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End-to-End Reliability:

# 2009 FALL CONFERENCE

## THE CHANGING LANDSCAPE OF DATA CENTERS

[www.7x24exchange.org](http://www.7x24exchange.org)

November 15-18, 2009 Phoenix, AZ

Register at [www.7x24exchange.org](http://www.7x24exchange.org) or Call 646-486-3818 x100 or e-mail [info@7x24exchange.org](mailto:info@7x24exchange.org)

Sessions with content concerning the greening of data centers are indicated with



throughout the conference brochure.

### What is 7x24 Exchange?

The leading knowledge exchange for those who design, build, use and maintain mission-critical enterprise information infrastructures, *7x24 Exchange* is a not-for-profit organization seeking to improve end-to-end reliability by promoting dialogue among these groups.

The organization was founded on the assumption that professionals involved with data center uptime issues often work in isolation when dealing with technical, budget, political, and career issues. As a result of expensive, time-consuming, and, sometimes, painful trial and error processes, innovative practitioners evolved unique and creative ways of solving problems and building the organizational support needed for their implementation. However, many have been stymied because they did not have access or know how to communicate potential risks to senior management to avoid a downtime disaster occurrence.

*7x24 Exchange* members work together to advance the state-of-the-art in infrastructure reliability. By collecting and disseminating data on safeguarding information systems and alerting top management to the importance of proactive measures, members can protect their companies' information lifelines.

### The Goal of 7x24 Exchange Conferences

The field of uninterrupted uptime has no textbooks. Before its founding in 1989 as the Uninterruptible Uptime Users Group, learning how to deal with uptime issues largely resulted from individual trial and error. Continuing this random rate of reliability improvement would increasingly restrict the potential productivity of the large, growing investment in computer and communication hardware and systems. It also would interfere with the increasingly critical dependence on information accessible through computers. With *7x24* operations now common, how much higher will availability requirements be in five years? How can cost-effective, reliable responses be assured? When is a centralized application site requiring ultra-high availability viable? Addressing, and, hopefully, answering these and related strategic questions, *7x24 Exchange* conferences provide stimulating discussion forums. Collectively, we know much about the future options and alternatives available. With *7x24 Exchange*, that knowledge can be shared.

All program elements aim to increase the reliability and availability of an enterprise's information infrastructure by presenting case studies, new ideas, techniques and tools. Open dialogue between attendees and presenters is encouraged throughout. Further, by involving the many specialists from user and supplier/service organizations with formal and informal sessions, the experience is rewarding and enjoyable for all.

### Who Should Attend and Why

This conference is designed for anyone involved with *7x24* infrastructures – IS, data center, disaster recovery and network/telecommunication managers; computer technologists; facility or building managers, supervisors and engineers. Vendors, consultants, or anyone concerned with uninterrupted access to critical information also will find the conference of value.

Attendees and their organizations benefit from the conference because proactive plans and cooperation from diverse functions are needed to improve reliability. By promoting a dialogue and clarifying the synergies among functions, past conferences have enabled teams of attendees from a given organization to better communicate the critical importance of a proactive approach to continuous uptime. Team members also were able to cover breakout sessions and network with other professionals in similar companies/industries with like problems.

Conference attendees benefit in three ways: professional development and advancement; increased recognition of their function's importance; and exposure to new ideas, contacts and resources. First-time attendees often discover that many companies face similar, if not identical, technical and organizational problems in their quest for higher availability levels. Those still unaware of this often view their situations as unique. However, they learn there are many common downtime risks and failure modes with solutions clustering around universal ideas and attitudes. *7x24 Exchange* conferences provide insights into what is being planned and done by others to mitigate or eliminate downtime risks. Recommended changes can then be justified, both on their practical merits and in the context of business arguments that have been successful elsewhere.

