

Accredited Standards Committee^{*}
INCITS, Information Technology

Doc. Number: 06-374v0
Date: 05/11/06
Project: FC-BaseT
Reply to: Claudio DeSanti

TO: MEMBERSHIP of T11.2
FROM: Claudio DeSanti, Chair
SUBJECT: Draft minutes from FC-BaseT WG Interim meeting

AGENDA

- | | | |
|-----|---|------------------------|
| 1. | Opening remarks and introductions | DeSanti (Cisco) |
| 2. | Meeting Policies | DeSanti (Cisco) |
| 3. | Administrivia | |
| 4. | Review of old FC-BaseT action items | DeSanti (Cisco) |
| 5. | Scheduled FC-BaseT business | |
| 5.1 | Proposed Text for FC-BaseT E-FIFO
06-286v0 | Ghiasi (Broadcom) |
| 5.2 | Proposed Text for FC-BaseT PHY Startup Procedures
06-287v0 | Ghiasi (Broadcom) |
| 5.3 | Update on PMA Training for FC-BaseT
06-370v0 | McClellan (SolarFlare) |
| 5.4 | An Error Detecting Code for FC-BaseT
06-115v2 | DeSanti (Cisco) |
| 5.5 | Proposed FC-BaseT PCS
06-026v2 | DeSanti (Cisco) |
| 5.6 | Proposed FC-BaseT Structure and Concepts
06-025v2 | DeSanti (Cisco) |
| 6. | Unscheduled FC-BaseT business | |
| 7. | Review of FC-BaseT action items | DeSanti (Cisco) |
| 8. | Next meeting schedule | DeSanti (Cisco) |
| 9. | Adjournment | |

^{*} Operating under the procedures of the American National Standards Institute. INCITS SECRETARIAT, Information Technology Industry Council (ITI), 1250 Eye street NW, Suite 200, Washington DC, 20005-3922, Email: incits@itic.org Telephone 202-737-8888, FAX 202-638-4922

RESULTS OF MEETING

1. Opening remarks and introductions

Chairperson Claudio DeSanti led the meeting. He started the meeting at 10:35 AM. He led a round of introductions.

2. Meeting Policies

2.1 Attendance and Membership

Claudio DeSanti stated that all persons present are considered members of this meeting and may vote on questions, limited to one vote per company present. Attendance at this meeting does not count toward attendance at the plenaries of T11 and its task groups (i.e., being here will not get you out or keep you out of membership jeopardy).

2.2 Patents

Claudio DeSanti indicated that among the rules and policies under which this working group operates are the INCITS patent policies. He requested persons wishing to make statements or ask questions relevant to this policy not to do so at this work group meeting, but instead to do so at the T11.3 or T11 plenary meeting. The INCITS patent policies are specified in subclause 8.4 of RD-1, "Policies and Guidelines", available at http://www.incits.org/sd9_rev1c.htm#p8-4

2.3 Antitrust

Claudio DeSanti indicated that among the rules and policies under which this working group operates are the INCITS Antitrust Guidelines. Any member of the meeting is responsible for objecting if he believes discussion in the meeting violates those guidelines. If such discussion is not immediately terminated, it is the chairperson's responsibility to terminate the meeting. The INCITS Antitrust Guidelines are available at <http://www.incits.org/inatrust.htm>

3. Administrivia

The agenda was approved by acclamation. Approval of minutes was deferred to the following meeting.

4. Review of old FC-BaseT action items

AI-13: Schelto Van Doorn to work on Port Management, section 9. (carryover)

AI-14: Scott Powell to work on section 6. (carryover)

AI-19: Claudio DeSanti to address copyright approval from IEEE-SA. (carryover)

AI-20: Scott Powell to prepare PBO data related to shorter (less than 50m) links. (carryover)

5. Scheduled FC-BaseT business

5.1 Proposed Text for FC-BaseT E-FIFO, 06-286v0, Ali Ghiasi

Ali presented a proposal for how to define E-FIFO operations in FC-BaseT. The group observed that the document needs to specify more details, in particular how the E-FIFO should process the presented list of Ordered Sets. Ali will prepare a new revision of the document for the next meeting.

