

Draft Minutes

T11.3 FC-FS-2 ad hoc work group teleconference

30 August 2005 - Noon to 2 PM PDT

The FC-FS-2 ad hoc work group of INCITS Technical Committee T11 Task Group T11.3 held a teleconference on 30 August 2005, hosted by Seagate. Attendance was 10 people from 9 companies and is tabulated at the end of this document.

Minutes were taken by Bob Nixon (bob.nixon@emulex.com). Please report any corrections by email to the T11.3 reflector at T11_3@mail.T11.org.

1 Opening remarks and introductions

Chairperson Bill Martin opened the meeting Tuesday, 30 August 2005 at 12:07 PM.

2 Approval of Agenda

The agenda was posted in the meeting announcement on the T11 web site. It is to consider changes to FC-AL-2 to facilitate operation at higher transmission speeds with current ASIC technology.

3 Scheduled Business

3.1 FC-AL-2: Increase Loop Latency

T11/05-537v1

Coomes/Seagate

The proposal gave several factors that interact with higher transmission speeds to lead to difficulty in meeting the current FC-AL-2 per-port latency requirement (i.e., FC-AL-2 8.3.2). The latency requirement is expressed as a maximum of six word times, so obviously gets shorter in proportion to increased transmission speed. The proposal concludes that the per-port latency should increase to 12 word times.

It was questioned that in 8.2.2, there is arithmetic for AL_TIME that includes the six word latency. The response was that the arithmetic was completely dominated by signal propagation time under the assumption of 10 kilometer links (i.e., a theoretical maximum loop).

It was observed that work toward Cat 5/6 media may also introduce additional per-port latency, up to as much as a microsecond.

It was agreed that the maximum overall loop latency, AL_TIME, will remain 15 milliseconds, but it will be based on a limit to be observed by compliant installations, not a design computation for a theoretical maximum loop.

It was unanimously agreed that the per-port latency will be changed to a recommendation (i.e., should) not to exceed 12 word times rather than a requirement (i.e., shall) not to exceed six word times.

It was observed that realistic designs likely do not support the extreme delays now induced only by long links, and they may therefore not be efficient in small loops with large per-port latency. The response is that even at the per-port latencies considered for Cat 5/6 transceivers (i.e., 1 microsecond per port), the total loop latency is far less than the value originally derived for long links (i.e., 7.5 milliseconds).

It was agreed to add cross references to 8.2.2 and Annex A from the specification for per-port latency in 8.3.2.

It was questioned if the new twelve-word latency included time for clock skew fill word insertion/deletion, which was previously excluded. The response was that the twelve words should be sufficient to include clock skew insertion/deletion.

It was unanimously agreed to recommend the FC-AL-2 text changes presented via teleconference Webex that incorporate T11/05-537v1 and the agreements at the FC-FS-2 ad hoc work group teleconference 30 August 2005.

ACTION: Jim Coomes to publish T11/05-537v2 reflecting T11/05-537v1 and the agreements at the FC-FS-2 ad hoc work group teleconference 30 August 2005.

ACTION: Bill Martin to prepare a document that combines T11/05-537v2 with approved document T11/04-762v2 as proposed text for FC-AL-2 amendment 2.

4 Unscheduled Business

The FC-FS-2 chair, the T11.3 chair, and the T11 chair agreed to an approach for resolving ISO issues with normative references in FC-AL-2 without incorporating the changes into the INCITS FC-AL-2 Amendment 2.

ACTION: Bob Snively to publish a document detailing the resolution of ISO issues with normative references in FC-AL-2.

5 Meeting Schedule

The FC-FS-2 ad hoc work group will meet Monday October 3 from 2 PM to 6 PM at the T11 plenary week hosted by Solution Technology in San Francisco CA, 3-6 October 2005.

6 Adjournment

It was moved by Jim Coomes and seconded by Bill Martin to adjourn. Approved unanimously.

The teleconference was adjourned at 1:04 PM on 30 August 2005.

