
IEEE P802.11
Wireless LANs

**11k Sponsor Ballot Conditional Report to EXCOM for Sending
D12.0 to REVCOM****Date:** 2008-02-15**Author(s):**

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Abstract

This document is the conditional report to EXCOM for sending D12.0 to REVCOM.

IEEE P802.11 Wireless LANs
Radio Resource Measurement of Wireless LANs
802.11k Conditional Report to EXCOM to forward D12.0 to REVCOM

Date: 2007-2-15

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Abstract

This is the report to be submitted to the IEEE 802 Executive Committee, documenting that the P802.11k 5th recirculation ballot on 802.11k draft 12.0 meets all the requirements of conditional approval to forward document D12.0 to REVCOM.

This report to the 802 Executive Committee documents the conditions in Clause 19, as they apply to the final sponsor ballot recirculation ballot on draft 12.0 of IEEE 802.11k.

From the 802 LMSC Policies and Procedures, Clause 19:

Reporting from Clause 19:

- Date the ballot closed
 - Vote tally including Approve, Disapprove and Abstain votes
 - Comments that support the remaining disapprove votes and WG responses.
 - Schedule for recirculation ballot and resolution meeting.
-
- 5th Recirculation Dates and Vote Tally

Ballot Open Date: 02/04/2008

Ballot Close Date: 02/14/2008

RESPONSE RATE

This ballot has met the 75% returned ballot requirement.

135 eligible people in this ballot group

105 affirmative votes

5 negative votes with comments

0 negative votes without comments

5 abstention votes

115 votes received = 85% returned

4% abstention

APPROVAL RATE

The 75% affirmation requirement is being met:

105 affirmative votes

5 negative votes with comments

110 votes = 95% Affirmative

- Comments that support the remaining disapprove votes are attached. The attached comment report includes the Comment Resolution Committee resolutions, rationale for rejection, and rationale for ruling any comment invalid.
- 11k Sponsor Ballot has completed its 5th recirculation with no changes to D12.0 which concluded on 2008-02-14.

The actual conditions from Clause 19 of the 802 Policies and Procedures are shown in blue and the condition responses in black:

Where a voter has accepted some comment resolutions and rejected others, only the comments of which the voter has not accepted resolution should be presented.

When conditional forwarding to LMSC ballot has been approved, the conditions shall be met before initiating LMSC ballot. When conditional forwarding to RevCom has been approved by the EC, the submittal may be forwarded to RevCom before the conditions have been fulfilled in order to meet the submittal requirements for the next RevCom meeting. However, the submittal shall be withdrawn from the RevCom agenda if the conditions have not been met one week before the RevCom meeting.

Conditions:

a) Recirculation ballot is completed. Generally, the recirculation ballot and resolution should occur in accordance with the schedule presented at the time of conditional approval.

- P802.11k 5th Recirculation Dates

5th Recirculation Sponsor Ballot Open Date: 2008-2-4

5th Recirculation Sponsor Ballot Close Date: 2008-2-14

This completion date meets the schedule presented in the November Atlanta meeting that was the conditional approval date. The conditional approval schedule was to be completed before the next 802 plenary in Orlando.

b) After resolution of the recirculation ballot is completed, the approval percentage is at least 75% and there are no new DISAPPROVE votes.

- P802.11k 5th Recirculation Vote Tally:

105 Approve

5 Disapprove

5 Abstain

115 Total

95% Affirmative with no new DISAPPROVE votes

This meets the required 75% criteria.

c) No technical changes, as determined by the WG Chair, were made as a result of the recirculation ballot.

No technical changes were made as a result of the P802.11k 5th recirculation ballot.

d) No new valid DISAPPROVE comments on new issues that are not resolved to the satisfaction of the submitter from existing DISAPPROVE voters.

No new valid DISAPPROVE comments on new issues were received in the P802.11k 5th recirculation ballot.

e) If the WG Chair determines that there is a new invalid DISAPPROVE comment or vote, the WG Chair shall promptly provide details to the EC.

