

## Minutes of 10GBASE-CX4 Working Group Interim Meeting June 24-25 2003 in Ottawa, Ontario, Canada

June 24. Meeting started at 8.30 a.m.

Peter Bradshaw agreed to be secretary.

Chairman Dan Dove reviewed agenda:

March minutes not available yet, will review later.

Presentations will be interleaved with comment review. They should lead to resolution, and be brief.

Motion to Approve Agenda (Approved)..

Chairman reviewed the Schedule. The Recirculation Ballot was not finished in May, but the WG created internal documents (4.01 & 4.02). WG intends to do a 15 day recirculation. (The WG will skip the Italy meeting in Sept; there was a brief discussion as to how this meeting had been skipped\*). Group may need an August Meeting, to meet schedule, if needed.

\* The secretary notes that it is recorded in the file 'UA\_Meeting\_Minutes\_Mar03.pdf' that a vote was taken regarding possible attendance at the Italy meeting.

Chairman reviewed Patent & IP statements. There were no Patent or IP comments offered by the attendees.

Official attendance books were circulated.

Editorial comments were reviewed. Bob Grow says the cover pages are being tightened up" to make life easier for the editor's"!!!

All Editorial comments NOT associated with T or TR comments were resolved. Two were added, one by Schelto Van Doorn relating to the safety and environmental specifications, and one from Peter Bradshaw relating to multiple wavelength references in 45.2.1.

A list was made of the E comments resolved by reference to T & TR comment resolutions: 446, 74, 455, 21, 65, 332, 4, 356, 340, 220, 126, 501, 489, 392, 76, 317, 93, 400, 5, 69, 337, 336, 67, 7, 403, 391, 102, 24, 103, 86, 435, 98, 27, 131, 73, 17, 348, 114, 115, 14, 429, 479, 478, 408, 289, 421, 349;

(Lunch Break)

Motion to accept the resolutions provided at this meeting for all E comments except 446, 74, 455, 21, 65, 332, 4, 356, 340, 220, 126, 501, 489, 392, 76, 317, 93, 400, 5, 69, 337, 336, 67, 7, 403, 391, 102, 24, 103, 86, 435, 98, 27, 131, 73, 17, 348, 114, 115, 14, 429, 479, 478, 408, 289, 421, 349:

Proposed: Schelto Van Doorn

Seconded: Chris Di Minico

Discussion.

Y 14 N 0 A 0 .

Motion passed

Comments to D4.01 and D4.02 Drafts were discussed and resolved. They were added to the comment database, motion accepted without opposition by acclamation.

WG reviewed all E comments tied to T and TR comments (see list above). There was some discussion over comments #427 and #345. All were compared to the underlying T and TR comments.

Presentation by Dimitri Taich and Ze'ev Roth on Pre-emphasis optimization. (re #487). Made a recommendation to reduce the preemphasis from 50% to 24-38%, based on data presented.

**Meeting adjourned** at 5.26 p.m. with a suggestion that attendees review the presented data for tomorrow's continuation.

**June 25 Meeting** re-started at 8.15 a.m.

Meeting began with a schedule discussion:-

Dan Dove expressed a desire to 'set concrete' around the 'stakes in the sand' after a final movement today. Changes in the future should only be for the most pressing technical reasons.

There was a discussion of Cable return loss in short cables. Far end return loss is significant in short cables, and reflections cause resonance effects.

Dimitri Taich then continued his presentation; new Template proposal (with Howard Baumer & Ze'ev Roth), to lower pre-emphasis to around 30% from around 50% (at TP2). The proposed template is a nominal 31%, +/- 10%,  $V_h$ \_max & min the same as before, and there are new normalization equations to correspond to the new preemphasis values. The presented data fits in the template with +/- 7% pre-emphasis, return loss, etc. added. Some discussion of symmetry of the template about the second step. An extra point was added on the outer limit line in the slope above Voutlo. There was discussion of user "setting" for cable length/loss adjustment. Also discussed was a minimum loss spec for cable.

Chris Di Minico presented some data on the cable spec changes made in Portsmouth NH. Proposed new return loss limit of 12 dB (a.c.w. 8 dB in 4.0, 15 dB in 4.02). Return loss will act as an effective minimum loss for short cables.

Motion to accept the return loss equations presented in Ottawa by Chris Di Minico, cd\_ottawa.pdf, as the return loss limit for D4.1

Proposed : Schelto Van Doorn

Seconded: Peter Bradshaw

No discussion

Votes Y 13 N 2 A 0

(86.7%, motion passes)

Chris presented NEXT spec & data; there was a 2dB change made in Portsmouth (described as 'Worse' from Chris, 'Better from Howard'). Proposal to pull back the 2dB; discussion to be continued later.

Agreed to discuss MDNEXT first. 5dB change made in Portsmouth, using power sum. Voltage sum is about 3 dB higher than power sum.

ELFEXT & MDELFEEXT were relaxed (!) in Portsmouth, propose to return to old limits. There was a motion to return to original ELFEXT and MDELFEEXT limits:

Motion to remove the ELFEXT and MDEFLEXT change from the response to comment 388

Proposed Peter Bradshaw

Second Tom Goodwin

Votes Y 14 N 0 A 0; passes

At this point a diversion was injected: Dan Dove gave brief presentation on the test fixture. Practical fixture tests led to difficulty in making the called-for 26dB return loss, 23dB was barely feasible, 20dB more practical. There was a motion to adjust spec on test fixture to 20dB:

Motion to revise resolution to comment # 469 as shown:

"ACCEPT IN PRINCIPLE".

Change Clause 54.7.3.2 to:

*"The nominal differential impedance of the transmit test fixture depicted in Figure 54-3 shall be 100 ohms with a return loss greater than 260dB from 100MHz to 2.0GHz."*

Proposed Dimitry Taich

Seconded Petre Popescu

Votes Y 13 N 0 A 2 . passes

Sponsor Ballot explanation given (by Bob Grow). To vote, one needs to be a IEEE member, and apply for SA membership (and pay the small fee).

Broke for lunch. Returned.

Motion to remove the NEXT change proposed in Portsmouth and to change MDNEXT to  $27-17\log(f/2000)$  in the response to comment 388.

Proposed: Chris Di Minico

Seconded: Fulvio Spagna

Votes Y 11 N 2 A 2 .83% passes

Motion to add the Transmit template presented by Dimitry Taich in Ottawa, dt\_ottawa.pdf, as a change to the transmit template of D4.0 to the response to comment 388.

Proposed: Dimitry Taich

Seconded: Howard Baumer

Votes Y 13 N 0 A 1 . Passes

Peter Bradshaw made a brief presentation on the Vout range and ratio numbers, showing that they are reasonable.

Motion to approve minutes as amended by including the powerpoint slide of the Portsmouth motion(s).

Proposed: Howard Baumer

Seconded: Chris Di Minico

Votes: Y 13 N 0 A 2 . Passes

Motion to approve all responses per the comment data base presented at this meeting and in Portsmouth.

Proposed: Chris Di Minico

Seconded: Schelto Van Doorn

Votes: Y 13 N 0 A 0 . Passes

Motion to direct the editor to create working group draft 4.1 and submit D4.1 to 802.3 for re-circulation ballot.

Proposed: Schelto Van Doorn

Seconded: Chris Di Minico

Votes Y 16 N 0 A 0 Passes!!!!!!!

A discussion on possible Ts & TRs for July meeting took place.

Meeting adjourned 2.35 p.m.