### What is a Tutorial Session?

*7x24 Exchange* has been offering tutorials for several years now. The purpose of these tutorials is to provide material refreshers for those attendees familiar with the concepts or to provide a foundation to other attendees who want to become more familiar with the subject matter. All conference registrants are encouraged to attend tutorial sessions. Almost all of the *7x24 Exchange* presentations are geared towards those with an advanced understanding of the concepts that will be presented. The tutorials are intended to complement the Monday to Wednesday presentations and help each attendee deepen their level of comprehension.

# SUNDAY, NOVEMBER 15

10:30 A.M. – 10:00 P.M.

## Registration

8:30 A.M. – 12:30 P.M.

Dean Nelson  
Founder & Chairman of the Board  
Data Center Pulse

## Data Center Pulse End User Summit

Date Center Pulse (DCP) has partnered with *7x24 Exchange* to host an exclusive end user summit at their Fall conference. This Sunday session embodies the conference theme, "The Changing Landscape of the Data Center". It is focused on key DCP initiatives that are targeted at influencing the data center industry. The session includes, but is not limited to:



- THE TOP 10 (ROUND 2)
- AIRLESS SERVERS – NEXT GENERATION EQUIPMENT COOLING
- STANDARDIZED DATA CENTER STACK FRAMEWORK
- THE CHILL OFF IMPACT
- NATIONAL DATA CENTER POWER REDUCTION INCENTIVE PROGRAM (PRIP)

All tracks will be led by Data Center Pulse members. Leading up to the summit, group discussions will finalize the break out session agenda and content. Final session topics will be expanded or changed based on community interest.

1:00 P.M. – 5:00 P.M.

Roger R. Schmidt, PE  
IBM Fellow  
Past Chair of ASHRAE TC9.9

Don Beaty  
President  
DLB Associates  
Past Chair of ASHRAE TC9.9

## ASHRAE/DOE Data Center Energy Efficiency Workshop

ASHRAE, in collaboration with the DOE will present a four hour workshop on how to achieve energy efficiency in a data center. The workshops are led by instructors who are data center authorities and are active in ASHRAE Technical Committee 9.9, Mission Critical Facilities, Technology Spaces and Electronic Equipment. The workshops are intended for individuals who design, construct, commission, operate, implement or maintain data centers.



6:00 P.M. – 9:00 P.M.



## 20th Anniversary Welcome Reception

SPONSORED IN PART BY: **CATERPILLAR®** **IntelliBatt™**

Join us and bring a guest...to help celebrate the 20th Anniversary of *7x24 Exchange International*. We have come a long way since the days of the UUUG (Uninterruptable Uptime Users Group). If you have been with us since 1989 or if you are new to *7x24 Exchange* or anywhere in between all attendees are welcome to enjoy the 20th Anniversary festivities, in true *7x24 Exchange* style. Food and drink will be plenty and please watch the video screens you may have forgotten what you looked like 20 years ago... but guess what we didn't.

This event is a great opportunity to network, meet conference presenters, fellow members, and the *7x24 Exchange International* board members.



7:00 A.M.

## Registration & Breakfast

Check in, pick up your name badge, conference materials and enjoy a hot buffet breakfast.

8:00 A.M.

## Welcome and Opening Remarks

Bob Cassiliano, *7x24 Exchange* chairman, will open the conference, provide an overview, review meeting logistics and address general housekeeping items.

8:30 A.M.

## Conference Keynote: Leadership and Accountability When It Matters

Kirk S. Lippold  
*Commander of the USS Cole*



Businesses now operate in an environment where nothing can be taken for granted and change is the only constant. In his riveting recount of the Cole story, Kirk Lippold details how leaders must act in the now yet plan ahead, to help organizations cope with complex environments while operating under adverse conditions. Lippold's Five Pillars of Leadership explain his crew's ability to focus and execute as a dynamic team and will help any organization establish the framework to get the best out of its people.

9:30 A.M.

## Refreshment Break

10:00 A.M.

## The Changing Landscape of Cooling: Air vs. Liquid

Brandon Lorenz  
*Senior Editor  
Building Operating Magazine*

MODERATOR

Heat is an important factor affecting IT reliability. Many datacenter managers are exploring more popular cooling solutions which are better equipped to handle high heat loads while remaining cost and energy inefficient. Industry panelist from Sun, IBM, Verari and HP will share their views on the topic and discuss the pros and cons of air vs. liquid cooling solutions.



David Driggers  
*Chief Technology Officer  
and Co-founder  
Verari Systems, Inc*

Kenneth R. Baker  
*Datacenter Infrastructure  
Technologist  
HP*

Roger R. Schmidt, PE  
*Distinguished Engineer  
IBM*

Subodh Bapat  
*Vice President & Distinguished  
Engineer, Energy Efficiency  
Sun Microsystems*

PANELISTS

11:15 A.M.

## Cloud Computing and the Data Center Transformation

Jeff Vagg  
*Global Principal Engineer  
Sun Microsystems*

Olof Sandstrom  
*Infrastructure and Security Director  
ARSYS*

Henry Daunert  
*Founder & CEO  
AST North America LLC & AST Global*

Cloud computing is an emerging and fast growing computing style that will transform the way we work and the way data centers are built and operated. Although cloud computing provides very interesting economical advantages by making possible computing as a service and data center as a service, also creates serious challenges ahead. From the data center infrastructure point of view, modularity, scalability and energy efficiency are new realities that will have to be adopted extensively. This session will provide you an introduction to cloud computing, private and public cloud, its impact in the data center design and build, and a real case-study of a cloud services provider's new 4mw modular, energy efficient data center.



12:15 P.M.

## Lunch and Networking

1:30 P.M.

## EPA: Why IT Purchasers Must Demand More Energy Consumption Transparency from Hardware Equipment Vendors and the Role Energy Efficiency Metrics Can Play

Andrew Fanara  
*ENERGY STAR  
Product Manager  
Environmental Protection Agency*

The energy consumed by the growing size of the global information technology infrastructure has rightfully received increased scrutiny over the last several years. This spotlight can be attributed in large part to the public's increased awareness of the strategic and economic importance of energy in our daily activities. In response, individuals and organizations of all types are working to track their own energy use, and associated carbon foot print, and identify cost effective opportunities to reduce both. There is a growing realization that providing clean, affordable and abundant sources of energy to power the planet will be one of the great societal challenges of our time. Organizations on the forefront of these issues have demonstrated the importance of implementing a top down energy management framework to address these challenges, which can often reveal new business opportunities. These organizations are finding that the datacenter can offer some of the most lucrative and sizeable savings. However, the information needed to determine the most cost effective measures is not readily available nor is it consistent in its presentation. This session will focus on the importance of organizations to demand more transparent and standardized information from their hardware vendors, specifically in regards to IT hardware energy consumption and cost.



2:30 P.M.

**Make Your Own Sundae Break**

3:00 P.M.

**Concurrent Breakout Sessions****Breakout A: IBM's Deployment of Energy Efficient Solutions – Servers to Data Centers**

Roger R. Schmidt, PE  
Distinguished Engineer  
IBM

Two data centers will be described – one upgraded with new technologies and deployed with best practices while the second is a greenfield data center. The new data center has as the heart of infrastructure a co-generation system plus all liquid cooled racks, while the upgraded data center uses river water to aid in cooling. The upgraded data center is divided into two zones – one high density zone using liquid cooled racks and an air cooled zone deploying high performance air cooled servers/storage racks.

In addition to the two data centers described one of IBM's Power systems that integrates water cooling at the processor level to achieve high performance per watt will be described and the energy efficiency improvements that can be achieved by deploying this system in a data center.

