Minutes
T10 SBP-2 working group
T13 Tailgate working group
Diskboys mass Storage Command Profile

22 July 1997

Attendees:

Richard Kalish	Adaptec	David James	Quantum
Larry Lamers	Adaptec	Rob Lash	Quantum
Jeff Wolford	Compaq	Mike Bryan	Seagate
Peter Johansson	Congruent	Steve Finch	Silicon Sys
Kazuo Nakashima	Fujitsu	Dennis Pak	Sony
Dan Colegrove	IBM	Dave Evans	Symbios
Richard Bronson	Intersect Tech	Mike Winchell	Symbios
Darrell Redford	Iomega	Carol Ann Garcia	TI
Gary Brandvold	Maxtor	Bryce Leach	TI
Pete McLean	Maxtor	T.R. Arvind	TRI
John Fuller	Microsoft	B.M. Ramesh	TRI
Kevin Johnston	Motorola	Jon Hanmann	WD
Randy Hines	Philips	Marcus Kellerman	WD
Curtis Stevens	Phoenix	Vilas Bhade	Wipro LTD
Mark Evans	Quantum		

The chair, Pete McLean, called the meeting to order at about 900.

Pete thanked Seagate and Mike Bryan for hosting the meeting.

Every one in the group introduced themselves.

Pete explained that we were operating under NCITS rules.

Pete reviewed the charter of the group.

The minutes of the last meeting were accepted as written.

Pete reviewed the action items from the last meeting:

1) Mike Bryan did not turn a new rev of the HDD profile document beacuse of the outstanding issues -- action item carried over.
2) Mike has a proposal for registers that should be protected for login to be presented later.
3) Peter Johansson has a proposal for ORB timeouts to be presented later.
4) Peter did not complete an informative annex for use of SBP-2 for AV/C devices -- action item carried over.

5) Dave Evans was to present a list of differences between the native HDD document and the Symbios proposed mapper. This item was carried over.

John Fuller moved that Jon Hanmann turn a rev of the Tailgate document and submit it to T13 for letter ballot. Steve Finch seconded the motion. The motion carried 9:0:1 (Kevin Johnston from Motorola abstained).

Pete explained what the current status of various documents was beginning with MMC. MMC defines a core command set and a "feature set" and profiles for different device types.

Discussion then began on the native HDD profile:

There are philisophical differences and conflicts between the profile and SPC/SBC. SPC requires commands that are not implemented in the profile (INQUIRY, REQUEST SENSE, SEND DIAGNOSTICS).

John Fuller moved that we NOT include the INQUIRY command in the HDD profile. Gary Brandvold seconded the motion. The motion carried 9:2:2. The "nos" felt that this vote did not resolve the issue.

The next disscussion was about where the HDD profile document (and future device-specific documents) should reside:
a) combined with STS
b) as part of MMC-2
c) as a new document and project

Mark Evans said what about making the profile a normative annex of SBP-2.
Peter said what about putting STS back in SBP-2 as a normative annex.

Peter made a motion to include the STS project into SBP-2 as a normative annex that is not mandatory for all SBP-2 devices. Steve Finch seconded the motion.

Mike offered a friendly ammendment that only clauses 5.6.1 SENSE DATA and clause 6 Configuration ROM entries be included. Peter rejected the ammendment.

Mike offered an unfriendly ammendment that only clauses 5.6.1 SENSE DATA and clause 6 Configuration ROM entries from STS be included in SBP-2. The motion died for lack of a second.

Peter's original motion carried 10:1:2. Jeff Wolford (the "no" vote) said he wanted to wait until he saw where Mike Bryan's document was going.

Curtis Stevens moved that the HDD profile be included in SBP-2 as a normative annex along with definitions for all of the commands. Steve Finch seconded the motion. After discussion, the motion failed 5:9:2.

Steve Finch made a motion to keep a separate profile (including definitions for all commands) with separate annexes for different SBP-2 compliant device types. John Fuller seconded the motion. The motion passed 15:0:1. Dan Colgrove abstained because he though that this motion "smacked of progress".

Pete McLean took the action item to modify the project proposal T10/97-162 to reflect the outcome of the previous vote. He will present this at or before the next wroking group meeting.

