

## DISKBOYS MINUTES

### Agenda

X3T10 SBP-2 Ad hoc, X3T13 Tailgate Ad hoc,  
1394 Mass Storage Device Profile  
June 16-17, 1997

#### 1. Opening remarks

Thanks to Jon Hanmann & WD for hosting the meeting

#### Attendees

Larry Lamers	Adaptec	Randy Hines	Philips
Ron Roberts	Apple	Frank Campbell	Qlogic
Ben Chang	Cirrus	Mark Evans	Quantum
Tom Lenny	Compaq	Mike Bryan	Seagate
Peter Johansson	Congruent	Ed Petrick	Seagate
Kazuo Nakashima	Fujitsu	Jim Nsu	SGS-Thomson
Michael Nguyen	Fujitsu	Steve Finch	Silicon Systems
Dan Colegrove	IBM	Dennis Pak	Sony
Hiro Tahara	IML	Dave Evans	Symbios
Richard Bronson	Intersect	Khorvash Sefidvash	Symbios
Tracy Harmer	Intersect	Ron Burns	TI
Darrell Redford	Iomega	Dave Skramsted	TI
Gary Brandvold	Maxtor	Tokuyuki Totani	Toshiba
Pete McLean	Maxtor	Bill Frank	WD
John Fuller	Microsoft	Jonathan Hanmann	WD
James Gay	Motorola	Glenn Higa	WD
Nelson Arata	National Semi		

#### 2. Charter

Reviewed

#### 3. Agenda

Add (6.7 mapper profile) (Dave Evans - attached)  
Move login query to query CSR. (MB)

#### 4. Review of minutes [T10/97-191R0 T13/D97133R0] and old action items

new device profile (MB) - Done  
Model number text strings (MB) Done  
Unsolicited status proposal - (PJ) - closed  
Take model vendor and ID to 1212 - closed  
New rev of SBP-2 - done  
contact printer groups - open  
queue 1 & 2 models (PJ) - Done

Minutes were reviewed - last meeting's minutes were incomplete (1/2 of meeting) due to technical problems.

#### 5. SBP-2 [T10/1155D]

##### 5.1 Review Isochronous issues

Should cycle mark index be on disk or not? Various devices can/should have on-media cycle marks while others shouldn't. Require cycle mark every 512 bytes? Our issue is how to deal with asynch copy operations between block-based devices and non-block-based devices?

Steve Finch suggested "Move V bit to msb" (PJ)

Add config ROM bits showing capabilities & propose method for whether cycle mark index is on device. (PJ)

Add mode in 'create stream' specifying playback w/o boundaries at x quadlets per cycle. (PJ)

## 5.2 Printer issues

On hold until we get more focus on whether printer issues belong in this group.

### 5.3 1 queue and 2 queue models

1 queue model added in paragraph 3 in 4.6 (about streams)

AR: PJ to work on informative annex describing how SBP2 could be used for an AV/C device (1 queue).

AR: Pete McLean to talk with TA(Mike Alexenko) into adding TA page links to various diskboy/1394 documents. Will also put list on reflector.

In sec. 5.1.3, Change the "start at zero" to "start at one". (zero is reserved)

### 5.3 Schedule editorial review

Scheduled for 7/22 in San Jose.

### 5.4 Query CSR

Move login query to CSR space. PJ: Drivers have a problem with it. Steve Finch: CSR space is very large. MB's proposal is on T10 site. Mike to send reflector message pointing to the proposal (for review next time)

### 5.5 SBP2 error scenarios

The group wants 97/196r0 to be added to SBP2.

### 5.6 SBP2 core register interference

Writing to some CSRs should have an effect only when written by the logged-in initiator. State set/clear, Node IDs, split timeout, reset start (maybe more) should have this behavior. Mike Bryan will post a proposal on the reflector.

### 5.7 Mgmt ORB timeouts

Transport layer mgmt ORB timeout. When login request writes to mgmt agent register but no ack, there's a timeout. (or any mgmt request). Login (timeout).

AR: Can we establish a timeout for all Mgmt ORBs? (all) - check with design teams

## 6. Mass Storage Device Profile

### 6.1 Combining document with STS

Everyone was to read STS in order to discuss and decide whether to combine MB's profile with STS.

Mike and Peter, at this point, aren't ready to release editorship of their individual parts.

John Hanmann: Keep clarity and focus for implementers (drive makers & driver writers).

PJ: Except Annex A, the rest of it has been written more clearly elsewhere.

Straw poll:

Q: Do we combine the documents? Y: 10, N: 2, A:9

if yes: What goes into document body; what goes into annexes

if no: Proceed to address mike's document. Proceed with project proposal

Debate: then another vote: Y:12, N:5, A:6

Still no consensus on how to combine the documents, with good points on both sides.

Steve Finch moved that the TWG recommends to create a single document based on MB's profile with an annex addressing systems issues added from STS and that MB be the editor.  
Second: J. Fuller

Peter J: recommends that the editor of the STS document be changed and that STS be changed.

MB agreed to the task.

This proposal, if approved by T10, changes the scope of the STS document and its editor.

PJ: moved to amend (friendly) the Steve Finch's motion: Move that TWG recommend that the substantive non-redundant work in mass storage profile be incorporated as an annex, that the project proposal for STS be reconsidered with a view towards enlargement in scope if necessary to accommodate what we're proposing to bring in.

RH: seconded the motion

In favor of replacing Steve motion with Peter's motion : Y: 1 N: 11 A: 6

PJ: move to table the question.

SF: Second.

