enumerating the fields used.

Therefore, in 7.3.2.65 change the paragraph immediately following Table 7-37b to the following paragraphs and two bullet points:When the value of the Timing Capabilities field is 0, no optional fields are included in the Time Advertisement information element.When the value of the Timing Capabilities is 1, the following fields are included in the Time Advertisement information element:* the Time Value field, a two’s complement integer in nanoseconds which, when added to the Timestamp present in the same transmitted frame, gives the receiving STA an estimate of the time standard at the time the frame was transmitted. .The Timestamp is derived from the TSP Timer as defined in 11.21
* the Time Error field, which is set to an unsigned integer in nanoseconds that defines the standard deviation of the error in the Time Value estimate
 |
| 1058 | Thomson, Allan | 8 | 7.3.2.65 | 35 | The text from P8L35 to P8L45 is not easily understood and hard to extend to other timing capabilities. | The text should be rewritten to clarify and structure for easy extension. See TGv document 09/1205r0 for proposed changes to 11p base text. | PrincipleMake the changes specified in 09/1205r1, with the following exceptions:1. Don’t use the word “set”, since that implies the action of setting a value
2. Only include the text for Timing Capabilities = 0 and 1, since those are covered in D9.0.
3. Rephrase the start of each bullet in the list since we are enumerating the fields used.