**Breakout B: Energy Efficient Data Center Design – Strategies & Best Practices**

Jack Pouchet  
Director, Energy Initiatives  
Emerson Network Power

This case-study addresses IT professionals facing challenges of reliability and efficiency. Approaches and strategies to achieve efficiencies, scalability and availability will be presented. Emerson's new data center will be featured to demonstrate strategies predicted to provide an energy savings of 30%; including a roof-top solar array and tactics deployed using an Energy Logic model. The AC power infrastructure that triples capacity and high-density cooling strategies that meet Leeds requirements in this 100-facility consolidation project, will also be presented. Emerson solutions and others used in Fortune 100 data centers will be presented. The presentation will address design and technologies that are expected to earn the facility the Leed Silver Certification.

**Breakout C: Medium Voltage UPS Solutions – When and Why**

Frank Herbener  
Product Line Manager  
Rotary UPS  
Piller USA, Inc.

Critical process facilities are tending to be larger and have an increasing amount of critical load, requiring more high reliable electrical power. More and more applications like Mega Data Centers, Airports or Industrial Processes need that much power, that a low voltage distribution reaches its physical and economical limits. The solution is the usage of a medium voltage distribution combined with modern high power medium voltage UPS or DRUPS. The usage of medium voltage UPS or DRUPS reduces the losses on long distribution lines downstream of the UPS and limits short circuit currents to an applicable value while keeping the reliability of the power distribution on the high level expected when using a high quality UPS system. The MV distribution makes it possible to parallel several high power UPS or DRUPS systems on one common output bus in an N+x configuration that avoids the extensive use of low voltage switching devices to create redundancy. A modular design of the UPS or DRUPS allows easy integration of impedances and breakers into the medium voltage switchgear. By keeping the heart of the UPS the same as for the low voltage applications, any energy storage device like batteries or flywheels can be used to provide the power flow to the load in case of a mains outage. Any medium voltage mechanical loads can directly be supplied by the medium voltage DRUPS by using the dual output option. So if due to high demands for reliable power a low voltage distribution is no more applicable, a solution with medium voltage UPS or DRUPS can be used instead, without changing the approved UPS design and the high reliability known from the low voltage applications.



4:10 P.M.

**BOM Magazine – Impact of the Cap and Trade Legislation on Data Center Operators**

Brandon Lorenz  
Senior Editor  
Building Operating  
Management Magazine

In a sign of just how far the times have changed, consider that of all the issues John McCain and Barack Obama disagreed about last November, climate change wasn't one of them. Both McCain and Obama both agreed climate change was a serious threat the nation had to address. Both also agreed on the method for tackling climate change: a cap and trade program. Today, the House has passed a bill that would cap the emissions of greenhouse gas emissions, while a companion measure is being debated in the Senate. For data center operators, a cap and trade bill could have serious impacts, in part by causing a short-term increase in energy prices. This presentation will explain the President's campaign promises for cap and trade, explain how cap and trade works, outline the latest proposals and highlight what it means for data center operators.



5:30 P.M.

**Data Center Tour – i/o Data Centers' Phoenix ONE Facility**

Take a walking tour of the i/o Data Center's Phoenix ONE facility. At 538,000 square feet, the facility is one of the largest commercially available data centers in the United States. The Phoenix ONE facility employs a variety of "green" data center technologies including thermal storage, variable speed fans and drives, ultrasonic humidification and motion activated LED lighting. This tour is available to end users only, space is limited and photo ID will be required to access the facility... if you plan to attend please let us know by checking the appropriate box on your registration form.

# TUESDAY, NOVEMBER 17

7:00 A.M.

## Breakfast & Registration

8:30 A.M.

## Opening Remarks

Bob Cassiliano will review day one highlights, recognize the conference Corporate Leadership Program sponsors and give a *7x24 Exchange* update.

9:00 A.M.

