P802.16.1 to Sponsor Ballot: Conditional Approval Request

11 November 2011

Rules: OM (2010-07-16) Clause 14

motions requesting conditional approval to forward when the prior ballot has closed shall be accompanied by:

- Date the ballot closed
- Vote tally including Approve, Disapprove and Abstain votes
- Comments that support the remaining disapprove votes and Working Group responses.
- Schedule for recirculation ballot and resolution meeting.

Date the ballot closed

Stage	Open	Close
WG Letter Ballot #32	7 Oct	6 Nov 2011

Vote tally including Approve, Disapprove and Abstain votes

82 Approve (99%)

- 1 Disapprove with comment
- 0 Disapprove without comment
- 5 Abstain
- Return ratio requirement met (57%)

Comment resolution

Working Group Letter Ballot #32

- 33 comments
- 6 Disapprove comments submitted
- Comment resolution at IEEE 802.16 Session #76 (2011-11-07 through 2011-11-10)
  - In IEEE 802.16-11/0039r2
- During comment resolution, all comments except 1 were resolved to commenter's satisfaction

Comments that support the remaining disapprove votes and Working Group responses

- See following:

Comment by: Lei Wang **Membership Status:** Member **Date:** 2011/11/04

Comment # 023 **Document under Review:** IEEE P802.16.1/D2 **Ballot ID:** 32

Comment **Type** Technical **Part of Dis** ☒ **Satisfied** ☐ **Page** 622 **Line** 18 **Fig/Table#** **Subclause** 6.3.5.5.2.4.1

During 16m development, I pointed out there is a design deficit in the 20MHz system bandwidth by the comment #554 in commentary database 802.16-10/0042 in session #68. Here's the original comment:
"In the 20MHz system bandwidth, there are 4656 possible combinations of (L, S), where L is the location of an allocation; and S is the size of an allocation. With 11-bit RI field, those 4656 combinations cannot be signaled by the RI field. Based on the text in line 9 to line 23 on page 560, the number of allowed S values is reduced. Basically, the allocation granularity is no long 1 LRU, it is actually 1, 2, 4, and 8, depending on the value of S.
Sacrificing the allocation granularity seems a very bad design choice, particularly at steps as big as 8 LRUs. Even with code-matching schemes, the offset of the required size to the nearest allowed S value can be up to 4 LRUs. This makes the ratio of the offset to the assigned size is greater than majority of the code steps based on the nominal MCS table given in Table 934, on page 729 in 16m/D6.
We would recommend reconsidering the RI field encoding issue, particularly for the 20MHz system bandwidth, instead of sacrificing the allocation granularity, looking for some other alternatives, e.g., change the RI field from 11 bits to 12 bits by using the 1 reserved bit, and/or consider the constraints of the allocations to remove those ones that do not need to be signaled by the assignment A-MAP IEs, e.g., the control channel occupied resources, and/or allocations spanning over multiple frequency partitions, etc."

The above comment was rejected, resubmitted, and rejected again, for multiple rounds until 16m completion. Here's the reason of rejection "This issue was analyzed in the original design. Refer to the analysis in section 4 of contribution C802.16m-09/1334r1. It has been shown that link adaptation with the granularity of feedback MCS levels as defined in the 802.16m is not adversely affected by the proposed reduction in assignable resource indices with 11 bits for 20MHz. The original analysis does require an update with delta_min = 31/256 based on Table 834, but this change does not change the final conclusion since 1/6 < 31/1422."

Note that 1/6 is not less than 31/1422. It is actually way bigger than 31/1422. Therefore the 16m 20MHz resource allocation design is based on a serious Math error. Such an obvious error really bothers me. I would like to re-trigger the discussions again about this issue, and hope we can fix it during this revision project.

I would recommend reconsidering the RI field encoding issue, particularly for the 20MHz system bandwidth, instead of sacrificing the allocation granularity, looking for some other alternatives, e.g., change the RI field from 11 bits to 12 bits by using the 1 reserved bit, and/or consider the constraints of the allocations to remove those ones that do not need to be signaled by the assignment A-MAP IEs, e.g., the control channel occupied resources, and/or allocations spanning over multiple frequency partitions, etc.

Suggested Remedy

discuss and adopt contribution C80216maint-11_0015 or its latest version.

GroupResolution **Decision of Group:** **Rejected**

Reason for Group's Decision/Resolution

The proposed change would result in a major impact to the specification. It's our impression that the ballot group would not endorse such a major change to a specification that has been available for implementation based on IEEE 802.16m.

Group's Notes

Editor's Notes **Editor's Actions**

Schedule for recirculation ballot and resolution meeting

- Ballot Group formation by mid-Dec
- 15 day Recirculation (approximately 2011-11-25 to 2011-12-10)
- if conditions met:
  - 30-day Sponsor Ballot (approximately 2011-12-12 to 2012-01-11)
- else
  - Comment resolution meeting: 2012-01-16 through 2012-01-19, followed by confirmation recirc

802.16 WG Motion

802.16 Closing Plenary: 2011-11-10

Motion: To request that the WG Chair request Conditional Approval to forward P802.16.1 for Sponsor Ballot

- Proposed: Zheng Yan-Xiu
- Seconded: Lei Zhou
- Approved 26-0-0

LMSC Motion

- To grant conditional approval, per Clause 14 of the IEEE 802 Operations Manual, to forward P802.16.1 for Sponsor Ballot
- Moved:
- Seconded:
- Approve:
- Disapprove:
- Abstain: