



# Burn-in & Test Socket Workshop

**March 7 - 10, 2004**

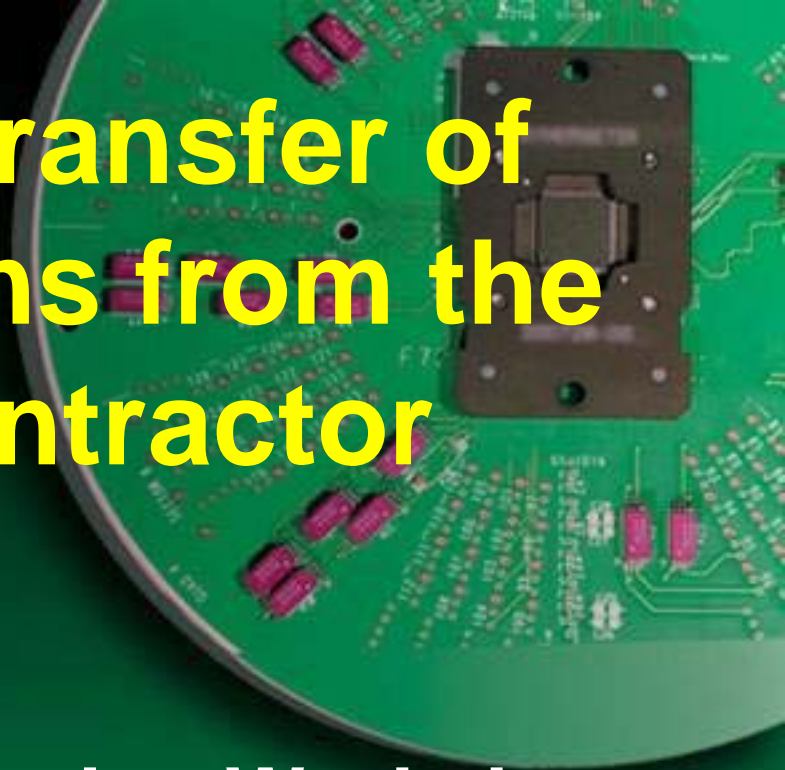
**Hilton Phoenix East / Mesa Hotel  
Mesa, Arizona**

## **PRE-PANEL PAPER**

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# Obstacles in the Transfer of Contactor Solutions from the OEM to the Subcontractor



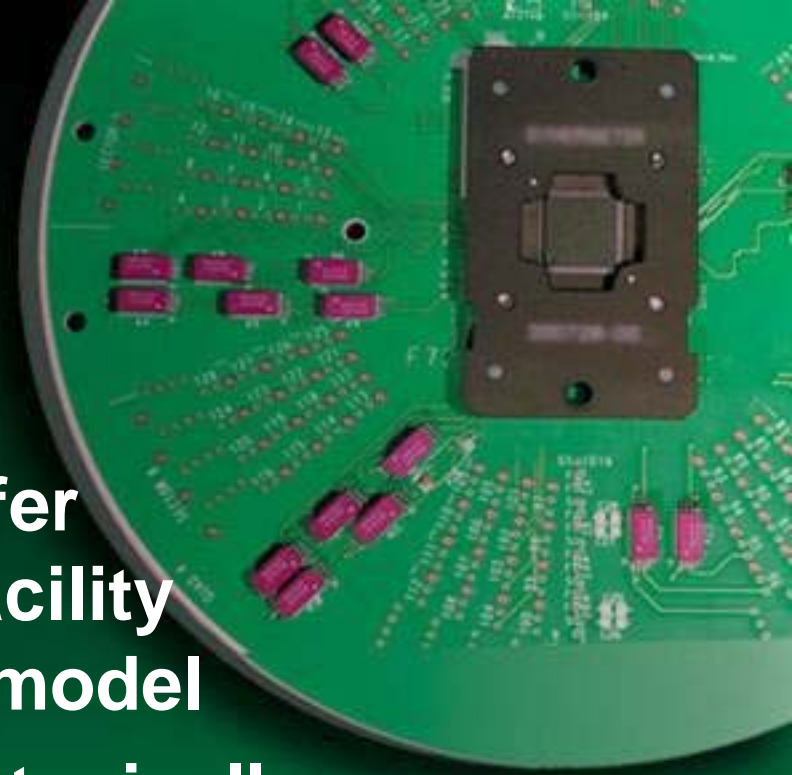
**2004 Burn-in and Test Socket Workshop**  
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**Jon Diller**  
**Synergetix**

