

IEEE 802.3 10GBASE-T Study Group
May 21-22, 2003 Interim Meeting
Portsmouth, New Hampshire

Agenda

Wednesday, May 21, 2003

08:30 Welcome and Introductions
09:00 Agenda and General Information
10:00 Ad-hoc Reports
11:00 Review of 5 Criteria and Comments
12:00 Lunch
13:00 Presentations
18:00 Dinner

Thursday, May 22, 2003

08:30 Presentations
12:00 Lunch
13:00 Discussion/Motion Madness
18:00 Adjourn

Minutes – May 21, 2003

- Meeting called to order by Brad Booth at 8:37am EDT
- Announcement: Optional tour of UNH Lab tonight. Bus leaves at 6pm.
- Recording secretary selected – Rob Hays.
- Motion to approve agenda by Chris Di Minico, second by Rob Wester. Motion PASSES by acclamation.
- Motion to approve minutes from January and March Plenary Meetings by Terry Cobb, second by Randy Below. Motion PASSES by acclamation.
- Goals for the meeting presented by Brad Booth
- IEEE-SA Standards Board Bylaws on Patents in Standards read by Brad Booth at 8:55am EDT
- PHY Modeling Ad Hoc report presented by Bill Jones
- Cabling Ad Hoc report presented by Chris Di Minico
- Proposed CENELEC Contribution to 10GBASE-T SG on Cabling Electromagnetics presented by Alan Flatman. Suggestion made to send a liaison letter stating the SG goals and asking if they have any relevant contributions rather than engaging CENELEC on Coupling Attenuation specifically. Suggestion accepted.
- Alien Crosstalk Measurement of Screened CAT6 Cable presented by Alan Flatman.
- Draft 5 Criteria review comments presented by Brad Booth for consideration.
- 10GBASE-T Technical Feasibility proposal to enter WG with a draft and simulation-based working model presented by Brad Booth.
- Technical Feasibility of 10GbE over Copper: Measurements, Models, & Capacity presented by Bijit Halder.
- 10GBASE-T Capacity Requirements & Margin presented by Ze'ev Roth.

- 10GBASE-T Channel Criteria presented by Scott Powell and PJ Sallaway.
- 10GBASE-T Line Signaling presented by Joseph Babanezhad.
- System SNR Budget Analysis for 10GBASE-T presented by Albert Vareljian.
- Meeting recessed at 5:36pm EDT.

Minutes – May 22, 2003

- Meeting reconvened at 8:35am EDT.
- Class D, E, & F Channel Performance to 625MHz presented by Randy Below.
- Data Center Background Noise Measurements presented by Chris Pagnanelli.
- Background Noise presented by Terry Cobb.
- Performance of Ad Hoc Cat5e Models with the Preliminary Cat5e Alien Model presented by Chris Pagnanelli
- Performance of Ad Hoc Cat6 Models with Experimental Avaya Alien Model presented by Bill Jones.
- Alien Crosstalk Measurements and Performance with Screened Cat5e Cable presented by Larry Cohen & Carlos Aldana.
 - Screen doesn't need to be grounded
 - Screened cable provides substantial reduction of alien crosstalk
 - Used background noise of -150dBm
 - Cat5e screened with unscreened Keystone jacks gives about 11 dB of margin with 0 dB of alien NEXT cancellation
- Alien Crosstalk Measurements and Performance Under Different Installation Practices presented by Chris Pagnanelli.
- Beyond Worst Case: Good News presented by S. AbuGhazaleh.
 - Cat6 limit cannot just be extended... will need to be augmented
 - Number of connectors beyond 2 is not relevant because the local end is only influenced by the first 2 connectors
- Future Meetings: July 20-25 in San Francisco, September 2003 in Portonovo, Italy
- PAR & 5 Criteria review led by Brad Booth.
- Poll on CAT5e/Class D support among the SG:
 1. How many companies would contribute 100m CAT5e/Class D cable data? Answer 1.
 2. How many PHY vendors would contribute 100m CAT5e/Class D PHY models? Answer 3.
 3. How many equipment providers would like to see CAT5e work over CAT5e/Class D? Answer 6.

Conclusion is that we will not exclude CAT5e investigation prior to next meeting.

Motion Madness

- Motion #1

Move that:

The following text be added to the Technical Feasibility: “As a proof of technical feasibility, the Task Force will provide a simulation-based working model of the link for all Task Force and Working Group members prior to the draft entering Working Group ballot.”

- Move: B. Booth, second: A. Flatman.
- All – Y:37 N:0 A:2 PASSES
- IEEE – Y:12 N:0 A:1 PASSES

- Motion #2

Move that:

The Study Group adopt the following objectives:

- Preserve the 802.3/Ethernet frame format at the MAC Client service interface
- Meet 802 Function Requirements, with the possible exception of Hamming Distance
- Preserve min. and max. frame size of current 802.3 Std.
- Support full duplex operation only
- Support star-wired local area networks using point-to-point links and structured cabling topologies
- Support a speed of 10.000 Gb/s at the MAC/PLS service interface
- Move: S. Muller, second: W. Diab.
- Clarification: This motion does not preclude additional objectives being added at a later date (i.e. optional MAC-PHY interfaces)
- Motion to divide Motion #2 by L. Adriaenssens, second by T. Cobb.
 - Motion FAILS. Y:10 N:22
- All – Y:36 N:0 A:0 PASSES
- IEEE – Y:11 N:0 A:0 PASSES

- Motion #3

Move that:

The Study Group adopt the following objectives:

- Select copper media from ISO/IEC 11801:2002, with any appropriate augmentation to be developed through work of 802.3 in conjunction with SC25/WG3
- Support 100 m over 4-connector structured 4-pair, twisted-pair copper cabling
- Move: R. Hays, second: A. Flatman.
- Motion to strike “4-connector” from Motion #3 by C. Di Minco, second W. Diab.
 - Motion FAILS. Y:7 N:16 A:12
- All – Y:31 N:1 A:7 PASSES
- IEEE – Y:7 N:2 A:2 PASSES

- Motion #4
Move that:
The Study Group adopt the following objectives:
 - To not support 802.3ah (EFM) OAM unidirectional operation
 - Support coexistence with 802.3af
 - Move: S. Muller, second: W. Diab.
 - The interpretation is that we won't break 802.3af but we won't do any work to support it.
 - All – Y:29 N:0 A:6 PASSES
 - IEEE – Y:10 N:0 A:1 PASSES
- Motion #5
Move that:
The Study Group adopt the following objectives:
 - Support Clause 28 auto-negotiation
 - Move: S. AbuGhazaleh, second: R. Hays.
 - The interpretation is that auto-negotiation will be optional and the auto-negotiation scheme chosen will comply with clause 28.
 - All – Y:37 N:0 A:0 PASSES
 - IEEE – Y:11 N:0 A:0 PASSES
- Motion #6
Move that:
The models used for all categories of cabling should be scaled to the specified channel equations for the respective categories up to their specified frequency limits as defined in ISO 11801-2002 for all parameters (including insertion loss).
 - Move: L. Adriaenssens, second: E. Lawrence.
 - Motion to table Motion #6 until the July meeting by C. Di Minico, second S. AbuGhazaleh.
 - Motion PASSES. Y:20 N:12 A:2
 - TABLED until July meeting.
- Motion to adjourn by W. Diab, second C. Di Minico. Motion PASSES by acclamation.
- Meeting adjourned at 5:12pm EDT.

Minutes by Rob Hays (robert.hays@intel.com)