

Minutes, IEEE 802.16 Task Group 1, Session #10.5

Prepared by Ron Meyer

[see also the [Informal Report](#)]

December 12, 2000

The meeting began at 9:00 AM and worked tasks 1 through 7 until noon.

- 1) Vladimir reviewed his presentation on: Reference model & generic PHY service definitions
- 2) The discussion on the reference model modifications generated the following action items
 - 3) Vladimir will generate a new system reference model that reflects the changes the group made as shown on the hand drawn paper version
- 4) Glen reviewed his presentation on: Proposed updates to the document to restructure it to support one MAC but multiple PHYS.
- 5) It was agreed that all messages would be placed in one section (clause)
- 6) It was agreed that the SDL included in the present version of the document was not complete. It was also agreed that a complete protocol in SDL is desirable. However, it will not be included in this revision of the document. SDL can be added later after the document has been released.
- 7) The issue of data padding will be addressed in the next general meeting of 802.16.1 in January. It has come up as a by-product of the discussion on the possibility of multiple PHY definitions, each of which might support different data block sizes.

The meeting reconvened at 1 PM, tasks 8 through 14 were worked until 6:00 PM.

- 8) A new section is needed for a Physical Layer Management Entity / Service Access Point (PLME/SAP)
- 9) Which primitives are necessary for a PHY mode to communicate with the MAC? This will be inserted into the document based on Vladimir's input.
- 10) The PHY section needs a new outline, one that is based more on the original document scheme than Glen's latest rewrite. The PHY sub-group will work the outline that supports the fact that each PHY is completely encapsulated and must interface to the MAC through the MAC "port".
- 11) Glen will work the MAC outline to include the basic changes discussed.
- 12) Andy Ickowicz will complete as much of the document reorganization as possible by the end of Wednesday. Juan Carlos will work the database update.
- 13) Two SAPs need to be added: the PHY ME, PHY.
- 14) TLVs will be addressed by Ken.

December 13, 2000

The meeting began at 8:15 AM and worked tasks 1 and 2 as listed. The meeting broke for lunch between noon and 1 PM, then resumed activities and broke into 4 work groups (as listed in task 3) that proceeded until 5:30 PM.

- 1) A review was made of the updates to the Rev 4 version of the document to help determine which of the outstanding comments were still in need of input from the responsible individuals. Those present who were responsible for particular comments noted their status, this was updated in the documentation by the editor, Andy.
- 2) Jay showed his revision of the latest PHY outline. Changes to clarify that portion of the document and make it amenable to the addition of new PHY modes were discussed. Material that is duplicated in several places will be revised to be shown in one location, and a pointer will be included wherever needed to refer back to it. Minimal changes are to be made to the structure, Vladimir, Jay, and Glen will work the restructuring of the document to reflect the new version of the reference model. A group needs to review the MAC portion for those sections of text and parameters that need to be moved to the PHY section and be defined.
- 3) Four groups formed to address the various issues to be addressed: a) MAC section information that needs to be moved to the PHY section, b) resolution of the remainder of the action items remaining from the last general meeting, c) a revision of the overall architecture of the document through a rework of the table of contents, d) PHY SAP construction.

December 14, 2000

The meeting began at 8:15 AM and concluded about 4:30 pm.

Report of progress of each task group from yesterday's work.

- 1) Task b) from Wednesday is mostly complete. All of the comments from the MAC that have been completely submitted have been incorporated. The PHY section comment list has not been completed, but it is anticipated that it will be complete by the end of

Thursday, at least for those items which have full instructions showing how to implement the comment. Task c) has completed a revision of the outline and accomplished a partial reorganization of the text that needs to be placed in the new order. Task a) generated a listing of 25 instances of information that was buried in the MAC section that needs to be transferred to the PHY section to complete the extraction of PHY information from the MAC. Roughly 20 of these instances have been completed, the easy sections where a few lines of text have been deleted from their original position and inserted into the draft outline provided by Glen. The largest section, 2.6, has not been worked because a movement of text that was not completely updated per the Rev 4 comment process would not have been productive. Task d) has defined a set of primitives that form the basis of the SAP. Each PHY section, however, has not been updated to include the primitives that are needed to support them; this task must be completed as each PHY section is being built. A technical question arose regarding the length of the MAC data field structure (if it includes indications that data was lost), what function checks the validity of the CRC, and under which circumstances does a message get discarded.

2) Thursday's tasks break out as follows: Task d) Vladimir will work on completing the text changes for the SAP and Sergio is completing the diagrams which will be incorporated into the latest revision of the document. Task a) will work the insertion of 2.6 into the reworked outline provided by Glen (Carl, Ken, and Ron). Task b) will complete incorporation of the remaining PHY comments into the Rev 4 update (Andy I. and Juan-Carlos). Task c) has completed the outline reconfiguration and will work the missing figure issues (Glen).

