SCSI Harbor Meeting

January 20 , 1998

Irvine, CA

Agenda

1. Opening Remarks and Introductions
2. Approval of Agenda
3. Attendance and Membership
4. Approval of Minutes December 2, 1997 Meeting in Newport Beach, CA (97s112r0)
5. Document Distribution
6. Review of Old Action Items
   - 6.1 STA patent policy [Grantham]
   - 6.2 Revised taxonomy proposal [Ham] - cover in 8.1
   - 6.3 Symbios design as starting point [Hahn]
   - 6.4 Criteria mapping from taxonomy [McGarrah] - cover in 8.2
   - 6.5 Feb. 20 meeting in Fort Collins, CO [Lohmeyer] - cover in 10.
7. Old Business
   - 7.1 Show & Tell of Existing Solutions
   - 7.2 Selection of Document Editor
8. Technical Issues
   - 8.1 Revised taxonomy proposal [Ham]
   - 8.2 Criteria mapping from taxonomy [McGarrah]
   - 8.3 General design principles (97s110r0) [Anderson]
   - 8.4 Technical goodies (97S104r0) [McGarrah]
   - 8.5 Design performance verification strategy [Ham]
9. Review of Action Items
10. Meeting Schedule
11. Adjournment

Review of where we are after 90 days, and some important questions

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Original Goals and Constraints

Would focus our efforts on the needs of the LAN server market (see market slides at the end of this presentation) but not preclude use in Desktops, Workstations, or Multi-User Systems

Would focus on 3.5” HDDs, but not preclude other 3.5” devices (e.g., tape drives); would not support 5.25” (e.g., CD ROMs) due to volumetric efficiency contraints

Would be hot-pluggable

Would be 80-pin SCA-2 only, but would not preclude adding other interfaces at a later date

Would be robust - pass the 90 degree tip-over test

Would work in any orientation

Would need to supply sufficient power, cooling, and rigidity for up to 10K RPM drives

Would provide an individual locking mechanism

Would provide for automated loading and ejecting

Would key wrapper to match power requirements or feature set

Would provide “room” for value adds such as super robust and super quiet drives

Would provide for customizable bezel

Would fit (with adapter) in standard 5.25” tower slot

No requirements would be placed on the interface between the device and the wrapper

Review of the Symbios Product

What people generally liked:

- Camming was very good
- Spring clip on one side only, near one mounting hole
- The mass of aluminum was a positive feature both for shock, vibration, and cooling
- Plastic bezel was simple, had room for logos, removable, and could be customized
- Hole between drive and bezel formed natural handle

Nothing's perfect:

- No individual locking mechanism
- Nothing to protect circuit board from physical or electrical damage
- Front holes seemed large for EMI w/FC-AL drive
- Not a lot of "room" beyond 3.5" FF
- No 1" optimized design
- Kind of long ~8 inches

Most important:

- Symbios seems willing to make a deal

Dale Anderson's* requirements list - November 6, 1997 98s002r0

- Wrapper should be compact, open, and made of aluminum, zinc, or magnesium
- Device should mount to wrapper at extreme positions (outer side mounting holes)
- Wrapper should provides decorative bezel
- Wrapper should contain EMC shield (shield installation optional)
- Insertion and extraction must be simple, obvious, and provide positive feedback, but could be made customizeable
- Wrapper should be keyed to provide correct orientation
- One wrapper for both 1.0" and 1.6"
- Visual status indicator needed
- Wrapper should provide protection for PCB
- Wrapper should have bumpers to minimize damage when outside of dock
- Wrapper should provide grounding between device and dock
- Minimize free play between wrapper and dock in all axes

* Pat McGarrah's paraphrasing

Key Questions

Missing from Dale's List:

- Should we cover the PCB for better damage protection, etc.? (What about the impact to cooling?)
- Should we include full EMI protection at wrapper level?
- Should we have a lockout mechanism for compatability like tape cartridges have?
- Should we add bumpers?
- What is the visual status indicator?

In addition:

- Should it work in all orientations?
- Should the device work for both LVD or multi-mode?
- Should we provide for an individual locking mechanism?
- Should we provide a "device inserted" mechanism?
- Should we channel the cooling air?
- What should we do about empty slots?
- Should we have two spring clips, one opposite each mounting hole?
- Do we have any type of commitment from HDD vendors and/or system houses

Other issues

The Symbios wrapper is currently designed for maximum volumetric efficiency with 1.6” drives (i.e., 1.0” drives fit)

Should we make an efficient 1.0” version in addition? (>95% of the desktops use 1.0” exclusively)

If so, should we also provide for mixed configurations?

Visually, it looks like this…