Only 2 comments were received in the 5th recirculation ballot. These two comments were ruled invalid for the 5th recirculation ballot. These two comments are resubmissions by the original voter of DISAPPROVE comments he submitted in the 4th recirculation. These two comments are not comments on changed text for the 5th recirculation and are therefore ruled invalid for the 5th recirculation ballot.

f) The WG Chair shall immediately report the results of the ballot to the EC including: the date the ballot closed, vote tally and comments associated with any remaining disapproves (valid and invalid), the WG responses and the rationale for ruling any vote invalid.

This report provides all the information listed above in condition f).

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IEEE P802.11k D12.0 Radio Ressource Measurement - Sponsor Ballot Dissapprove Voter Reject comments

CI 11k-D8. SC D P127 L # 7

Paine, Richard Individual

Comment Type T Comment Status R

LB96#18-Aboba: The modified IEEE 802.11 MIB, including all the changes, does not appear to have been run through a MIB compiler to test whether it will compile.

SuggestedRemedy

Issue a MIB file including all of the changes, then run the updated MIB through a MIB compiler, correcting the errors.

Response Response Status C

REJECT.
This comment will be addressed after D9.0.

CI 11k-D8. SC 7.3.2.21 P17 L17 # 230

Hansen, C Individual

Comment Type TR Comment Status R

there's no restriction on how often a measurement request can be made. what is the expected behavior if this happens?

SuggestedRemedy

set maximum frequency allowable for measurement requests to once per 30 secs

Response Response Status C

REJECT.
A STA has the option to reject a measurement (11.10.4). P88L7 indicates that only one measurement request frame may be active in any STA at any time. A new measurement request frame may be sent at any time (no time or frequency limitation) to supercede the prior measurement request frame.

CI 11k-D8. SC 11.1 P85 L35 # 232

Hansen, C Individual

Comment Type TR Comment Status R

There are no guidelines or limits defined in this section for how often measurements can be made. This is unacceptable. All measurements will have an effect on the network capacity and the throughput available to stations incorporating these measurements. Implementations need guidance from the IEEE as to how often to make these measurements.

SuggestedRemedy

Add new text describing typical scenarios for how measurements are to be used.

Response Response Status C

REJECT.
Rate, range, transmit power, regulatory classes, location, are all delimiters on the ability to provide services. The requirements and issues document produced by 11k provide those scenarios and the justification for a measurement service (02/508rX).

CI 11k-D8. SC 11.10.2 P86 L24 # 233

Hansen, C Individual

Comment Type TR Comment Status R

accuracy of +/- 1 TU is with respect to what point in time? one measurement may require multiple accesses to the radio, and those radio requests may not be serviced immediately

SuggestedRemedy

remove accuracy mandate

Response Response Status C

REJECT.
REJECT TGk does not specify a measurement start time. The accuracy requirement referenced here is the accuracy of the reported actual measurement start time. Processing delays to initiate a measurement are permitted and do not affect the reported actual start time accuracy. Refer to Clause 11.1 for BSS synchronization accuracy requirements.

IEEE P802.11k D12.0 Radio Ressource Measurement - Sponsor Ballot Dissapprove Voter Reject comments

CI 11k-D8. SC 11.10.5 P89 L13 # 234
 Hansen, C Individual

Comment Type TR Comment Status R

"NOTE--Since measurements on non-operating channels could potentially degrade a station's performance, non-operating channel measurements should be requested sparingly and for short durations." This language is too weak and does not do enough to protect network performance from poorly organized or excessive measurement requests that could severely degrade QoS. Don't leave this to the WiFi alliance to solve. This should be resolved in the IEEE.

SuggestedRemedy

Add specific requirements for when non-operating channel measurements can be made. For example, if an AP has data queued for a particular STA it is not allowed to request non-operating channel measurements for that STA. This needs to be a requirement on the AP, not on the STA. Only STAs have low activity (in terms of communicated data frames in either direction with the AP) should be requested to make non-operating channel measurements.