## Keynote: IBM – Achieving Data Center Availability and Energy Efficiency

With data center energy use doubling every five years and energy costs representing more than 50% of both the capital and operational costs in a data center, energy efficiency has become a key metric to evaluate overall IT operational efficiency. There are a number of data center actions to take in economic uncertainty to reduce your costs that provide immediate payback. Learn best practices to extend the life of your existing data center, rationalize your overall data center portfolio or design new data centers to be cost-effective, highly available and energy efficiency. We'll also discuss how IBM is taking similar actions in our own data centers.



Steven Sams  
Vice President  
Global Site Facilities Services, IBM

10:00 A.M.

## Refreshment Break

10:30 A.M.

## MTechnology – The Future of Data Centers

Steve Fairfax and his team at MTechnology will apply their quantitative risk assessment skills to a new topic: predicting the future of data centers. Rather than simply extrapolate from current conditions, our predictions will be based on evaluation of the technology trends and limits, physics, economics, business practices, and regulatory trends in the 7x24 industry. The results will be provocative and interesting to all 7x24 members.

Stephen Fairfax  
President  
MTechnology

11:30 A.M.

## Data Center Pulse – Readout & Stack Panel Discussion

Do you know what data center customers are thinking? What they want? At this session you will hear the very latest customer perspective straight from the horse's mouth. The first half of this session will be a results readout of the DCP Sunday summit. The second half will include a panel discussion with key Data Center Pulse members and thought leaders. The panel discussion will focus on The Data Center Stack Framework proposal. DCP believes the data center should be treated as a common system which can be easily described & measured. The stack is a common framework to describe, communicate, & innovate data center thinking between Owner/Operators peers & the Industry. Join the panel as they discuss the importance of this methodology and how it can be applied uniformly regardless of industry.

Mark Thiele  
President & Founder, Data Center Pulse  
Director of Business Operations, R&D – VMWare

Richard Donaldson  
Vice President & Board Member, Data Center Pulse  
CEO, 6connect

Graeme Hay  
Technical Advisory Director / Chair, Data Center Pulse  
Vice President, Major Financial Institution

Jeffrey Tepfer  
Technical Infrastructure Director, Data Center Pulse  
Senior Staff Engineer, Qualcomm

PRESENTER &  
MODERATOR

Dean Nelson  
Chairman & Founder  
Data Center Pulse

PANELISTS

12:30 P.M.

## Lunch and Networking

12:30 P.M.

## End-User Interactive Exchange Luncheon

Designed to encourage in-depth discussion and debate on the latest challenges in data center planning, design and operation, topics will include: trends in infrastructure design resiliency, energy efficient design and operational practices, capacity planning and management and the day-to-day challenges in managing data center operations. The moderator will guide the discussion with the use of PowerPoint slides and handouts; however, the real star of this session will be you, the end user! Bring your appetites, but more importantly, be ready to engage your peers for an exciting interactive discussion on the latest challenges of our industry. Don't forget those business cards as this will be a great opportunity to meet your peers in the industry!



David Schirmacher  
Vice President  
Goldman Sachs & Co.

MODERATOR

# TUESDAY, NOVEMBER 17

1:45 P.M.

**Mark Gerard**  
President  
Geographic Network Affiliates  
USA Partner  
Greenstone – USA  
President, DP Facilities Inc.

**Henk Wiering**  
Managing Director  
TCN-SIG Telehousing  
Partner, Greenstone – Europe  
President, Parthes BV

**Sveinn Oskar Sigurdsson**  
Chairman  
Greenstone – Iceland

**Douglas H. Sandberg**  
Director Field Service Sales &  
Operations  
ASCO Services, Inc.

**William P. Mazzetti, Jr., P.E.**  
Vice President, Engineering, &  
Chief Engineer  
Rosendin Electric, Inc.

**Benjamin Lanz**  
Manager of Application Engineering  
IMCORP

## Concurrent Breakout Sessions

### Breakout A: Video Tour: Netherlands Internet Data Center Buildings – “Wind Mills at Work” – A Preview of Our Iceland Data Center Campus TCO “Data Center Paradise”

