

Accredited Standards Committee*
NCITS, Information Technology

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Project:	SDV 1378-DT
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Reply to:	John Lohmeyer Bill Ham

To: Membership of T10

From: John Lohmeyer, chair SDV working group
Bill Ham, Secy SDV working group

Subject: Draft minutes of T10 SDV working group on August 17, 2000

Agenda

1. Opening remarks and introductions
2. Attendance and membership
3. Approve agenda
4. Document distribution
5. Review minutes of previous meeting
6. Review old action items
7. Old Business
 - 7.1 Review and Selection of an Expander Communication Proposal
 - 7.1.1 Multi-line Addressing (99-250 & SDV-R02, 00-256r0) [Lamers/Roberts]
 - 7.1.2 Alternate Selection and Communications Protocol (ASCP) (99-213) [Petty]
 - 7.1.3 Expander Control Protocol (00-257) [Lohmeyer]
 - 7.2 Margin Control (99-264) [Roberts]
 - 7.3 SDV working draft review [Roberts]
 - 7.4 Name that expander
8. New Business
9. Review action items
 - 9.1 Action items from previous meetings
 - 9.2 New action items from this meeting
10. Next meetings
11. Adjourn

Results of Meeting

1. Opening remarks and introductions

John Lohmeyer led the meeting. He opened the meeting at 9:00 a.m. and thanked Larry Barnes of LSI Logic for hosting this meeting. Bill Ham took these minutes.

2. Attendance and membership

Name	S	Organization	E-Mail Address
Mr. Lawrence J. Lamers	P	Adaptec, Inc	ljlammers@ieee.org
Mr. Ron Roberts	A	Adaptec, Inc.	Ron_Roberts@adaptec.com
Mr. Robert C. Elliott	P	Compaq	Rob_Elliott@compuserve.com
Dr. William Ham	A	Compaq	bill_ham@ix.netcom.com
Mr. Jeffrey J. Gauvin	V	LSI Logic Corp.	jeff.gauvin@lsil.com
Mr. Terry Gibbons	V	LSI Logic Corp	Terry.gibbons@lsil.com
Mr. John Lohmeyer	P	LSI Logic Corp.	lohmeier@t10.org
Mr. William Petty	V	LSI Logic Corp.	william.petty@lsil.com
Mr. Paul D. Aloisi	P	Texas Instruments	Paul_Aloisi@ti.com
Mr. Mike Kocso	V	Texas Instruments	Mike@mvbbuilders.com

10 People Present

Status Key: P - Principal
 A,A# - Alternate
 O - Observer
 L - Liaison
 V - Visitor

3. Approve agenda

The agenda was approved without objection.

4. Document distribution

Documents are distributed electronically by means of the T10 web site:
www.t10.org.

5. Review minutes of previous meeting

Bill Ham moved and John Lohmeyer seconded that the draft minutes as modified be approved from the last meeting. Motion passed without objection.

6. Review old action items

The action items from the last meeting were reviewed and the status is noted in the action items section.

7. Old Business

7.1 Review and Selection of an Expander Communication Proposal

7.1.1 Multi-line Addressing (99-250 & SDV-R02, 00-256r0)
[Lamers/Roberts]

Ron led a discussion of the assumptions involved with communicative expanders.

The basic framework captured follows:

Feature	expander itself	Expander "environment"	Initiators	Targets
Data phase speed	must support async to Ultra 320	may be async to Ultra 320	may be async to Ultra 320	may be async to Ultra 320
bus width	must support wide	narrow or wide	narrow or wide	narrow or wide
protocol	must support both packetized and non packetized	may be SCSI-2 thru Ultra 320	may be SCSI-2 thru Ultra 320	may be SCSI-2 thru Ultra 320 but not required to not respond to multiline selection
Software drivers when used with expander communications	requires no changes to driver to deliver communications function	no effect	no hardware driver or firmware changes required	no hardware driver or firmware changes required
Expander communication applications	required to be written to support expander communications	no effect	no effect	must support ECHO BUFFER and/or READ/WRITE BUFFER
SPI-4 compatibility	required	not required but possible	not required	not required

Bill Ham moved and Jeff Gauvin seconded that simple and communicative expanders not be required to respond to SELECTION as a SCSI target.

Motion passes: 3/1/0 (company vote)

7.1.2 Alternate Selection and Communications Protocol (ASCP) (99-213)
[Petty]

Bill Petty suggested that the ASCP protocol not be further pursued as an expander communications protocol. This position was a result from decisions within LSI Logic to pursue the ECP protocol. Some factors affecting this decision were hardware changes required in some legacy devices and driver/firmware changes.

The proposal will be cleaned up and posted for future reference if needed.

Discussion of the ASCP proposal will be removed from future agendas.

7.1.3 Expander Control Protocol (00-257) [Lohmeyer]

John went through a detailed review of the revised proposal for ECP.

The revised list of requirements included data structures that could be used to communicate to initiators and targets (as well as expanders). If these initiator/target communications were to be used it requires driver/firmware changes in the initiator/target. There is no requirement to change the driver/firmware to use the communicative expander.

Further discussion of other comments resulted in a detailed discussion of the requirements on the READ/WRITE BUFFER operation. Target disconnects and multiple attempts to use the READ/WRITE buffer from different initiators.

This is a complex discussion as far as possible driver/firmware changes are concerned. The risk is that some application will overwrite the BUFFER before the READ function has executed after the disconnect occurs. This risk is effectively mitigated because of the use of the "expander function signature". Any BUFFER content that does not have this signature is clearly not an expander communication. Therefore the application layer will have visibility that it needs to retry the communication. A slight modification where the expander function signature contains the initiator ID eliminates the condition where the BUFFER was overwritten by another initiator.

A recommendation to include a "do not disconnect bit" if implemented eliminates the disconnect but probably requires a driver change and is not needed for the protocol to work.

Many other small changes were made.

John will create a rev 2 for the next meeting.

7.2 Margin Control (99-264) [Roberts]

Ron reviewed the latest revision of this document. There was considerable confusion concerning which working group should address this issue.

Terminator control (on device boards) and receiver skew control were noted as unresolved issues.

The question of whether calibration is "allowed" was raised.

7.3 SDV working draft review [Roberts]

Ron said that he had not revised the draft due to the uncertainty involving which expander communications proposal would be accepted.

7.4 Name that expander

The name "communicative expander" was agreed as the name for simple expanders with communication capability.

8. New Business

No new business was conducted.

9. Review action items

9.1 Action items from previous meetings

Ron Robert to incorporate LSI logic comments into SDV.
Status: carried over

9.2 New action items from this meeting

None

10. Next meetings

The next working group meeting will be in Huntington Beach, CA., Monday, September 11, 2000 from 9:00 a.m. to 5:00 p.m.

Another meeting on October 30, 2000 9:00 a.m. to 5:00 p.m in Monterey, CA is planned.

11. Adjourn

The meeting adjourned at 3:00PM on Thursday, August 17, 2000.