



DICE Alliance 2010 – April 14 & 15, 2010
Crossing Over to Next Generation Solutions
Power Consumption & the Impending Limit

AGENDA AT-A-GLANCE

Wednesday, April 14

DICE Alliance Early Registration*

12:00 pm

The Dearborn Inn, Ballroom Foyer

20301 Oakwood Blvd., Dearborn, Michigan 48124

***NOTE:** If also attending the HPC User Forum, registration begins Tuesday, April 13. DA10 attendees may attend Wednesday afternoon HPC User Forum sessions if space is available.

Special Reception & Dinner at Henry Ford Museum

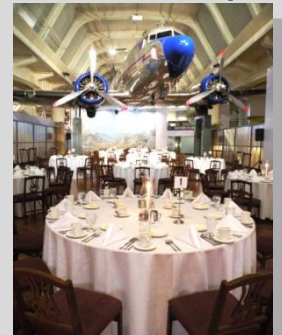
6:30 - 9:30 pm

Combined Event with HPC User Forum

Henry Ford Museum

20900 Oakwood Blvd., Dearborn, MI

Network and meet your colleagues and experts in this one-of-a-kind location – the Henry Ford Museum. Mingle and tour the museum to experience and explore what Americans, past and present, have imagined and invented as they *Crossed Over to Next Generation Solutions*. The sheer scope and design of the Henry Ford Museum is amazing. The museum, with its 40-foot ceilings, covers nine acres dedicated to showcasing the finest collection of inventions ever assembled, from the Wright Flyer replica to presidential furniture and limousines, gothic steam engine, architecture, aviation, automotive and more.



Thursday, April 15

Registration & Breakfast - Exhibits Open

7:00 am

Dearborn Inn, Alexandria Ballroom

Welcome

8:00 am

Roger Panton, Executive Director, DICE Program

Morning Keynote: HPC and the Department of Energy: Prospects for Energy Applications

8:30 am

Victor H. Reis, Senior Advisor, Office of the Undersecretary of Energy for Science

The DOE, through its laboratory system, has been a major user of HPC dating back to the Atomic Energy Commission and more recently through its Accelerated Strategic Computing Initiative (now Advanced Simulation & Computing) and its SciDAC and ASCR/INCITE programs. The DOE is now engaged in a broad-based strategic review of how to best continue this leadership role and how to extend this role to energy applications. Mr. Reis will provide an update on DOE efforts in this regard.

Impact of Power & Cooling on Data Center Design

9:45 am

Jeff Ames, SWITCH Communications; Gary New, National Center for Atmospheric Research (NCAR); Rick Griffin, UT-Battelle, Oak Ridge National Laboratory; Dr. Barry Bolding, Cray Inc.; Michael Jackson, Adaptive Computing, Inc.; Moderator: Steve Conway, IDC Information technology (IT) has become more critical to the mission and success of modern business and government, resulting in the pervasive growth in data centers and compute power. With these accomplishments came the unsustainable growth in power and cooling requirements and cost. Hence, data centers have become hot targets for energy efficient design and technologies. Although there is no single, best way to design a data center, there are important technologies and strategies necessary to minimize inefficiencies and lifecycle costs. Learn from organizations that have recently designed and/or built new data centers. *How are growing power requirements impacting the design and retrofit of data centers? How can a data center design for green IT while ensuring reliability and high power density capacity? What energy efficient strategies will optimize data center design and return on efficiency?*

Rapid Vendor Updates

10:45 am

Find out what is new in U.S. leadership and data intensive management innovations. Vendors will provide quick updates on their product offerings – a great opportunity for attendees to learn what is new for addressing the data management challenges and concerns.



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Thursday, April 15 cont'd

Luncheon & Awards Presentation: *Data Intensive Product & Technology of the Year*

11:45 am

Roger Panton, DICE Executive Director and Al Stutz, Avetec CIO

Afternoon Keynote: *Net Zero Neighborhoods*

1:00 pm

*Dr. Gil Weigand, Director of Strategic Programs, Computing and Computational Sciences Directorate
Oak Ridge National Laboratory*

Current US trends for energy usage threaten our economy, our environment, our energy security, and ultimately our national security and American competitiveness. These trends touch every part of our daily lives and tie our hands as a nation and a people. Facts: America is addicted to foreign oil; America is losing jobs to foreign competitors; America is not leading in the global energy and climate debate. Learn about the Net Zero Neighborhood plan designed to solve these concerns and advance the US on a track to recovery. Explore how this plan will achieve environmental, economic and national imperatives.

Gauging File System Performance: *DICE Parallel File Systems Benchmarking & Evaluation*

2:15 pm

Tracey Wilson, DICE Program Manager

File system performance is a key component to user application efficiency in HPC data centers. Storage administrators and Data Center Directors must choose wisely to select the correct file system to meet their users' requirements and properly adjust settings for optimal performance. *But which file system is the best for each situation?* Today, there is no direct correlation between parallel file system and much of the decisions are based upon vendor marketing. The DICE Program, in partnership with the Department of Energy, is conducting a project to develop a comprehensive file system benchmarking framework for evaluating file systems. This project will also seek to develop a normalization factor between different file system architectures. HPC community involvement is key to providing a viable tool and understanding all the factors for an accurate comparison, especially as file systems scale.

Improving Efficiency in High Core Density Environments

3:00 pm

Matt Blythe, Microsoft; William Lu, Platform Computing; and Dave Norton, The Portland Group

As chip manufacturers continue to increase core densities, data centers are facing new resource management challenges. Data centers need to enhance resource management efficiency in terms of throughput, power and cooling, memory and storage. The panel will discuss their approaches on how to improve efficiency as core density increases. They will also address the impact of lower power processor solutions versus the trend over the last five years of high performance processors along with increased power and cooling.

Closing Comments

4:00 pm

* Exact session times are still being finalized. Please be sure to download the final schedule at a later date.