Therefore, in 7.3.2.65 change the paragraph immediately following Table 7-37b to the following paragraphs and two bullet points:When the value of the Timing Capabilities field is 0, no optional fields are included in the Time Advertisement information element.When the value of the Timing Capabilities is 1, the following fields are included in the Time Advertisement information element:* the Time Value field, a two’s complement integer in nanoseconds which, when added to the Timestamp present in the same transmitted frame, gives the receiving STA an estimate of the time standard at the time the frame was transmitted. .The Timestamp is derived from the TSP Timer as defined in 11.21
* the Time Error field, which is set to an unsigned integer in nanoseconds that defines the standard deviation of the error in the Time Value estimate
 |
| 1059 | Thomson, Allan | 7 | 7.3.2.26 | 2 | It is true that legacy devices will still understand legacy VS IEs, and even for unknown VS IEs of either format, the legacy device will correctly calculate the length of the VS IE of either format and correctly skip over them. Similarly, provided that the length of the OI can be determined internally from earlier bytes within the OI field, then any device that is 11p-enabled will understand the new format. However, this fix to the VS IE seems to be a partial fix only, since we have now seen WG members commenting on \*all\* instances of OUI in the draft, even when such a change would cause problems with legacy | If there is a need to generalize OUI to OI, then 11p should perform the job properly. OUIs are presently used in fixed and variable fields in the Cipher Suite IE (7.3.2.25.1), AKM Suite IE (7.3.2.25.2), KDE (8.5.2), MIB variables in Annex D. Fix, without breaking legacy. Else create a new VS IE for an OI. | TBD |
| 1060 | Thomson, Allan | 9 | 7.3.2.26 | 2 | It is true that legacy devices will still understand legacy VS action frames, and even for unknown action frames of either format, the legacy device will correctly discard over them. Similarly, provided that the length of the OI can be determined internally from earlier bytes within the OI field, then any device that is 11p-enabled will understand the new format. However, this fix to the VS frame seems to be a partial fix only, since we have now seen WG members commenting on \*all\* instances of OUI in the draft, even when such a change would cause problems with legacy | If there is a need to generalize OUI to OI, then 11p should perform the job properly. OUIs are presently used in fixed and variable fields in the Cipher Suite IE (7.3.2.25.1), AKM Suite IE (7.3.2.25.2), KDE (8.5.2), MIB variables in Annex D. Fix, without breaking legacy. Else create a new VS action frame for an OI. | TBD |
| 1061 | Thomson, Allan | 6 | 7.3.2.26 | 47 | The changes to vendor specific IE are causing many other issues in the base spec and other amendments. For example the RSN IE has OUI defined which is a fixed 3 octet field. However, some people are confused now that 11p has introduced a variable 3 or 5 octet vendor IE which represents OUI and OI. This change is causing unnecessary complication in both implementations and other specs. | Revert changes to the vendor specific IE to only be based on the 3 octet OUI and introduce a new IE to represent OI 5 octet value and make all other changes to 11p to address this change | TBD |
| 1063 | Kenney, John | 17 | 11.1 | 47 | The added sentence states that the mechanisms in 11.1 (including subclauses) are optional for a STA that has dot11OCBEnabled equal to true. Nevertheless, if such a STA decides to exercise the option to use one of these mechanisms, there may be conditional requirements that apply. Is this clear enough? For example, maintaining a TSF Timer becomes optional. If a STA opts to maintain a TSF Timer, presumably it must conform to the format indicated within 11.1, e.g. 64 bits with microsecond resolution. Should there be a statement noting that conditional requirements may apply if an optional mechanism is used? | Add a sentence to 11.1: "If a STA with dot11OCBEnabled true opts to use a mechanism defined herein, conditional requirements defined as part of the mechanism apply." | Agree.Add the following as the third sentence of 11.1: “If a STA with dot11OCBEnabled true opts to use a mechanism defined herein, conditional requirements defined as part of the mechanism apply." |
| 1064 | Kenney, John | 17 | 11.1 | 47 | I interpret the added sentence to mean that no "shall" in clause 11.1 (including subclauses) is required when dot11OCBEnabled is true. However, first sentence of 802.11-2007 11.1.2.3 says "STAs shall use information from the CF Parameter Set elementof all received Beacon frames, without regard for the BSSID, to update their NAV as specified in 9.3.2.2." I believe that requirement holds even for a STA that has dot11OCBEnabled equal to true, if that STA is operating in a band in which CF is being used. So, there appears to be a contradiction between the statement added to 11.1 and this requirement. There may be others within 11.1 as well. | Clarify whether this, or any other requirement in Clause 11.1 (including subclauses), applies to a STA for which dot11OCBEnabled is true. Since the added statement in 11.1 appears to make all of the rest of the clause optional for such a STA, if there is something that is truly a requirement, consider repeating it in 11.20. | Principle.[insert Resolution from CID 1010/1015 here] |
| 1065 | Kenney, John | 18 | 11.3 | 1 | Rather than use the footnote approach, include a full sentence for each of the two cases of dot11OCBEnabled. | In Line 1 remove the footnote and insert "for which dot11OCBEnabled is false" after "A STA" and before "keeps two". In line 7, elevate the inserted sentence from a note to a regular sentence. | Agree.1. On Page 17, line 53, remove the words “***to add a footnote to***” from the editing instructions
2. On Page 18 Line 1:
	1. Remove the underlining from “STA”
	2. Remove the superscript “1” after “STA”
	3. Insert "for which dot11OCBEnabled is false" after "A STA" and before "keeps two".
3. On Page 18, line 7, elevate the inserted sentence from a note to a regular sentence.
 |
| 1066 | Kenney, John | 18 | 11.2 | 18 | Item (a) excludes synchronization, authentication and association. It does not exclude data confidentiality. Clause 5.3.1 states that the data confidentiality service is not used, but this is informative text. It would be appropriate to exclude data confidentiality in a normative section. | In item (a) insert the following sentence between the two existing sentences: "Data confidentiality as defined in Clause 8 is not used." | Agree.In item (a) insert the following sentence between the two existing sentences: "Data confidentiality as defined in Clause 8 is not used." |
| 1067 | Kenney, John | 18 | 11.2 | 18 | Item (a) allows a STA with dot11OCBEnabled equal to true to send a Timing Advertisement frame. However, that is only possible if the STA maintains a TSF timer, which is optional for such a STA. | Change "subtype Action and Timing Advertisement" to "subtype Action and, if the STA maintains a TSF Timer, subtype Timing Advertisement." | Agree.In item (a) of 11.20, change "subtype Action and Timing Advertisement" to "subtype Action and, if the STA maintains a TSF Timer, subtype Timing Advertisement." |
| 1068 | Kenney, John | 18 | 11.2 | 24 | The use of the word "after" implies a sequencing that is not intended. How long after? Furthermore, the text doesn't say that dot11OCBEnabled should be false, it says it shall be "set to FALSE." This implies it was true and there is a transition. This should be stated explicitly, or the statement should simply be that the value "is" false. | Make this sentence part of the lettered list above, as item (f), so that it is predicated on "When dot11OCBEnabled is true in a STA". Word item (f) as: "If the STA joins a BSS or becomes the AP within a BSS the STA shall set dot11OCBEnabled to FALSE." | Principle.Use the word “set” for the action of setting the value.Change the statement to: “When a STA joins a BSS, it shall set dot11OCBEnabled to FALSE. The STA shall keep dot11OCBEnabled false throughout its association with the BSS or while the STA is the AP within a BSS. |
| 1069 | Kenney, John | 18 | 11.21.1 | 34 | The first sentence of this subclause is incorrect. By virtue of the added sentence in 11.1, clause 11.1.2 is optional for a STA that has dot11OCBEnabled equal to true. Such a STA need not maintain a TSF Timer. So, it is not true that "each STA maintains a TSF timer," let alone that each STA does so for sychronization purposes. A reader would be justified in interpreting this sentence, in conjunction with 11.1, to mean that the Timing Advertisement can only be sent by a STA with dot11OCBEnabled equal to false, but I know this is not the intent. | Change the first sentence of 11.21 to: "The Timing Advertisement management frame may be sent by any STA that maintains a TSF Timer." | Principle.[insert Resolution from CID 1010/1015 here] |
| 1070 | Kenney, John | 18 | 11.21.2 | 53 | The term "Local Time" is defined in terms of the receiver's TSF Timer. If a STA without a TSF Timer receives a Timing Advertisement frame, this definition is not applicable. | Change the start of the sentence from "For a STA eceiving a Timing Advertisement frame" to " For a STA that maintains a TSF Timer and receives a Timing Advertisement frame". Insert a sentence after this sentence: "Otherwise, the Local Time is unspecified." | Agree.Change the start of the sentence from "For a STA eceiving a Timing Advertisement frame" to " For a STA that maintains a TSF Timer and receives a Timing Advertisement frame". Insert a sentence after this sentence: "Otherwise, the Local Time is unspecified." |
| 1090 | Ecclesine, Peter | 18 | 11.3 | 1 | You cannot make a normative requirement in a footnote. This statement should be about state variables by station pair, and fails to distinguish when the stations are communicating in a BSS context and outside the context of a BSS, if both are possible (like in U-NII and ITS concurrently). | Since you are playing with fire, rewrite this to make clear if both contexts between a station pair are possible, in one context these states are not used, and in the other context (dot11OCBEnabled is false or not present) they are. | Principle.1. On Page 17, line 53, remove the words “***to add a footnote to***” from the editing instructions
2. On Page 18 Line 1:
	1. Remove the underlining from “STA”
	2. Remove the superscript “1” after “STA”
	3. Insert "for which dot11OCBEnabled is false" after "A STA" and before "keeps two".

