Minutes of IEEE 802.3aq 10GBASE-LRM Task Force meeting, November 15-16
IEEE 802 Plenary, Vancouver, B.C. Recorded by Robert Lingle, Jr.

9:00 AM Introductions and Opening Remarks
Welcome and Opening Session - David Cunningham opened the meeting and requested
Introductions (approx. 39 persons in attendance). Opening presentation with slides available from
the 802.3aq website.

IEEE-SA Standards Board Bylaws on Patents in Standards statement was presented
♦ Patent bylaws' was shown and read aloud by David Cunningham
♦ Inappropriate topics shown and read aloud by David Cunningham

Meeting goals - The chair outlined the goals for the meeting, generally aimed at moving 802.3aq
to sponsor ballot out of this meeting, including
♦ Address comments on D2.4
♦ Entertain a motion to remove 300m from our Objectives
♦ Discuss interoperability report and entertain a motion to accept it in fulfillment of

D2.0 RespRate 50.00 Approve 76.60 AbsRate 8.74
D2.1 RespRate 54.37 Approve 79.63 AbsRate 3.57
D2.2 RespRate 58.25 Approve 83.33 AbsRate 5.0
D2.3 RespRate 59.71 Approve 84.62 AbsRate 4.88
D2.4 RespRate 61.17 Approve 85.83 AbsRate 4.76

Discussion of work on the draft and timeline
One more re-circulation of unsatisfied TR comments against D2.4 may be required. Best outcome
to stay on schedule it to make no technical changes to the draft. In that case, then conditional
approval to move to Sponsor ballot will be sought.

The agenda was presented and approved without opposition.

9:20 AM Editors Report. Nick Weiner
Discussion of the status of the draft and proposed comment resolution agenda
Slides available on the 802.3aq website. Total of 27 comments submitted (2 T, 14 TR, 10 E, 1ER)

In response to a query, the Chair clarified that previously unsatisfied comments from an earlier draft,
which have already been dealt with in Task Force, need not be addressed again in Task Force, unless
someone proposes a remedy. The only way an unsatisfied comment made on earlier draft "stays alive"
is if enough voters pile onto that comment such that it concerns the Task Force or 802.3 chair that
approval rating may drop below 75%. The entire draft is open on the first Sponsor ballot, including
ones unsatisfied in Working Group ballot. A summary of unsatisfied comments will be presented to
802.3 by the Chair.

Summary of Unsatisfied Comments - There are total of 58 unsatisfied TR comments and 1
unsatisfied ER comment on Drafts D2.0, D2.1, D2.2, and D2.3 cumulatively.

Approval of Minutes - Minutes from the September (Nashua) and October (Corning) 802.3aq
10GBASE-LRM Interim Meetings were approved by acclamation.

Presentation Sessions

9:40 Revised OM2 Monte Carlo Modeling Set by John Abbott
Presentation showed an improved OM2 model which shows better center launch performance
than the previous version. OM2 fiber is being studied for 1300nm performance by IEEE-LRM and
850nm performance in Fibre Channel by T11.2.

10:00 Issues with LRM OM3 Monte Carlo Modeling Set by John Abbott

Presentation argued that the current stressors do not guarantee 220m for a fiber meeting OM3 specfications. John re-visited the 1300nm OM3 delay set which was produced from the 802.3ae 850nm delay sets, finding that OM3 fibers optimized at values of alpha below 850nm were not adequately represented.

10:30 Break

10:45 Split Symmetric Test by Sudeep Bhoja (for Jon King)
Presentation argued that having a split-symmetric test was part of the justification for not needing a dynamic test. Expanded analysis of data from King-1-1104, showing an example wherein dynamic channel variation caused variation between pre-cursor, split-symmetric, and post-cursor impulse responses. A channel with an average power impulse response which does not have equal peak heights can spend significant time with split symmetric behavior as the channel evolves.