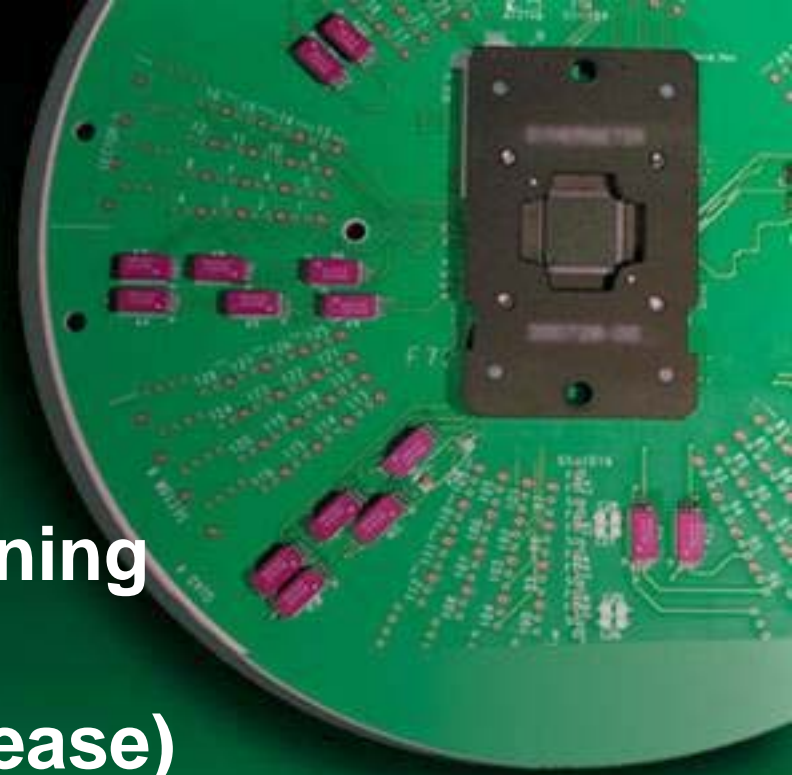
# Introduction

- OEM development, transfer to external production facility most common business model
- Production test interface typically follows same path
- Challenges similar whether internal or external



# Typical Flow

- **Initial Development, Planning (4-18m pre-release)**
- **Bench Test (2-3m pre-release)**
- **Initial Production (0.5-2m pre-release)**
- **External launch**
- **Ramp-up & Post-partum (8-10w post-release)**



