



present

# Green Reliability Seminar

May 8, 2009

Mike Silverman, Ops A La Carte (intro)

Dr. Cheemin Bo-Linn, Peritus Partners

Alan Wood, Sun Microsystems

Bryan Stallard, Ops A La Carte

# Green Reliability Seminar



**Mike Silverman, Managing Partner, Ops A La Carte:**  
*Introduction: Setting the Stage*



**Dr. Cheemin Bo-Linn, CEO, Peritus Partners:**  
*Getting the Bang - Green Agile Solutions Designed for Eco-Environmental Impact!*



**Alan Wood, Distinguished Eng, Sun Microsystems:**  
*The End of Redundancy - alternative methods for achieving high reliability*



**Bryan Stallard, Senior Rel. Eng., Ops A La Carte:**  
*EDA Usage in Reliability Aspects of Green Technology*



# HAND-OUTS

Ops Packet (all on recycled paper)

Pen (100% recycled plastic)

Green Reliability Brochure

Survey (please fill out as you go)

Note Paper (again, on recycled paper)



# LOGISTICS

**3 Presenters**

**Webinar Also – Hello webinar participants**

**We will allow for Q&A at the end of each presentation**

**We will be monitoring webinar questions and ask at end**

**Polling questions before each presentation**



# SCHEDULE

**9 – 9:15am Introduction**

**9:15-10am Dr. Cheemin Bo-Linn presentation (incl Q&A)**

**10-10:15am Break**

**10:15-11am Alan Wood presentation (incl Q&A)**

**11-11:15am Break**

**11:15-12pm Bryan Stallard (incl Q&A)**



# GOING GREEN

Today, the topic of Green is discussed more and more.

Every day we hear about companies "going green".

But what does this really mean?

In fact, we are being bombarded with new symbols and slogans and pictures



# GOING GREEN

"Going Green" has many implications, from the materials being used to the type of energy being used and the quantity being consumed.

And each aspect of "Going Green" has reliability implications.

*In fact, any time we change material properties or design concepts, there are inherent reliability risks that need to be addressed.*



# Industries Involved

Here is a partial list of the high tech industries involved in the movement.

- Solar
- Wind
- Battery
- Nuclear
- Electric/Gas Meters
- Generators (methane)
- Green Cooling
- Water Purification
- Telecommunications
- Hydrogen
- Server Farms
- Electric Vehicles
- Fuel Cell
- Others

Which ones did I miss?



# Importance of Reliability

Reliability is going to play an important role for all of these industries because these industries are trying to take the place of an incumbent – must be as good or better

- Higher Reliability Demands
- Higher Availability Demands
- Higher Warranty Requirements
- New Materials/New Risks
- Pressure on reducing power



# Reliability Techniques

Here is a partial list of the reliability techniques that will be important with these new industries:

- Assessment / Goal Setting / Gap Analysis
- Competitive Analysis / Benchmarking
- RoHS Conversion / Material Selection
- Risk Analysis/FMEA
- Reliability Modeling
- Thermal Analysis
- Derating Analysis
- PM/Warranty Predictions
- HALT/HASS
- Reliability Demonstration Test / Accelerated Life Test



# Green Reliability Seminar

*The following 3 speakers will give you their insights as to the trends, techniques, and possible solutions.*



**Dr. Cheemin Bo-Linn, CEO, Peritus Partners:**  
*Getting the Bang - Green Agile Solutions Designed for Eco-Environmental Impact!*



**Alan Wood, Distinguished Eng, Sun Microsystems:**  
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## **POLLING QUESTIONS BEFORE PRESENTATION**

1. Does your company have a Green program initiative?
2. If you are in development, how many consider “green/energy efficiency”?
3. If you are in IT or the data center, has your management conducted an energy efficiency audit?
4. Has your company conducted an energy efficiency audit?