5.2 Proposed Text for FC-BaseT PHY Startup Procedures, 06-287v0, Ali Ghiasi

Ali presented a first textual proposal for the PHY startup procedure. Robert observed that the first proposed step is not really needed, and may make more complex than needed the implementation. He proposed that rather than sensing the host highest speed, the PHY could just retrieve this information from a management register. The management register may be written by the host when the SFP is inserted, or hard coded if the PHY is not used in an SFP. The group agreed that this approach makes sense as a mandatory mechanism, but would like to keep also the option of sensing for greater flexibility. Ali will prepare a new revision of the document for the next meeting.

5.3 Update on PMA Training for FC-BaseT, 06-370v0, Brett McClellan

Brett presented some preliminary results on a possible FC-BaseT PMA training procedure, based on the discussion held in previous meetings. The use of PAM-2 signaling at the +5 and -5 levels allow for a quick convergence of equalizers and noise cancellers. Using 5dBm as launch power and 1.25 Vpp during PMA training, the SNR pulls in to 30.5dB. Then he presented how to use the scramblers defined in 1000Base-T with FC-BaseT. A single scrambler can perform training mode pattern generation and data mode scrambling. A loss of scrambler synchronization is recovered by returning to training mode. This way of using the scramblers for data mode is already included in the updated PCS definition, document 06-026v2. Items for further study, required to complete the PMA training definition, include: transmitter parameters (e.g., power, PSD vs. EMI and SNR), startup state machine, PBO schedule.

5.4 An Error Detecting Code for FC-BaseT, 06-115v2, Claudio DeSanti

Claudio presented the final results of an investigation to define an optimal error detecting code (EDC) for FC-BaseT. The Schlaefi lattice coding avoids the “odd bits” errors (e.g., 1-bit or 3-bit errors), except in degenerate cases. Using an EDC optimized 36/33 transcoding and side-stream scrambling it is possible to detect basically all relevant small errors occurring in control words. Finding an optimal parity-check matrix is computationally not tractable, but restricting the research to a subset of matrixes having a peculiar rotational structure makes the problem tractable. An optimal matrix has been identified and presented. The resulting error detecting code is simple to implement and is able to detect also most trapezoid error patterns. The group accepted this result for FC-BaseT.

5.5 Proposed FC-BaseT PCS, 06-026v2, Claudio DeSanti

Claudio presented an updated definition of the FC-BaseT PCS, finally with all the pieces. The error detecting code is incorporated, as well as the proper use of side-stream scramblers and the definition of the optional Trellis code mode of operation. Claudio moved to incorporate 06-026v2 into the FC-BaseT draft, to facilitate further review; Brett seconded. The motion carried by acclamation.

5.6 Proposed FC-BaseT Structure and Concepts, 06-025v2, Claudio DeSanti

Claudio presented an updated definition of FC-BaseT chapter four, including the support for the optional Trellis coding and an updated naming for FC-BaseT variants. The group accepted these modifications for the FC-BaseT draft.

6. Unscheduled FC-BaseT business

None.

7. Review of FC-BaseT action items

AI-13: Schelto Van Doorn to work on Port Management, section 9.

AI-14: Scott Powell to work on section 6.

AI-19: Claudio DeSanti to address copyright approval from IEEE-SA.

AI-20: Scott Powell to prepare PBO data related to shorter (less than 50m) links.

8. Next meeting schedule

Next meeting is on June 12, 9am to 12:30pm, during the T11 Plenary in Anchorage, AK.

9. Motion to adjourn

Adjourned at 3:02 PM.

10. Attendance

The following 5 people attended this meeting:

Company	Name
AGERE	Robert Fulton
BROADCOM	Ali Ghiasi
CISCO SYSTEMS	Claudio DeSanti
QLOGIC	Craig Carlson
SOLARFLARE	Brett McClellan