On Page 18, line 7, elevate the inserted sentence from a note to a regular sentence. |
| 1094 | Kenney, John | 5 | 7.2.3.14 | 47 | Is the Time Advertisement IE an optional element in a Timing Advertisement frame? If so, the Notes column should say so. The notes column refers to clause 7.3.2.65, which does not indicate whether it is optional or not | Insert "Optional." before "See 7.3.2.65" in the notes column | Principle.The Time Advertisement IE is mandatory. |
| 1100 | Kenney, John | 7 | 7.3.2.29 | 42 | The values for CWmin are suboptimal in an environment where the primary QoS metric is collision rate, not latency, as is likely to be the case in a vehicular environment. | Change CWmin to aCWmin for all ACs | Principle..There are typographical errors in Table 7-37a.Change the “CWmin” column entries to match the corresponding entries in the “CWmin” column of Table 7-37 in IEEE 802.11-2007. |
| 1116 | Mcnew, Justin | 5 | 7.1.3.14 | 43 | Country information element usage implies the setting of specific MIB attributes. Does this mean DFS and TPS are required? | Explain usage for OCB or make the field optional | Agree.Make the item optional.In Table 7-18a, insert "Optional." before "The Country information element..." in the “Notes” column |
| 1117 | Mcnew, Justin | 5 | 7.1.3.14 | 46 | Power constrain information element usage implies the setting of specific MIB attributes. Does this mean DFS and TPS are required? | Explain usage for OCB or make the field optional | Agree..Power Constraint is already optional. |
| 1118 | Mcnew, Justin | 8 | 7.3.2.65 | 30 | UT0 is not the correct reference. Also applies to line 44 | Change to UTC and verify the ITU-R reference | Agree.1. In Table 7-37b, in the “Value” = 1 row and the “Notes” column:
	1. Change “UT0” to “UTC”
	2. Change “clause 2 - ITU-R TF.460-6” to “Annex I ITU-R 460-4
2. In Page 8, Line 44, change “UT0” to “UTC”
3. In clause 2, change “TF.460.6 (2002), Standard-frequency and time-signal emissions” to “TF.460-4 Standard-Frequency and Time-Signal Emissions**”**
 |
| 1123 | Chaplin, Clint | 18 | 11.3 | 7 | The added footnote is changing normative behavior, and thus cannot be a footnote. | Change the footnote into an in-line statement | Agree.1. On Page 17, line 53, remove the words “***to add a footnote to***” from the editing instructions
2. On Page 18 Line 1:
	1. Remove the underlining from “STA”
	2. Remove the superscript “1” after “STA”
	3. Insert "for which dot11OCBEnabled is false" after "A STA" and before "keeps two".

