



# SCSI Harbor Status

**Benjie Sun**

**Silicon Graphics, Inc.**

**5/5/99**

# Status Summary

- **Awaiting drive receipt**
- **Awaiting prototype completion**
- **Awaiting backplane completion**
- **Estimated design completion  
Jan 1999**
- **Product design on hold until testing  
phase begins**

# Progress

- **Prototyping (wrapper and plastics) underway**
- **Backplane design emerging (Molex/QLogic)**
- **Thermal test setup completed, awaiting drives**
- **RV testing equipment source found**

# Schedule

- **Testing**

- **Complete prototyping May 21, 1999**
- **Complete thermal testing Jun 30, 1999**
- **Complete vib testing Jul 15, 1999**

- **Design**

- **Design review Jul 99**
- **Design review Oct 99**
- **Finalize design Jan 99**

- **Fab Cycle - assume 4 weeks**

# Prototype Costs

- **Wrappers**      **\$22k**
- **Plastics**      **\$10k**
- **Sheet Metal** **\$ 2k**
  - **Fujitsu**      **\$14k**
  - **SGI**      **\$8k**
  - **Intel**      **\$6k**
  - **IBM**      **\$3k**
  - **Quantum**      **\$3k**
- **Backplane - Molex**

# Issues

## ● Old

- **connector cable issues (thermal)**
- **locating thermal testing technician**
  - **Mark Olson - SGI**
- **locating rotational vib testing technician**
  - **Tom Irvine - Vibration consultant**
- **require multiple (4) backplane prototypes**
- **drive receipt**

# Issues

- **New**

- **prototype payments (Quantum, IBM \$3k each)**
- **rotational vibration test equipment**
  - **The Modal Shop, GHI**
- **Contact names from each drive mfg for thermal and RV testing**
- **Drive Proprietary Information**
  - **PES information**
  - **error rejection curve information**
- **NDA - T. Irvine**

# Issues

## ● Drive Receipt

### – Thermal (5/13/99)

- 68-pin drives (thermocouple if possible)
- Thermocouple location and max temp product spec
  - SGI c/o Mark Olson (715) 726-8218  
1050 Lowater Road  
Chippewa Falls, WI 54729

### – Rotational Vibration (5/17/99)

- 80 pin SCA-2 drives
  - Tom Irvine (602) 814-6156  
2506 S. Kachina Circle  
Tempe, AZ 85282

# Issues

## ● Design

- Zinc vs Aluminum wrappers
- LED solution to be in wrapper (light pipe)
- Look into 3+u high box
- EMI solution - upgradable attachment
- Rotational vibration spring
- Manufacturability
  - castability - draft, tolerances, tooling (C. deJesus, Quantum)
  - Isolation bumper assembly

# Resources

- **SGI - project coordination/design, prototyping, testing**
- **Intel - project design, testing, prototyping, analysis**
- **Molex/QLogic - backplane design and prototyping**
- **IBM, Quantum, Fujitsu - drive supply, testing, and prototyping**
- **Consultant, T. Irvine**
- **Modal Shop/GHI - RV test equipment**
- **Modal software**

# Goals for Next Review

- **July 15, 1999- Colorado Springs, CO**
- **Hold Design Review**
  - **Incorporate thermal and RV results into redesign**
  - **Discuss detailed feature design for wrapper, handle, EMI, and bezel**
    - **Attendees should include mechanical experts from drive mfgs to discuss drive specific needs**