10:55 LRM Requires Comprehensive Jitter Tolerance for Interoperability by Ali Ghiasi
Presentation claimed a comprehensive jitter tolerance test must be added on top of the channel stressor to guarantee interoperability between a compliant transmitter and receiver. It was argued that a 0.5 UI sinusoidal jitter at 400kHz coming through the XFI channel may break an LRM receiver, and that X2 implementation will be severely difficult.
{Mike Dudek: AWGN in current stressed receiver test is equivalent to 0.015 UI}

11:35 Analysis of connector Losses and Correlation with Dispersion Penalties by Tom Lindsay
Presentation argued that there is significant margin in the power budget, owing to the fact that the highest dispersion penalties correlate with the lowest connector losses.

12:00 Lunch Break

2:00 PM 10GBASE-LRM Interoperability Report by Jim McVey
Presentation urged that the Interoperability study reported at the October Interim in Corning be accepted in fulfillment of the November 2004 Task Force motion requiring an interoperability demo prior to going to sponsor ballot. This presentation expanded on material presented in rausch_1_1005.

Motion 1 (Technical) to approve Interoperability in fulfillment of Nov. 04 Task Force motion

- Move to accept the *10GBASE-LRM Interoperability Report* (mcvey_1_1105) as fulfillment of the requirements of the motion below from the 11/16-18/04 10GBASE-LRM meeting;
  - Motion # 3 Move that IEEE 802.3aq demonstrate a 10^{-12} BER over the rated distance on a specified channel (TBD) and show interoperability between PMD's of at least three vendors for 10GBASE-LRM to support technical feasibility prior to sponsor ballot.
- Moved: Dan Dove
- Seconded: Sudeep Bhoja
- Results: For: 39   Against: 0   Abstain: 7

Motion 2 (Technical) to remove reference to 300m from the Objectives

Change project objectives to remove the requirement:
- At least 300 meter on selected multimode fiber.

- Moved: Mike Dudek
- Seconded: Tom Lindsay

- Results: For: 34   Against: 1   Abstain: 9

Motion 3 (Technical) to correct references to fiber standards in Objectives

In the project objectives, delete the publication date of 60793-2-10 in all 6 places.

- Moved: Paul Kolesar
- Seconded: Steve Swanson

- Results: Passed without objection.

5:00 PM Comment Review facilitated Nick Weiner (Editor)

See comment review file by the Editor.

6:00 PM Adjourn

Wednesday November 16, 2005

8:30 AM Resume Comment Resolution, facilitated by Nick Weiner, Editor

See comment review file by the Editor.

Specific note on comment 22: John Abbott was concerned that wording on p21 in 68.4.1 would possibly lead people to think that a 2-5 m patchcord should be used in the encircled flux measurement, in violation of the IEC method cited which specifies a 10m patchcord. The sense of the room, summarized by the Chair, was that no one would think to make an encircled flux measurement with other than a 10m patchcord, and that doing so would result in non-compliance to the standard.

10:45 AM Closing Session

The Chair presented modified Objectives, and said the group accomplished its goals on comment resolution.

New unsatisfied negatives (8 total) will require an additional recirculation.

There was extensive discussion of the merits of going to sponsor ballot at this time. The group also compared the state of 802.aq D2.4 to that of previous standards at the time of transition from working group to sponsor ballot.

Motion 4 (Technical) to direct TF Chair to petition 802.3 to accept amended Objectives

TF directs TF Chair to move that IEEE802.3 accept as-amended 100BASE-LRM objectives per TF Technical Motions 1 and 2 adopted on Tuesday 11/15.

Moved: Dan Rausch
Seconded: Sudeep Bhoja
Votes Y: 34   N: 0   A: 4

Motion 5 (Technical) to Request WG authorization for sponsor ballot

Request WG authorization for sponsor ballot of P802.3aq/D2.4 per "Procedure For Conditional Approval To Forward a Draft Standard (formerly Procedure 10)" and authorize re-circulation ballots and interim meetings as necessary.

Moved: John Jaeger
Seconded: Lew Aronson
Votes Y: 32   N: 2   A: 2

Motion 6 (Technical) to Request SEC authorization for sponsor ballot

Request SEC authorization for sponsor ballot of P802.3aq/D2.4 per "Procedure For Conditional Approval To Forward a Draft Standard (formerly Procedure 10)" and authorize re-circulation ballots and interim meetings as necessary.

Moved: John Jaeger
Seconded: Jim McVey
Votes Y: 32   N: 2   A: 2

12:00 PM Adjourn (~40 persons in attendance)