Task a) activities:

- 1) Figure 2, TDD Frame Structure, needs to be changed to take out the equation for NPS, leaving NPS as a label for the figure.
- 2) Text modifications inserted to make this section generic are added in blue.

MAC Section information to be moved to the PHY section:

- 1) Page 4 line 5 and 6 physical slot definition needs to be modified and inserted in 10.3
- 2) Page 32 line 7 text should read "DL-MAP" message not the "sync interval"
- 3) Page 32 line 12, needs to be addressed at the next general meeting, it is not clear MAC or PHY
- 4) Page 33 line 47 should be moved to 10.3
- 5) Page 35 line 1 to 14 should be moved to 11.2.3.1
- 6) Page 35 line 62 to page 36 line 8 should be moved to 11.2.3.1
- 7) Page 40 line 33 to 46 should be moved to 11.2.3.1
- 8) Page 68 Table 7 should be moved to 11.2.3.1.2.1
- 9) Page 71 and 72, Table 9 should be moved to 11.2.3.1.2.2
- 10) Page 74 Table 10 should be moved to 11.2.3.1.3.1, and note that any text that points to these tables 9 and 10 needs to be changed
- 11) Page 75 Threshold delta, has this been updated to hi and low vs absolute values?
- 12) Page 76 Table 12 should be moved to 11.2.3.1.3.2
- 13) Page 77 PHY synchronization: move text to the appropriate PHY section (as shown in #14), then in its place insert generic text that points to the PHY sections where this information has been moved
- 14) Page 77 line 45 to page 78 line 59 should be dispersed among the following: 6.2.1.2.3 and 8.2.2.5 and 8.2.2.2
- 15) Page 81 line 13 to 26 needs to have text moved to the PHY section in 8.2.2.4.2 and 8.2.2.4.3 respectively, but replace it with generic text that points to the PHY sections where this information has been moved
- 16) Page 83 line 50, have the words on QPSK been removed already?
- 17) Page 84 line 60, have the words on QPSK been moved?
- 18) Page 85 Table 14 Ranging anomalies should be in the PHY section 11.2.3.1.4.1 and this text replaced with a generic anomalies reference
- 19) Page 86 line 35 to 44 is OK but a section like this needs to be added in each PHY section to reference this information
- 20) * Page 86 line 5 to 34 may be PHY dependent, needs to be discussed prior to moving it, at minimum re-label 34 to remove "Requested DL" as being a clarification of the name
- 21) Page 87 line 41 idea has to stay but should be replaced with text mentioning details are related to each PHY implementation, then place similar text that included details in each PHY section with a reference back to page 87 line 41 at 11.2.3.1.5.1
- 22) * Page 90 line 12 and 13 needs to part of the TLV restructuring regarding the modulation types supported
- 23) * Page 109 line 46 delete after a check that the parameter is defined elsewhere, if not found then include definition elsewhere and then delete, this was missed in the last review and is a technical change
- 24) * Page 110 to 122: section 2.6 needs to be maintained but most of the section needs to be moved to the relevant PHY sections. Although an abbreviated summary of the whole section needs to stay as 2.6 it needs a different name like "MAC and PHY coordination", basically then the rest of the section needs to be moved into selected sections to the appropriate PHY section with the following exceptions: a) page 110 delete the sentence that spans lines 27 to 30, b) page 110 line 49 should have phrase wording changed to something like "gives an example of", c) keep sections 2.6.7.2 to 2.6.7.3.6, d) keep all of pages 120 and 121, e) page 112 line 42 to 52 stays but page 112 section 2.6.2 should be combined with section 2.6.4 and jointly moved together to a section under 2.6 that remains The MAC section then resumes with section 2.7
- 25) * Page 137 line 12 to 26 to be moved to the appropriate PHY section

Attendee List (random order, sign-in sheet order)

| Name | Dates attended | Company |
|--------------------|-----------------------|-------------------------|
| Ron Meyer | 12, 13, 14 | Crosspan |
| Robert Johnson | 12, 13, 14 | Ensemble Communications |
| Ken Stanwood | 12, 13, 14 | Ensemble Communications |
| Jay Klein | 12, 13, 14 | Ensemble Communications |
| Yair Bourlas | 12 | Ensemble Communications |
| Andy Schiltz | 12, 13, 14 | Ensemble Communications |
| Sergio Licardie | 12, 13, 14 | DMC Stratex Networks |
| Glen Sater | 12, 13, 14 | Motorola |
| Chris Tappenden | 12, 13, 14 | Nortel |
| Vladimir Yanover | 12, 13, 14 | BreezeCOM |
| John Liebetreu | 13 | Intersil |
| Carl Eklund | 12, 13, 14 | Nokia |
| Juan Carlos Zuniga | 12, 13, 14 | Harris |
| Brian Kiernan | 13 | Interdigital |
| Don Leimer | 13 | WirelessHome |
| Arthur Wang | 12, 13, 14 | WirelessHome |
| Andy Ickowicz | 12, 13, 14 | IEEE |
| Roger Marks | 12, 13, 14 | NIST |