Video tour a special purpose built to suit high efficiency green next-generation internet data center building in the Netherlands. The video tour highlights all installed systems and discusses how we implemented a fast track design/build project process to meet the client requirement to deliver a 200,000 sq.ft, 36mw, Tier 3 mission critical data center building in 14 months. The project was completed October 2007. The video tour highlights installed systems selected to meet client reliability requirements and enable our completion date and includes a 21mw Rotary UPS system to support the critical load and maximize power efficiencies; overhead rail bus bar system for 2N distribution to client racks; fluid coolers and water storage tanks to maximize free cooling via chilled water to the CRAC system water mist fire protection; 24/7 monitoring of all critical installations; connection to submarine cable fiber system and local backhaul. Tour conclusion discusses “Fast Track” process, lessons learned, and a preview of our Iceland data center “TCO” from a client’s perspective.



### Breakout B: Electrical Safety in the Workplace

A common sense approach to understanding the hazards of working with electricity. Increased emphasis on electrical safety changes the way we approach electrical maintenance and repair. The challenge to the industry is to protect personnel, facilities & equipment while maintaining 7x24 operation of Mission Critical systems. This presentation will provide a basic understanding of the issues, standards and best practices.

### Breakout C: Facing a Changing Critical Power Environment

Just when you think we had it all figured out! We are facing some of the most dynamic and challenging times in critical power distribution in the past 15 years. Pending carbon cap-and-trade, 230V utilization, PUE calculations and custom metering, new UPS technologies and virtualization are making all of us revisit our past choices for distributing power in our data centers. This presentation will offer approaches, best practices and cutting edge applications in addressing new IT system power supplies and system designs. Our presentation will also incorporate the pending BICSI/ANSI Data Center 002 Best Practices Manual’s content on this subject.

### Breakout D: Assuring the Reliability of Critical Power Cable Systems

Critical facility engineers are required to provide a safe and reliable electrical cable infrastructure that will assure maximum uptime at the lowest possible cost. Engineers assigned this responsibility are able to make better power cable system reliability decisions when effective predictive diagnostic tools are applied. Many in the industry are not aware that the IEEE no longer supports the DC high potential test as an acceptance test for shielded power cable systems, and are unknowingly putting their systems at risk. This paper is an overview covering the latest IEEE standards and best practices for specifying modern cable systems and applying predictive diagnostic industrial shielded extruded dielectric cable systems rated 5kV and higher. Case studies from actual critical facilities will demonstrate the ability of modern defect specific diagnostics to repeat the manufacturers test in the field, pinpoint defects, and avoid future unplanned service outages.

2:45 P.M.

## Refreshment Break



# TUESDAY, NOVEMBER 17

3:15 P.M.

## Vendor Knowledge Exchange

Silver partners of the Corporate Leadership Program will present informational sessions on various products and services. Presentations will be given by:

ABB, Active Power, Caterpillar, Cummins Power Generation, Cyberex, i/o Data Centers, IntelliBatt, PDI, Schneider Electric, Siemens, Syska Hennessy.

6:30 P.M. – 10:00 P.M.

## Punt Pass & Kick at the University of Phoenix Stadium with 7x24 Exchange!

The University of Phoenix Stadium, with its retractable roof & field, is unlike any other stadium in North America and a marvel of design, engineering, and technology. The stadium opened in August of 2006, and is home to the NFL's Arizona Cardinals, as well as the annual Tostitos Fiesta Bowl, the newly created BCS National Championship game, concerts, trade/consumer shows, corporate events and special occasions of all kinds.

The exterior skin represents a barrel cactus. The interior building features alternating sections of shimmering metal panels intended to reflect the shifting desert light alongside magnificent vertical glass slots allowing patrons a spectacular view of the horizon from any level of the exterior. There are 21 vertical slots on the exterior wall of the stadium.