**Dr. Cheemin Bo-Linn, CEO, Peritus Partners:**  
*Getting the Bang - Green Agile Solutions Designed for Eco-Environmental Impact!*

Dr. Cheemin Bo-Linn, CEO of Bo-Linn Group / Peritus Partners, Inc, is recognized as an innovative hi-tech leader specializing in strategic engagements, delivering and implementing high impact business and marketing solutions tied to accelerated profit growth. She is also Venture Advisor, focused on green tech efficiencies, infrastructure, and related energy investments. Prior, Bo-Linn held senior leadership positions including Co-Founder, Chief Marketing Executive, and CEO at start-ups. Dr. Bo-Linn has also held several senior executive roles at Fortune 100 global companies including IBM Vice-President. She has been invited to speak at the United Nations GreenTech Conference, The Techno Security and Hacker's Halted International Symposium, and academic/research institutions including Stanford University. Dr. Bo-Linn was selected to be the Chief Mentor for the 2008 California Clean Tech Open and such efforts resulted in the portfolio clean tech company receiving both the prestigious CCTO Award and Sustainability Award.

Dr. Bo-Linn is the recipient of the YWCA "Tribute to Women in Industry" Award for her leadership in contributing outstanding profit and revenue growth to Top Fortune companies and AACI's "Silicon Valley Star Award" for her contribution to Technology. She currently serves on the Board of Directors for the Association of Corporate Growth (focused on Mergers and Acquisitions and capital investments), WITI, and enterprise/social networking start-ups. Formerly, she was on the Board of Directors for the American Electronics Association. Bo-Linn graduated from the University of Houston with her doctorate degree with domain expertise on "Implementing Computer-based Information Systems and Organizational Change" and the Stanford Executive MBA Certificate Program in Strategy.





**Alan Wood, Distinguished Eng, Sun Microsystems:**  
*The End of Redundancy - alternative methods for achieving high reliability*

## **POLLING QUESTIONS BEFORE PRESENTATION**

1. Are reliability engineers or have a job that involves reliability?
2. How many people are in the computer industry?





**Alan Wood, Distinguished Eng, Sun Microsystems:**  
*The End of Redundancy - alternative methods for achieving high reliability*

Alan Wood is a Distinguished Engineer in Sun Research Labs. He is working on energy-efficient computing and a next generation switch using Sun's new wireless interconnect technology. Previously, at Sun, he was the fault tolerance architect for a DARPA-funded next generation supercomputer. Prior to joining Sun, he worked for 13 years in the HP NonStop Division, which was originally Tandem Computers. Alan was a Distinguished Technologist at HP, in charge of fault-tolerant modeling and architecture for NonStop systems. He has a PhD in Operations Research from Stanford and has been an officer of the local IEEE Reliability chapter for the past several years.





**Bryan Stallard, Senior Rel. Eng., Ops A La Carte:**  
*EDA Usage in Reliability Aspects of Green Technology*

## **POLLING QUESTIONS BEFORE PRESENTATION**

1. Have you ever heard of Electronic Design Automation (EDA)
2. Have you ever used EDA or been on a program that used it?





**Bryan Stallard, Senior Rel. Eng., Ops A La Carte:**  
*EDA Usage in Reliability Aspects of Green Technology*

Bryan has over 30 years of experience in multiple domains of engineering pursuits, including reliability, design, analysis, and system engineering. His central focus has been on the electronic aspects of products. He has both designed circuitry (analog, RF, power-conditioning) himself, and performed stress, worst case analysis, and other analyses in conjunction with other designers. He has hands-on familiarity with virtually every kind of electronic test gear, and failure-analysis experience on most electronic circuit elements. He has worked in the telecommunication, military, space semiconductor, and commercial electronics markets. Bryan has worked at TRW Semiconductors, Kaiser Electronics, Siliconix, Litton (Itek) Applied Technology, Space Systems / Loral, and BroadLogic.



**THANK YOU FOR ATTENDING**

***PLEASE TURN IN YOUR  
SURVEY FORMS***

**HAVE A GREAT WEEKEND!**