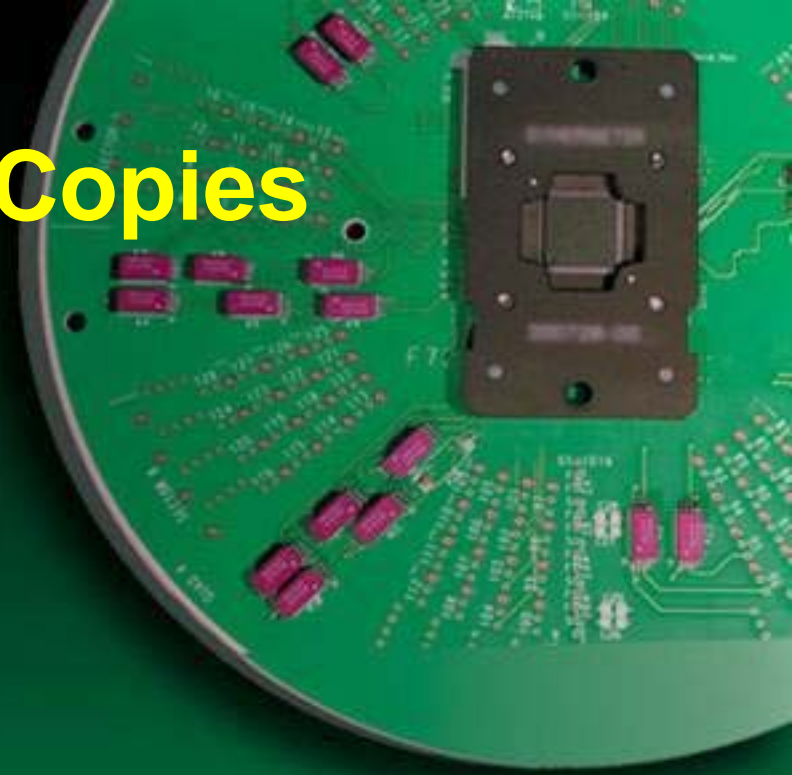
# Issues with the Original Interface



- **Contamination**
  - Lead Free
  - Alignment
- **Z-axis**
  - Blunting
  - Insufficient travel
- **Mechanical cycle life**
- **Assembly inconsistencies**
- **Hygroscopic growth**
- **DUT board warping**
- **DUT board damage**
- **Modifications**
- **Package changes**

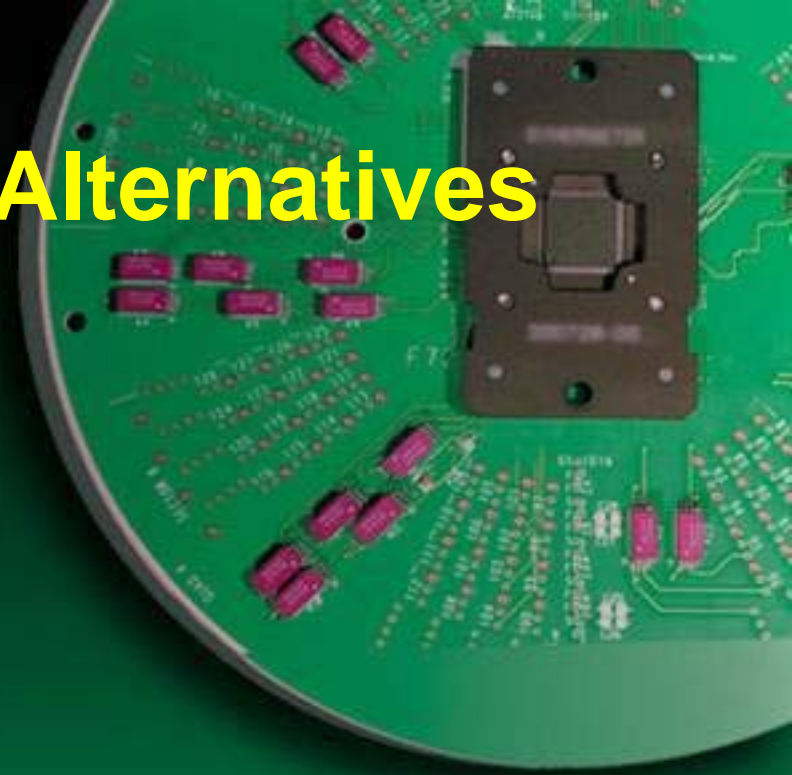
# Issues with Interface Copies

- **Missing QA, altered inspection practices**
- **Revision control**
- **Sustained modifications**
- **Price control**



# Issues with Interface Alternatives

- **Witness marks / package damage**
- **Cycle life**
  - **Yields**
  - **Cost of test**
  - **Production rates**





# Conclusions

- **Most companies follow sound practices**
  - Dedicated engineer
  - Standardized approaches
  - Controlled changes
- **Most companies find pitfalls**
  - Revision control
  - Limited communication
  - The Z-axis battle