On Page 18, line 7, elevate the inserted sentence from a note to a regular sentence. |
| 1124 | Kwak, Joseph | 8 | 7.3.2.65 |  | The 10 byte Time Value in nanoseconds is described as UT0 time offset. However the t=0 value for this 10 byte field is not clearly defined. It may be that the authors intended the nanosecond time base to start at UT0 = 0. But UT0 = 0 time is not generally known and is subject to ambiguity. UT0 = 0 may be defined to be the first instant of the first day of the UT0 year 1 BC. This is because UT0 does not include a year = 0. The year 1BC is followed by the year 1AD. Defining the time standard t= 0 this way would be clumsy, a bit counter-intuitive and subject to misunderstanding. | The proposed solution is to use the origin of the TAI timescale (as defined in ITU-R TF.460-4) as the t=0 value of the nanosecond time base. New draft text should be inserted into the usage column of Table 37b for the value 1: " The time stamp offset Time Value in nanoseconds is defined to be zero at the beginning of the first nanosecond of the first day of the year1958 in UT0." Proposed normative text is provided in document 11-09-0761r1. | Principle.In Table 7-37b, in the “Value” = 1 row and the “Notes” column, add a new sentence at the end: “The Timestamp offset value in nanoseconds is defined to be 0 at the beginning of the first nanosecond of the first day of the year 1958.” |
| 1125 | Kwak, Joseph | 8 | 7.3.2.65 |  | . The Time Error field is defined in nanoseconds, but there is no assigned special value to define the case when the STA has a Time Value, but does not know the time error. | . A new sentence to define a special value when time error is unknown is added: " The value of 0 is used to indicate that the time error is unknown." Proposed normative text is provided in document 11-09-0761r1. | Principle.Add a new sentence to the end of the last paragraph of 7.3.2.65: “The value of 0 is used to indicate that the error is unknown” |

1. **Background**

This submission proposes the resolutions to comments in Clauses 7, 9 and 11.

**References:**