Y: 7, N: 10, A: 3

SF: Withdrew the motion

JF: Agreed

## 6.2 Location of password

Does the password need to be in non-volatile (NV) memory at power-up or can it be recorded on media so there is a delay between power-up and secure login? JF: yes as long as you can get it with your enumeration (startup-state) power. JF wants login capability before setting high power consumption (media spinup).

What happens first? Login or high power state? Login: (NV memory), high power (media)

JF: skip this subject for later.

## 6.3 Unsolicited status proposal

What is the unsolicited status field's definition? Should unsolicited status be same format as the solicited status? SF: format for both should be the same.

We will go back & say that both unsolicited and solicited status formats are the same. Will give codes & meanings. Anything broken as a result of this decision will be examined and fixed.

AR: MB to work on the document to add codes and clarify the fact that unsolicited status is the same as solicited status.

## POWER DISCUSSION.

**Much** debate let to these proposals:

Proposal 1:

1. Everyone can change power state via power control register when there are logged in initiators.
2. Once someone logged in,
  - a) logged in initiators change power states via commands
  - b) writes to power control registers are rejected

Proposal 2:

1. Power state required to login is contained in Config ROM.
2. Issuing of a login command may cause drive to go to required power state.
3. Once someone logged in, control is via commands
4. Device may transition to lower power state if no one logged in

Item 4 was later changed to:

4. In the event of unsuccessful login the device may transition to prior power state.

Proposal 3:

Same as P1 but add...

- 1a. Config ROM indicates power state required to log in successfully.

After even more debate, the vote was for Proposal 2: Yes: 16, No: 0.

The proposals/amendments/counter-proposals/etc. that took place to finally decide on proposal 2 are summarized below:

JF: moved to accept P2, DE: seconded

JH: Friendly amendment, A failed login may return drive to previous power state. Config ROM indicates the power state where it may have to enter to accept login.

(Add item #4, proposal 2):

SF: Device may enter a lower power state if no one logged in. PJ: Seconded.

ME: Unfriendly amendment to SF: change #4 - may only transition if unsuccessful login. Ron Roberts: seconded. Y: 6, N: 10, (failed)

Discuss SF motion: JF: change #4 to say device shall move to previous power state. SF: power cycles and spinup cycles kill you. JH: The idea is that the first spinup give you the password from media to RAM. Ron Roberts: wants a way to keep power on (so objects to #4).

Vote on SF motion: Y: 13, N: 5

Move to change #4

Bill: friendly motion to change #4 to read - "In the even of an unsuccessful login, the device may transition to the prior power state (before login)" - steve accepted

Vote on Proposal 2, Y: 16, N: 0

#### [6.4 Model number text string](#)

Mike Bryan added textual descriptors in SBP2.  
2 quadlets of zeros are included per IEEE 1212.

## 6.5 C/DVD annex

MORPHING: CD & DVD - OS needs to know how to use the device. Nothing in SCSI solves this problem. In the past, 2 luns are provided for 2 types of media (resident at one time). They plan to add "Report Configuration" a new command that reports configuration that gives static (device-related) & dynamic (media-related) characteristics. This new command is not yet incorporated into the C/DVD profile.

## 6.6 Schedule editorial review

Postponed until more issues are resolved.

## 6.7 Mapper Profile

MSFT is using SCSI class driver via sbp2 to 1394 translation to tailgate.

Dave Evans proposed Mapper Profile, describing functionality to make a bridge making an ATA drive look like native 1394.

MSFT's mapper may require changes to native profile.

AR: DE to return to us a list of changes (detailed) that represent the list of things of how mapper differs from native profile

## 6.8 Start/Stop unit

See previous notes under POWER DISCUSSION. The stop/start belongs in the Native Drive Profile for power management. Mike Bryan to add start/stop proposal into his profile.

Power saving mode page discussion:

Adds power control via device timer. MSFT requested timer functionality on drive.

JH: Moved that we remove the power-management timer page from the native profile. ME: seconded.

Discussion: Where does power management control belong, in the device or with the OS/driver.

Vote: Y: 4, N: 6

MB will sketch a flowchart proposal together for next time.

## 6.9 Update on MMC2

Start/stop is in SPC and will be incorporated into MMC2. First review to be done in July. Pieces of the first MMC2 draft are on [ftp.symbios.com/pub/standards/io/xstd/drafts/mmc2](ftp://symbios.com/pub/standards/io/xstd/drafts/mmc2)

## 6.10 Removable Annex

IOMEGA brought in and distributed their proposal for a removable device annex. No discussion. This is to be reviewed for discussion at the next meeting.

## 6.11 Destiny of Profile Document

STS : SCSI version of SBP2. Does STS belong as an annex in Native Dive Profile or does Native Drive Profile belong in STS? Everyone should consider this issue to discuss during the next meeting.

## 7. Tailgate document [T13/D97107]

No open issues except the editorial review. Minor editorial changes only.

#### 7.1 Editorial review (Tuesday)

#### 8. Review of action items

AR: PJ informative annex use of SBP2 for AVC devices

AR: post list of registers that should be protected for a logged in initiator

DE: list of differences between native & mapper/proposed changes to native profile & appendix which includes: 1) limitations that mapper imposes as compared to native, 2) requirements for IDE drive to hook up to a mapper.

MB: new rev of profile

PJ: management ORB timeouts

#### 9. Call for patents

None

#### 11. Meeting schedule

July 22, San Jose, CA at Seagate

Aug 19, Longmont, CO at Maxtor (Hosting company is tentative)

Sep 8/9, Nashua NH at Unitrode

Oct 7, Irvine, CA at SSI