7 Summary of Action Items

- AI 90 Bill Martin to publish T11/05-050v2 reflecting T11/05-050v1 and the agreements at the FC-FS-2 ad hoc work group meeting 8 August 2005.
(Opened 8 August 2005)
- AI 91 FC-FS-2 editor to incorporate T11/05-050v1 with the changes agreed at the FC-FS-2 ad hoc work group meeting 8 August 2005 into FC-FS-2.
(Opened 8 August 2005)
- AI 92 Bill Martin to review with Dave Peterson the changes to T11/05-443v1 agreed at the FC-FS-2 ad hoc work group meeting 8 August 2005.
(Opened 8 August 2005)
- AI 93 Dave Peterson to publish T11/05-443v2 reflecting T11/05-443v1 and the agreements at the FC-FS-2 ad hoc work group meeting 8 August 2005.
(Opened 8 August 2005)

- AI 94 FC-FS-2 editor to incorporate T11/05-443v1 with the changes agreed at the FC-FS-2 ad hoc work group meeting 8 August 2005 into FC-FS-2.
(Opened 8 August 2005)
- AI 95 Bill Martin to review with Dave Peterson the changes to T11/05-454v0 agreed at the FC-FS-2 ad hoc work group meeting 8 August 2005.
(Opened 8 August 2005)
- AI 96 Dave Peterson to publish T11/05-454v1 reflecting T11/05-454v0 and the agreements at the FC-FS-2 ad hoc work group meeting 8 August 2005.
(Opened 8 August 2005)
- AI 97 FC-FS-2 editor to incorporate 11/05-454v0 with the changes agreed at the FC-FS-2 ad hoc work group meeting 8 August 2005 into FC-FS-2.
(Opened 8 August 2005)
- AI 98 FC-FS-2 editor to incorporate T11/05-519v0 into FC-FS-2.
(Opened 8 August 2005)
- AI 99 Bill Martin to prepare a project proposal for an FC-AL-2 amendment to include at least T11/ 04-762 and the text that results from T11/05-537.
(Opened 8 August 2005)
- AI 100 Bob Dugan to determine what is the documentation for the algorithm that generates the values in the 8B10B table in FC-FS-2 and generate a letter ballot comment to add that informative reference to FC-FS-2.
(Opened 8 August 2005)
- AI 101 FC-FS-2 editor to publish FC-FS-2 version 0.90 (T11/05-190v3) reflecting FC-FS-2 version 0.80 (T11/05-190v2) and the agreements at the FC-FS-2 ad hoc work group meeting 8 August 2005.
(Opened 8 August 2005)
- AI 102 FC-FS-2 facilitator to recommend to T11.3 to forward FC-FS-2 version 0.90 (T11/05-190v3) to T11 for further processing.
(Opened 8 August 2005)
- AI 103 Bill Martin to schedule a conference call to continue discussion of the Loop Latency proposal (T11/05-537) and announce its possible interest to T11.2 re FCBaseT.
(Opened 8 August 2005)
- AI 104 Dave Peterson to publish T11/05-214v3 reflecting T11/05-214v2 and the agreements at the FC-FS-2 meeting 8 August 2005.
(Opened 8 August 2005)
- AI 105 Dave Peterson to provide source for T11/05-214v3 to FC-FS-2 editor.
(Opened 8 August 2005)
- AI 106 FC-FS-2 editor to incorporate T11/05-214v3 into FC-FS-2.
(Opened 8 August 2005)

- AI 107 Jim Coomes to publish T11/05-537v2 reflecting T11/05-537v1 and the agreements at the FC-FS-2 ad hoc work group teleconference 30 August 2005.
(Opened 30 August 2005)
- AI 108 Bill Martin to publish a document that combines T11/05-537v2 with approved document T11/04-762v2 as proposed text for FC-AL-2 amendment 2.
(Opened 30 August 2005)
- AI 109 Bob Snively to publish a document detailing the resolution of ISO issues with normative references in FC-AL-2.
(Opened 30 August 2005)

8 Status of Open Proposals

Document Title	Number	Disposition
FC-AL Fairness Problem	T11/04-762	Carry. Approved T11/04-762v3 for an FC-AL-2 amendment.
Increase Loop Latency spec	T11/05-537	Carry. Interim approved T11/05-537v2 for an FC-AL-2 amendment.

9 Attendance

Representative	Organization
Roy Elsbernd	Agilent
Bob Snively	Brocade
Bob Nixon	Emulex
Vinod Bhat	HP
David Geddes	Marvell
Scott Kipp	McData
Ernie Kohlwey	QLogic
Craig Carlson	QLogic
Jim Coomes	Seagate
Bill Martin	Sierra Logic