7x24 member and guests will experience the stadium first hand. The Main Floor is the most unique in the nation – the grass field is retractable and easily moves outside to transform the space into a multi-purpose venue. The Upper North Pavilion is located atop the stadium's North end. This pavilion area has a spectacular view of the entire stadium.

What can you expect?

- Transportation to and from the stadium
- A fabulous cocktail reception
- An awesome dinner
- Stadium tours
- The opportunity to Punt, Pass and Kick on the same stage as real NFL players and many more surprises. We hope you will join us for this once in a lifetime evening!

THIS EVENT HAS BEEN MADE POSSIBLE THANKS TO THE FOLLOWING PARTNERS:

**CATERPILLAR**<sup>®</sup>

**ComRent**<sup>®</sup>  
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**DAI**  
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Network Power

**emPRIMUS**

**FieldView**  
patent pending

**GE** Digital Energy  
Power Quality

**hp**

**i/o**  
DATA CENTERS<sup>™</sup>

**IntelliBatt**<sup>™</sup>

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creating the perfect wave

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POWER CONTROL PEOPLE YOU CAN RELY ON

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**SIEMENS**

**STARLINE**

**STUIJZ**  
Air Technology Systems, Inc.

**SYNAPSENSE**  
Wireless Instrumentation Solutions

**SYSKA HENNESSY**  
GROUP

**TOSHIBA TRULAND**  
BEYOND CURRENT

**WALKER ENGINEERING, INC.**  
ELECTRICAL CONTRACTORS & ENGINEERS



**UNIVERSITY OF PHOENIX STADIUM**

7:00 A.M.

## Breakfast

8:30 A.M.

## Opening Remarks

Bob Cassiliano will review highlights from day two and address housekeeping items of interest.

8:45 A.M.

## Keynote: Global Economic Impact on Data Centers – Can ASHRAE Books Help?

Data centers are mission critical facilities and “mission” must come first. There is increasing pressure to consider green, sustainability, and carbon caps in addition to tough economic times. These pressures increase the need for a holistic focus and for pushing the envelope while managing risk. ASHRAE has been very active in publishing vendor neutral, unbiased data center information. This presentation includes drawing upon the ASHRAE material to achieve optimized results.

**Don Beaty**  
*President*  
*DLB Associates*  
*Past Chair of ASHRAE TC9.9*

9:45 A.M.

## Refreshment Break

10:15 A.M.

## Tough Economic Times Deliver Aggressive Bidding Environment – A Medium-Density Data Center for the State of Tennessee, Designed for Flexibility and Growth

The State of Tennessee’s Office of Information Resources provides computer processing support to various agencies state-wide. The existing data center has reached its capacity, and is unable to grow at the present location. The State has developed a master plan to build two new data centers. The design of the first data center was completed by the joint venture team of Hawkins/Wright with SIGMA7 design group and is now under construction. The design provides for initial computing capacity of about 1mw and total site power of about 2mw, with a capability to double its capacity to 2mw processing. The ultimate density of the raised floor area will be 120w/sf average. The design has accomplished the flexibility required, as demonstrated by various Computational Fluid Dynamics (CFD) modeling. Construction Management services are being provided by Turner Universal with assistance from Turner Logistics. Turner provided pre-construction services, and has assembled a team of vendors and subcontractors to complete the project. Because of softness in the construction industry, and aggressive value engineering, the project team was able to procure bids considerably below (about 15%) the project budget.

**Ron Gupta**  
*AIA, LEED Accredited Professional*  
*Principal, SIGMA7 design group*

**Scott Hiett**  
*Program Director (Data Centers)*  
*State of Tennessee*

**John Gromos**  
*PE, CEM*  
*LEED Accredited Professional*  
*Vice President*  
*Turner Universal Construction Co.*

11:15 A.M.

## Intentional Electromagnetic Interference – The New Remediated Threat, an End to End Solution: “Zap, What Happened to My Data?”