Response Response Status C

REJECT.
 The suggested remedy is beyond the scope of 11k, e.g. if the measuring STA is operating on a noisy channel the user's policy may be to find a quieter channel, requiring higher than normal priority for off-channel measurements. For busy STAs, clause 11.10.4 describes how measurements may appropriately be refused.

CI 11k-D9. SC I P183 L1 # 1154
 Chaplin, Clint Individual

Comment Type T Comment Status R

WM: The scope of this amendment, as stated in the PAR, is "This project will define Radio Resource Measurement enhancements to provide interfaces to higher layers for radio and network measurements." This does not include changes to regulatory matters

SuggestedRemedy

Delete the changes to AnnI, and submit them to TGmb, or to a Task Group that includes regulatory matters in its scope.

Response Response Status C

REJECT.
 802.11-2007 defines operation in Part 15 license-exempt bands for several PHYs, and this amendment enhances operation with means to specify radio measurements in those bands. To specify the radio channel for measurement, this amendment creates Regulatory Classes for Part 15 license-exempt bands, so that the combination of Regulatory Class and Channel Number uniquely specify channel measurement parameters e.g., channel bandwidth. 11k would be incomplete and incorrect without these changes.

CI 11k-D9. SC J P185 L1 # 1155
 Chaplin, Clint Individual

Comment Type T Comment Status R

WM: The scope of this amendment, as stated in the PAR, is "This project will define Radio Resource Measurement enhancements to provide interfaces to higher layers for radio and network measurements." This does not include changes to regulatory classes

SuggestedRemedy

Delete the changes to AnnJ, and submit them to TGmb, or to a Task Group that includes regulatory matters in its scope.

Response Response Status C

REJECT.
 802.11-2007 defines operation in Part 15 license-exempt bands for several PHYs, and this amendment enhances operation with means to specify radio measurements in those bands. To specify the radio channel for measurement, this amendment creates Regulatory Classes for Part 15 license-exempt bands, so that the combination of Regulatory Class and Channel Number uniquely specify channel measurement parameters e.g., channel bandwidth. 11k would be incomplete and incorrect without these changes.

IEEE P802.11k D12.0 Radio Ressource Measurement - Sponsor Ballot Dissapprove Voter Reject comments

CI 11k-D9. SC 11.10.11 P143 L10 # 1181

Engwer, Darwin Individual

Comment Type ER Comment Status R

Values of mib objects are typically not detailed in the operational clauses of the standard.

SuggestedRemedy

Move table 11-11 to the appropriate section of AnnD (or AnnQ as appropriate).

Response Response Status C

REJECT.
 Since the dot11MeasurementPilotCapability requires a detailed description and the sub-clauses of 11.10.11 refer to the description while describing the Measurement Pilot generation procedure. Having the table in 11.10.11 makes it easier for the reader to understand the settings. In the interest of clarity, this description deviates from the norm.

CI 11k-D9. SC 11.10.3 P127 L35 # 1183

Engwer, Darwin Individual

Comment Type TR Comment Status R

The added text addresses the issue of measurement activity load on a STA that receives measurement requests, but does not adequately address the point raised in SB01-CID 230 (or LB78-CID-957).

The volume of measurement requests issued by a transmitting/ requesting station must be duty cycle limited in some way in order to avoid complete domination of the available network air time by measurement requests, especially in environments with hundreds or thousands of colocated STAs.

SuggestedRemedy

Add some mechanism to allow the duty cycle of measurements to be controlled wrt real data laden traffic.