Discussion began on when the GUID had to be available. John Fuller, Peter and Jeff said that the device had to have a GUID before spinning up.

At 1145, as the discussion heated up, Curtis moved and Dan Colgrove seconded that we break for lunch.

We reconvened about 1300.

The discussion resumed with the discussion about the functionality that an HDD had to have before the disk spun up. Jeff Wolford said that a "device bay" currently allows 1.5w at 3.3v and requires a GUID and a successful login before spinning up.

After much discussion, the HDD vendors were given an action item to determine how much power they would need before spinning up for all possible speeds (s400, s800, s1600, s3200) including the ability to perform secure login, or some other solution to the issue.

The removable annex has been completed by Darrell Redford and put up on the web site. Because this has only been up there for a short time, review of this document will be carried over to a later date.

Mike Bryan made a proposal for GSEN. This is on the ftp site with the name gsen.doc. There were no objections to Mike including his proposal in the next rev of the HDD profile.

Mike also said that he has included a definition for the first two quads of "00s" in the Unit leafs. These indicate that the following information in the leaf is in ASCII and English.

Mike suggested that the SPLIT_TIMOUT and BUSY_TIMEOUT minimums be the same as those in 1212. The resolution was that Peter said that this was being addressed in p1394.a, and that we should wait until they had completed addressing the issue.

Jeff Wolford said that "device bay" would like to see the node entries back in the CSR so that the node entries that could not be unit specific could be reported (e.g., having the phy/link reporting that it was in the D0 power state while the device itself was in the D2 state). Pete McLean said that, as an alternative, Mike Bryan should put a warning into his document that indicates that there MIGHT be a change to the Config ROM structure after power management issues have been resolved.

Peter Johansson went through changes, recommendations, and other issues with SBP-2:

* A corrected formula in the clause on CYCLE_TIME was presented by Peter.
* When the fetch agent goes dead, the DEAD bit shall be set to one. This was added at the end of item (c) in clause 10.3.
* The module_vendor_id in the root directory in the Config ROM does not have to be the same as the node_vendor_id.
* CSRs from 200h through 228h shall not be affected by a write to the RESET_START register.
* Peter proposed that the upper 16 bits of the MANAGEMENT_AGENT register would now be called ORB_node_id and contain the 16 most significant bits of the fetch of the ORB in progress. This would be cleared to zeros when there were no ORBs being processed so that an initiator could tell if the target thought that it was busy. This eliminates having the initiator sending a request and receiving a conflict error when he suspected a timeout/hang condition. Since this is in a stabilized section of the document, it was felt that this required more thought. Steve Finch said he thought that this might break his silicon. This proposal was rejected in favor of using the login timeout to the "maximum management agent timeout" suggested by John Fuller.
* Peter began describing a method for transmitting an unstructured ("metered") isochronous stream to stimulate additional discussion for this kind of applications. A cycle mark may be added to this recommendation in order to provide information for error recovery.
* John Fuller took an action to submit a proposal where the notify bit shall always be set to one for all management ORBs.
* Steve Finch asked if the fn bit (see clause 11.5) can ever be changed during a "session". Peter recommended that a note be added that if fn is changed at the wrong time (TBD), the results are unpredictable.
* Steve asked that if there are 2 streams with n channels, can values of n be rejected if they're duplicated in the streams, possibly with a "channel in use error" (?). This is listed as an open issue.
* Steve asked for a clarification of the cm field (see clause 5.1.2.2).
* Steve asked how he could define what an algorithm might be for determining min_transfer_length. He Peter said that he would add a note to say that this is an advisory value.

After being asked by the secretary to clarify the above action, Peter commented that the secretary was being too detailed in his note taking.

* Steve had several more editorial comments. Steve said he would take an action to send the remainder of his comments to Peter. They would negotiate what they thought was editorial only for folding what he thought was reasonable into SBP-2.

Pete reviewed the action items from this meeting.

Pete made a call for patents.

Pete reviewed the meeting schedule.

The next meeting will be in Longmont hosted by SSI or Maxtor on August 19th.

The next meeting after that is in Nashua, NH on September 8th and 9th. Joint meeting with SCSI-3 and MMC-2 working groups the morning of September 10.

Pete adjourned the meeting.