There are perpetrators who are now using devices to emit high frequency pulses which disable data center equipment (including Servers and SANS, as well as support systems) and cause data disruption, from a distance, potentially violating regulatory requirements (data retention). Additionally, there are other Electromagnetic threat sources. Both various technical sanctioning bodies, and our Federal Government now recognize the impact of the electromagnetic threats.

Emprimus measures, assesses, designs and tests appropriate protection of all critical, non-military electronic systems and data assets against intentional electromagnetic interference (IEMI) and other electromagnetic threats.

Emprimus has been active with an educational and awareness building program that has been presented at several symposiums, conferences, and multiple chapters of such organizations such as InfraGard since the spring of 2008. Most recently there has been activity with the U.S. Congress, assisting in the effort to begin the “hardening” of our critical infrastructure (including data centers) against this threat.

The presentation will focus on the history of the threat, and how this threat impacts data centers, and more importantly, all support systems as well. How an organization can utilize best practices and various methodologies to protect themselves against this “newly remediated threat.” Additionally, there will be discussion regarding the impact upon regulatory compliance that this disruptive technology represents.

**Jim Danburg**  
*Director of Security and Continuity*  
*Emprimus LLC*

**Gale Nordling**  
*President & CEO*  
*Emprimus LLC*

12:15 P.M.

## Conference Adjourns



## Two Quick Steps to Registration ►

### 1. Conference Registration

Complete a Conference Registration Form for each participant online or mail or fax a copy of the Conference Registration Form on page 11 to:

*7x24 Exchange*

322 Eighth Avenue, Suite 501  
New York, NY 10001

Phone: 646-486-3818  
Fax: 212-645-1147

[www.7x24exchange.org](http://www.7x24exchange.org)

To guarantee early bird rate, registrations must be received by October 16, 2009.

### 2. Hotel Reservations

To take advantage of *7x24 Exchange's* special rates at the JW Marriott Desert Ridge please call Marriott Central Reservations at 800-266-9432 and ask for the *7x24 Exchange* Conference room rate of \$249/ night for a single or double plus an optional resort fee and tax.

Please Note: Room reservations are available on a first-come, space-available basis. Space permitting, this block will be available until October 16, 2009. Register for the conference and make your hotel reservations early, as this block will likely sell out. Previous *7x24 Exchange* conference room blocks have sold out. *7x24 Exchange* is not responsible for matching rates or finding additional rooms once this block is sold out. *7x24 Exchange* makes every effort to reserve the appropriate number of room nights for attendees. In the event of a sell out *7x24 Exchange* will recommend nearby accommodations.



**JW Marriott Desert Ridge**

5350 East Marriott Drive  
Phoenix, AZ 85054

Telephone: 480-293-5000

### Vendor/Consultant Policies & Procedures Information Tables

All vendors and consultants are encouraged to participate in *7x24 Exchange*. Tables are provided at the conference for the distribution of product literature, educational material and other useful information at no cost. Display signs are not permitted on literature tables. Overt selling at *7x24 Exchange* meetings and the use of *7x24 Exchange* membership lists for direct selling are prohibited.

### Hospitality Suites

Hospitality suites/demo rooms are permitted on **Monday, November 16, 2009** between the hours of 6:30PM and 10:30PM. All hospitality suite hosts must be a Key member of the *7x24 Exchange* Corporate Leadership Program (CLP). In order to be recognized by *7x24 Exchange* vendors must complete a suite registration form.

As always, hosting a hospitality suite gives vendors direct access to the conference attendees and provides the opportunity to promote products and services in an enjoyable relaxed environment.

If you are interested in hosting a suite on **Monday, November 16, 2009**, please contact Brandon Dolci at 646-486-3818 x108 before **October 16th**.





# 2009 FALL CONFERENCE CORPORATE LEADERSHIP PROGRAM PARTNERS (AT PRESS TIME)

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