Response Response Status C

REJECT.
 The issue is not the % of wireless capacity or STA capacity used by radio measurements, it is to consider each STA's service load, power state and operating conditions. The AP has to consider traffic load and application requirements, regulatory requirements and specific measurement states from every STA in support of wireless network management. Guidelines and limits would have to consider regulatory requirements like 4 msec carrier sense and the detection of one microsecond radar pulses in Japan. There are no typical scenarios that describe 802.11 operation in all bands in most circumstances. Off-channel measurements are desirable to gather timely information about which channel to switch BSS operation to, and the noisier the operating environment, the more urgent the need for radio measurements off the serving channel. In any case, the STA can refuse any measurement request. We are unable to support a limit to measurements which precludes 'normal' 802.11 operation in a noisy environment, where collisions cause many retries.

IEEE P802.11k D12.0 Radio Ressource Measurement - Sponsor Ballot Dissapprove Voter Reject comments

CI 11k-D12 SC 7.3.3 P16 L10 # 4001

Chaplin, Clint Individual

Comment Type ER Comment Status R

This sub-section should not be numbered 7.3.3; it needs to come before all the 7.3.2.xxx information element descriptions. And, unfortunately, you cannot make a single sub-section.

SuggestedRemedy

Re-number as 7.3.2.1, or something like that.

Response Response Status C

REJECT.
The referenced text is correct, but improperly placed in the TGk draft (D12.0). Prior to publication the publication editor shall move text at P16L9-L29 and insert this text at P73L25. Page and line references are in the clean draft (D12.0). Please note that the IEEE standards are edited professionally before publication.

CI 11k-D12 SC 7.3.2.21.10 P33 L49 # 4002

Chaplin, Clint Individual

Comment Type TR Comment Status R

"The Sub-element ID field values for the defined optional sub-elements are shown in Table 7-29n. A Yes in the Extensible column of a sub-element listed in Table 7-29n indicates that the Length of the sub-element might be extended in future revisions or amendments of this standard. When the Extensible column of an element is set to Sub-elements, then the sub-element might be extended in future revisions or amendments of this standard by defining additional sub-elements within the sub-element. See 9.14.2." "Might be" or "can be"? Is this intended to be a warning, or a restriction on how the element might be extended? And why is a distinction being made between extending through simple data addition and through sub-elements? As far as the parser is concerned, it doesn't matter. Also, "When the Extensible column of an element is set to Sub-elements, then the sub-element might be extended in future revisions or amendments of this standard by defining additional sub-elements within the sub-element" will also extend the Length of the sub-element.

SuggestedRemedy

"The Sub-element ID field values for the defined optional sub-elements are shown in Table 7-29n. When the Extensible column of a sub-element is set to a value, then the sub-element might be extended in future revisions or amendments of this standard. If this value is "Yes", then this extension will be done by adding data onto the end of the sub-element; if this value is "Sub-elements", then the extension will be done by defining additional sub-elements within the sub-element. See 9.14.2."

Response Response Status C

REJECT.
We can see no technical difference in the proposed change to existing text. The simplified language and changing a period to a semi-colon we see as editorial. Consideration to this editorial item will be given by the editor prior to publication.

IEEE P802.11k D12.0 Radio Ressource Measurement - Sponsor Ballot Dissapprove Voter Reject comments

CI 11k-D12 SC Q P162 L12 # 4003

Chaplin, Clint Individual

Comment Type ER Comment Status R

"Max Measurement Duration in TUs = 2^{<superscript>}
(dot11RRMMaxMeasurementDuration - 4)^{</superscript>} * BeaconInterval"
Looks like some sort of formatting directives became text

SuggestedRemedy

delete the extraneous text, and format correctly

Response Response Status C

REJECT.
The format in the draft text is defined in SNMP v2 as the correct way to indicate superscripting of characters.

CI 11k-D12 SC Q P162 L21 # 4004

Chaplin, Clint Individual

Comment Type ER Comment Status R

"Non-OpMax Measurement Duration in TUs = 2^{<superscript>}
(dot11RRMNonOperatingChannelMaxMeasurementDuration - 4)^{</superscript>} * BeaconInterval"
Looks like some sort of formatting directives became text

SuggestedRemedy

delete the extraneous text, and format correctly

Response Response Status C

REJECT.
The format in the draft text is defined in SNMP v2 as the correct way to indicate superscripting of characters.

