

Minutes from June 1st FC Electrical Conference Call

The electrical conference call was on Thursday June 1st from 9am to 11am PDT. Mike Jenkins (LSI) lead the meeting.

A note for future meetings, if you aren't speaking would you put your phone on mute. There were numerous side conversations that were being picked up. These conversations disturb the meeting and also have the potential of inappropriate material being heard by everyone on the conference call.

Agenda

1.0 Introductions

2.0 Presentations

2.1 Proposed Changes for FC-FS-2 for 8GFC Scrambling, 06-376v2 (David Stauffer, IBM)

2.2 AL and Scrambling for 8.5Gb, 06-401v0 (Mark Owen, Qlogic)

3.0 Action Items

4.0 Next Meeting

Attendance

Adam Healey Agere
Ali Ghiasi Broadcom
Bob Snively Brocade
Tom Lindsay ClariPhy
Greg McSorley EMC
Hossein Hashemi Emulex
Richard Johnson Finisar
Ryan Latchman Gennum
Bill Ham HP
David Stauffer IBM
Christine Krause Intel
Mark Marlett LSI
Mike Jenkins LSI
Liang Wang Marvel
Paul Wassenberg Marvel
Scott Kipp McData
Don Tonn McData
Christian Works Phyworks
Mike Dudek Picolight

Mark Owen Qlogic
Dean Wallace Qlogic
Jim Coomes Seagate
Al Krammer Seagate
Mike Fogg Tyco
Dean Vermeersch Tyco
Tom Palkert XILINX

Agenda

2.1 Proposed Changes for FC-FS-2 for 8GFC Scrambling 06-376v2 (David Stauffer IBM)

This is for single stream variant with baud rates of 8.5Gbps and higher. There was a discussion about what the and higher meant. Want to assume the scrambling will be in all new systems that we produce. Would assume that scrambling will also be used at 16Gb. If you exclude 10GFC you are covered. Scrambling is prior to performing 8b/10b encoding at the transmitter and after 8b/10b decoding at the receiver.

An editorial comment (from Bill Ham) wherever you say receiver you should say receiver device and transmitter you should say transmitter device. It was also requested that a sentence describing the selection of the polynomial and that it is self-synchronizing

There was discussion on what the compliance test pattern should be. There are no test pattern suggestions in this particular document. It was noted by David that this particular document wasn't intended to include the suggested test pattern. It was also pointed out that in an unscrambled system CJTPAT isn't the worst pattern. The test pattern is an independent question and hasn't been answered yet. There was a discussion on how to set budgets. Please look at 06-375v0 this document shows the benefits in the system but work is needed for the compliance test specs. There was also a discussion on why the budget or compliance testing would be done with a pattern that the scrambler never puts on the fiber or wire.

There was a detailed discussion about side-stream versus self-synchronizing scramblers. There was also a detailed discussion comparing the Ethernet polynomial and the SAS polynomial. It was also discussed how the seed for the scrambler is selected.

2.2 AL and Scrambling for 8.5Gb, 06-401v0 (Mark Owen, Qlogic)

Utilizes the same scrambler as point to point. At the receiver each L-port de-scrambles all frame data. At the transmitter each L port scrambles all frame data. Each L-port de-scrambles and re-scrambles frame data not addressed to L port in monitoring and arbitrating state. The receive de-scrambler resets on LIP RX. Transmitter scrambler resets on LIP TX.

It was pointed out that there isn't much difference in hardware if you reset on every SOF or not.

3.0 ACTION ITEMS.

1. Jim Coomes will set aside time in the Monday FC-LS meeting to review presentations on scrambling and discuss the reset mechanism. The scrambling discussion will start at 1:30.
2. Dean Wallace will present David Stauffers presentations 06-375v0 and the updated presentation 06-376v3 at the FC-LS meeting.
3. Bob Snively will put together a background slide to address the scrambler reset issue for the FC-LS meeting.
4. Mark Owen will present 06-401v0 in the FC-LS meeting.
5. Jim Coomes will give David Stauffer valid FC frames to be used in the example in section M.4 in 06-376v3.
6. David Stauffer will examine how well the polynomial works with regular patterns.
7. Bill Ham will put together slides about budgeting.
8. Hossein Hashemi will put together some slides discussing the Epsilon point.
9. Tom Lindsay will set aside time in the optical ad hoc starting at 2pm to discuss scrambling from the T11.2 perspective. The budgeting discussion and the test pattern discussion will take place at this time.

4.0 Next Meeting

The next meetings are in Anchorage Alaska June 12 through June 15.