STA Technical Agenda -- SCSI Harbor
March 9, 2000 in Dallas, TX

Meeting Minutes

1. Opening Remarks and Introductions

Paul Aloisi called to order the STA Technical meeting/SCSI Harbor meeting at 2:45PM. Thank you to Texas Instruments for hosting the meeting in Dallas.

2. Approval of Agenda

Accepted.

3. Attendance and Membership

14 members present:
Larry Lamers, Adaptec; Michael Grant, Ciprico; Charles Tashbook, Dallas Semiconductor; Nathan Hastad, General Dynamics; J.A. Jones, Intel; Alvin Cox, Seagate; Gene Mulligan, Seagate; Benjie Sun, Silicon Graphics; Bob Snively, Sun Microsystems; Paul Aloisi, Texas Instruments; Rick DeMars, CTS; Betty Akeredolu, Molex; Carl Kott, Madison Cable; John Ng, JPM; Rob Elliott, Compaq

4. STA Patent Policy HTTP://www.scsita.org/STA /Patent Policy Sept16.pdf

Announced.

5. Approval of Minutes –**February 9, 2000 - Huntington Beach, CA**, (00s002r0)

Approved.

6. Document Distribution

ftp://ftp/scsita.org/pub/harbor
http://www.scsita.org/harbor
Mentioned.

7. Review of Old Action Items

7.1) Each drive vendor to provide SGI and Intel a total of 40 1.0-inch and 30 1.6-inch drives for testing 68-pin drives for thermal test will be provided to Mark Olsen and 80-pin drives for vibration test will be provided to Benjie Sun. Partially complete – needs NDA information. – Carry Over

7.2) Charles DeJesus (Quantum) will provide Benjie with thermal and vibration contact information for his company. He will also provide NDA information to Tom Irvine and Benjie Sun. – Carry Over

7.3) Modal drives – drives that we can drive the heads with a sine wave - IBM and Hitachi - Done

7.4) Fujitsu Presentation of Thermal and Rotational Vibration at the March meeting. – Data coming in Mid - April

8.0 SCSI Harbor Status [Benjie Sun]

Summary: 15x backplane received; rotation vibration testing underway; thermal testing near completion; Fujitsu testing is expected to be completed until mid-April.

Schedule: 1.6" results 3/9/00; design review 3/9/00; rev2 tape out 3/29/00; receive prototypes and begin testing 5/1/00.

Testing: Rotational Vibration Testing (spring force at RV clip, bottom sheet metal stiffener, wrt drive displacement).

Implementers: Intel (various projects over the next year), SGI (3/2001), Clarion.

Drive Information Required: VCM measurement, drive center of gravity, drive moment of inertia, actuator pivot to head distance, VCM torque constant (Kt), error rejection curve information.

Goals for Next (May 18, Nashua, NH) Review: rev2 prototypes ready to begin testing, presentation of results by Fujitsu.

9.0 SCSI Harbor Design Review [Benjie Sun]

Dock/Wrapper Design Improvements:
For each mode, the mode shape shows relative motion for each point.
Increasing the stiffness of the material causes the natural frequency to increase.
Rib stiffener yields a 10% reduction at 500 Hz (20% w/o mode at 195Hz).
Less than a 1% difference was observed in HDD displacement when spring stiffness was increased (-2 to +4 added to 5hm).
Test methodology was questioned. Sun has looked at actual drives seeking, but most tests use hammer strikes.

Rev2 Design Review:
Spring rigidly attaches wrapper to sheet metal; CLD pinched between wrapper and sheet metal; Spring does not deflect/bow sheet metal; This causes a reduction of vibration transmission path.
Stiffness increased by putting in 90-degree bends. It is best to put the bends in the bottom sheet metal only (not half in top and half in bottom).
Guide rails will be bent near the connector end so as to be stiff enough to stabilize connector, but complaint enough to not preload the connector. This supports the connector and stabilizes/ damps motion.
Kingston Technologies is designing a single acrylic light pipe (<0.1 inch diameter) that snaps into the detail of the wrapper casting that will direct light from one or more LEDs on the backplane up to the front of the wrapper. Bi-color LEDs or closely placed LEDs could be used.
Backplane indicators: power, activity, fault. This may be multiple colors or some flashing coding.
An upgradeable EMI gasket (a separate, single sheet metal unit) is held captive using a plastic bezel.

SCSI Harbor Shoot-Out - promotion (Paul Aloisi)

Faster time to market with new versions of disk drives (simply plug into the existing wrapper).
Reduced engineering cost both at systems house and disk manufacturers support.
Reduced cost to end customer.
Correct SCSI overall design for minimum bus testing, standardized with the SCA-2 connector.
Should there be unique rail keying for SCSI or fiber channel or ATA?
Specific power and air flow requirements for the system.
Reduced inventory with one common wrapper.
Improved system reliability from widely tested design based on multiple company effort.
SCSI Harbor is a good answer to Device Bay. STA is the right place to document and market this alternative to Device Bay.
It makes SCSI easier to use. It is already being designed into platforms.

10.0 SCSI Plug and Play (PnP) – Documents will be on the SCSITA.ORG web site.

10.1 Desktop [Larry Lamers]

Preliminary Document Review

Waiting for Marketing input from Adaptec

10.2 Server [Larry Lamers]
Preliminary Document Review
Waiting for Marketing input from Adaptec

11.0 Old Business

12.0 New Business

13.0 Review of Action Items

14.0 Meeting Schedule
May 18, 2000 Nashua, NH
July 13, 2000 Colorado Springs, CO

14. Adjournment
The March 9th meeting was adjourned at 5:15PM.