CI 11k-D12 SC Q P181 L47 # 4005

Chaplin, Clint Individual

Comment Type TR Comment Status R

"FALSE::= { dot11RRMRequestEntry 36 }" This is the only place where the attribute is explicitly set to FALSE. No other place is this done.

SuggestedRemedy

"::= { dot11RRMRequestEntry 36 }" to delete the FALSE

Response Response Status C

REJECT.
We deem this comment to be editorial. This editorial change and any other editorial MIB changes required for error free compilation will be made by the editor prior to publication.

CI 11k-D12 SC Q P181 L47 # 5001

Chaplin, Clint Individual

Comment Type TR Comment Status R

This is in reference to my comment from the previous recirculation:
""FALSE::= { dot11RRMRequestEntry 36 }" This is the only place where the attribute is explicitly set to FALSE. No other place is this done."
with the suggested resolution of:

"::= { dot11RRMRequestEntry 36 }" to delete the FALSE

First of all, calling the comment "editorial" (as you recategorized it) or "technical" (my original categorization) doesn't change the way you are allowed to address the comment. Secondly, the IEEE may employ professional editors to clean up drafts before they are published, but those editors are not experts in the subject matter contained in the draft, and therefor cannot make the correct technical decision to fix a subject matter error: only the people in the ballot resolution committee are the subject experts. Asking a non-subject expert to fix a subject error in a draft is asking them to do a job they cannot do (in fact, perhaps one way to make the determination if a problem is technical or editorial is if a non-subject expert could correctly fix the problem or not). In this case, I mantain that a non-subject expert could not successfully correct this error, and thus it is technical, and should be fixed by the comment resolution committee in the draft during balloting.

SuggestedRemedy

Change "FALSE::= { dot11RRMRequestEntry 36 }" to "::= { dot11RRMRequestEntry 36 }"

Response Response Status C

REJECT.
This comment is not a new comment within the scope of this recirculation. This comment and the approved resolution will be forwarded to the SA editor for consideration prior to publication. The proposed change is entirely and exactly the work to be performed by the editor.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID # 5001

2/15/2008 2:46:32 PM

IEEE P802.11k D12.0 Radio Ressource Measurement - Sponsor Ballot Dissapprove Voter Reject comments

CI 11k-D12 SC 7.3.3 P16 L10 # 5002
 Chaplin, Clint Individual

Comment Type TR Comment Status R

This is in reference to my comment from the previous recirculation:
 This sub-section should not be numbered 7.3.3; it needs to come before all the 7.3.2.xxx information element descriptions. And, unfortunately, you cannot make a single sub-section with my proposed resolution:
 Renummer as 7.3.2.1, or something like that.
 And your rejection:
 REJECT. The referenced text is correct, but improperly placed in the TGk draft (D12.0). Prior to publication the publication editor shall move text at P16L9-L29 and insert this text at P73L25. Page and line references are in the clean draft (D12.0). Please note that the IEEE standards are edited professionally before publication.
 Your change that you suggest you will do strikes me as rather technical in nature, not editorial; moving text from one point in the draft to another point 57 pages later cannot be called editorial, and is probably a "substantive" change, and therefor needs to be balloted.

SuggestedRemedy

Move text currently located at P16L9-L29 and insert this text at P73L25.

Response Response Status C

REJECT.
 This comment is not a new comment within the scope of this recirculation. This comment and the approved resolution will be forwarded to the SA editor for consideration prior to publication. The proposed change is entirely and exactly the work to be performed by the editor.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
 COMMENT STATUS: D/dispatched A/accepted R/rejected RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
 SORT ORDER: Comment ID

Comment ID # 5002

2/15/2008 2:46:32 PM